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PROCEEDINGS

OF THE

Society for Psychical Research

VOLUME XL

(CONTAINING PARTS 120-125)

1931-1932

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THE SOCIETY FOR PSYCHICAL RESEARCH,
31 TAVISTOCK SQUARE, LONDON, W.C. 1.

Agents for America: THE F. W. FAXON CO.,
3 FRANCIS STREET, BOSTON, MASS.

PRINTED IN GREAT BRITAIN BY ROBERT MACLEHOSE AND CO. LTD.
THE UNIVERSITY PRESS, GLASGOW

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PROCEEDINGS

OF THE

Society for Psychical Research

PART 120

LIBRARY CATALOGUE

(SUPPLEMENT 1929-30)

COMPILED BY

THEODORE BESTERMAN

LIBRARIAN AND EDITOR



PREFACE

THE present third supplementary Library Catalogue covers the additions made to the Library from October 1929 to December 1930. The period from July 1927 to June 1928 was covered by the first supplement, and that from July 1928 to September 1929 by the second supplement ; these are published as Parts 108 and 113 of *Proceedings* respectively, and as separate pamphlets. The main catalogue, complete to June 1927, forms Part 104, volume xxxvii, of *Proceedings*, and is also published as a separate volume.

The organisation of the Library is briefly explained in the Preface to the first supplement, and the Library Rules are reprinted on the next page.

The larger part of the books described in the following pages has been bought out of the grant made to the Society's Library by the Carnegie United Kingdom Trust.

TH. B.

LIBRARY RULES

I. The Library is open every weekday from 10.30 a.m. to 5.30 p.m., except Saturdays, when it closes at 1 p.m. The Library is closed from Christmas Eve to New Year's Day, inclusive; from the Thursday before Good Friday to the following Thursday, inclusive; on Bank Holidays; and during the summer vacation.

II. The Library is open to all Members and Associates of the Society, but books may be borrowed by Members only. Associates may borrow books on payment of 5s. for One Month or 10s. for Three Months.

III. Readers have direct access to all the books in the Library, and are particularly requested not to replace volumes on the shelves.

IV. Borrowers are required to fill up and sign a voucher for each book taken out. The vouchers are cancelled and returned to the borrower when the books are returned, and borrowers are held responsible for the books so long as their vouchers remain uncanceled. Books may be requisitioned by post, in which case vouchers will be sent and should be returned completed.

V. The usual number of volumes allowed to each borrower is Three, and the usual time One Month, except in the case of books much in request, which are allowed for shorter periods. Books may be allowed for a longer period, on application being made, if they are not required by another borrower. Special arrangements may also be made for borrowers requiring a larger number of volumes.

VI. Any volume may be called in at any time with seven days' notice from the Librarian.

VII. Old books and books of special value or such as it would be difficult to replace if lost can only be lent out by special permission, on application being made in advance.

VIII. Borrowers are required to pay the carriage of all books sent to them. All books sent to the Library must be well packed and prepaid. Borrowers are held responsible for any delay, loss or damage to books in transit to the Library.

IX. Marking any book, whether by writing, turning down the leaves or otherwise, is strictly prohibited.

PART I

PERIODICAL, SERIAL, SOCIETY AND OFFICIAL PUBLICATIONS

American Society for Psychical Research, The, [Collection of 125 circulars, notices, forms, etc., issued by the Society and by the American Branch of the S.P.R. and its New York Section, from the formation of the Society to the dissolution of the Branch.] Various sizes. Boston and New York 1884-1906. [R 21 h 15]

Apostolique, L', ou Répertoire des matières de haute philosophie, des phénomènes surnaturels, des prophéties, des miracles, de médecine naturelle et surnaturelle, des sciences occultes, des faits de magie, de divination, des obsessions et possessions, du magnétisme ou maléfice somnifique, d'agriculture, etc. Edited by Père Hilarion Tissot. 8vo, nos. 1-6, 1-3 [of a second volume]. Avignon 1843, Beaucaire [1844]. [R 12 c 36]

Congrès Spirite International, Compte Rendu : 1928. 8vo, pp. 234, 228. Paris 1929. [24 h 28]

Eclaireur du Midi, L', ou Répertoire de Religion, de médecine, d'agriculture, des faits et événements historiques, des inventions et découvertes utiles, d'économie rurale et domestique et d'annonces diverses. [Edited by Père Hilarion Tissot.] 8vo, nos. 1-12. [Avignon 1842-1843.] [R 12 c 35]
[Largely an occult periodical.]

Evidences of Spiritualism. 8vo. London. [24 a 22-28]

- [1]. L. M. Bazett, *After-Death Communications*. pp. 111. n.d.
2. H. K. Boyce, *The Great Beyond*. pp. viii. 62, portrait. 1919.
3. M. H. Coats, *Fourteen Letters*. pp. 100. n.d.
4. J. A. Hill, *Psychical Miscellanea*. pp. vii. 118. n.d.
5. *A Soldier Gone West*. pp. 65. [1919.]
- [6]. *The Nurseries of Heaven*. pp. xvi. 174. 1920.
- [7]. G. E. Wright, *Practical Views on Psychic Phenomena*. pp. viii. 136. 1920.

Frederic W. H. Myers Lecture, The. 8vo. London. [4 g 21, etc.] 1929. Sir O. J. Lodge, *Convictions of Survival*. pp. vii. 70. 1930.
——— Second edition. 1930.

Gesellschaft für Psychologische Forschung, Schriften. 8vo. Leipzig.
[6 i 20-39]

1. A. v. Schrenck-Notzing, *Die Bedeutung narcotischer Mittel für den Hypnotismus*.
A. Forel, *Ein Gutachten über einen Fall von spontanem Somnambulismus*. pp. 90. 1893.
2. H. Münsterberg, *Ueber Aufgaben und Methoden der Psychologie*. pp. 91-272. 1893.
- 3-4. A. Moll, *Der Rapport in der Hypnose*. pp. 273-514. 1893.
5. R. v. Kocber, *Jean Paul's Seelenlehre*.
M. Offner, *Die Psychologie Charles Bonnet's*. pp. 515-722.
6. A. v. Bentivegni, *Anthropologische Formeln*. pp. 45. 1893.
- 7-8. E. Parish, *Ueber die Trugwahrnehmung*. pp. 246. 1894.
- 9-10. T. Lipps, *Raumaesthetik*. pp. viii. 424, plate and 133 diagrams. 1897.
11. A. Wreschner, *Methodologische Beiträge zu Psychophysischen Messungen*. pp. vi. 238. 1898.
12. W. Stern, *Die Differentielle Psychologie*. pp. x. 546. Third edition. 1921.
- 13-14. T. Lipps, *Vom Fühlen, Wollen und Denken*. pp. vii. 275. Third edition. 1926.
15. R. Baerwald, *Psychologische Faktoren des modernen Zeitgeistes*.
P. Möller, *Die Bedeutung des Urteils*. pp. 110. 1905.
16. A. Gallinger, *Das Problem der objektiven Möglichkeit*. pp. vii. 126. 1912.
17. R. Hennig, *Die Entwicklung des Naturgefühls*. pp. vi. 160. 1912.
- 18-20. R. Baerwald, *Zur Psychologie der Vorstellungstypen*. pp. x. 444. Second edition. 1928.

International Congress for Psychological Research. See Congrès International des Recherches Psychiques.

International Psycho-Analytical Association, The. The International Journal of Psycho-Analysis. Supplements. 8vo. London.
[10 i 21, etc.]

1. *Glossary for the use of Translators of Psycho-Analytical Works*. pp. 16. [1928.]
[Interleaved.]
2. J. Rickman, *The Development of the Psycho-Analytical Theory of the Psychoses, 1893-1926*. pp. vi. 106, folding table.
[With a bibliography.]
3. E. Glover, *The Technique of Psycho-Analysis*. pp. v. 141. 1928.
4. D. Bryan, *Index to vols. I to X of the International Journal of Psycho-Analysis*. pp. 118. [1930.]

- Psychic Methods of Cure.** 8vo. London. [9 f 26]
 i. E. Wexberg, *Individual Psychological Treatment*. pp. 161.
 1929.
- Psychological Monographs.** [25 a]
 xxxix. 3 : 179. H. Griffith, *Time Patterns in Prose*. pp. 82.
 1929.
 [With a bibliography.]
 4 : 180. M. Wylie, *An Experimental Study of Recognition and Recall in Abnormal Mental Cases*. pp. v.
 81. 1930.
 [With a bibliography.]
 xl. 1 : 181. University of Iowa Studies in Psychology,
 no. xiii. Edited by C. A. Ruckmick. pp.
 v. 212, 76 diagrams. 1930.
 [With a bibliography.]
 2 : 182. H. Cason, *Common Annoyances*. pp. v. 218.
 1930.
 [With a bibliography.]
 3 : 183. H. A. Wentworth, *A Quantitative Study of Achromatic Sensitivity from Center to Periphery of the Visual Field*. pp. v. 189, 50
 diagrams and ill. 1930.
 [With a bibliography.]
- Ψυχικά ερευνά. Edited by A. Tanagra. 8vo, vol. iv. Athens
 1928. [RPR 13 (5)]
- Royal Medico-Psychological Association, Catalogue of the Library.**
 8vo, pp. 37. London 1928. [RBi 5 (6)]
- Society for Psychical Research, Address by the Council to the Members and Associates of the Society for Psychical Research, and Appeal for their Support both in Work and in Money.**
 8vo, pp. 8. London 1901. [RPR 14 (13)]
- Circular. 8vo. [London.] [RPR 14 (1-8)]
 1. pp. 8. February 1883.
 2. *On Dreaming and Allied States*. pp. 2 and 2 blank pages.
 Third edition. December 1883.
 III. pp. 2. January 1889.
 III. Second edition. pp. 3. February 1891.
 III. Third edition. pp. 3. March 1893.
 IV. *Hypnotism: its Conditions and Safeguards*. pp. 4.
 July 1890.
 V. Single leaf. March 1893.
 VI. *The Need for more Evidence and the Kind of Evidence Desired*. pp. 2. [1895 ?]
- [Circulars connected with the formation of the Society.]
 8vo and 4to. [London 1882.] [RT 3 (27-31)]

Society for Psychical Research—

- [Collection of press cuttings relating to the resignation of Sir A. C. Doyle.] 4to, ff. 9. [1930.] [14 h 4]
- Constitution and Rules passed at a Conference held in London on the 20th February 1882. 8vo, pp. 11. [London 1882.] [RPR 14 (14)]
- D. D. Home Collection : Catalogue. 4to, ff. 39. [1926.] [A typescript.] [6 i 51]
- : [Press Cuttings, collected by the medium and his second wife]. Folio, ff. 52. [1855-1891.] [R 205]
- Form no. 1. Experiments on Thought-Transference. 8vo, pp. 2. [London 1884 ?] [RPR 14 (11)]
- Hallucinations and Dreams. 8vo, single leaf. [London] 1884. [RPR 14 (12)]
- Library Catalogue (Supplement 1928-1929). Compiled by Theodore Besterman. 8vo, pp. [56]. [London] 1929. [4 g 10]
- Officers and Council for 1890, [1891, 1893, 1894, 1895, 1898, 1899, 1900, 1901, 1902, 1903, 1905, 1905 [a later issue, after the death of R. Hodgson], 1906, 1907, 1909, 1910, 1911, 1912, 1918, 1919, 1920, 1921, 1923, 1924, 1925, 1928, 1929, 1930]. 8vo, pp. 4. London. [RPR 14 (16-44)]
- Proceedings. Principal Contents of vols. i-xxxix. 8vo, pp. 28. [London 1930.] [RPR 14 (45)]
- To Members and Associates of the Society for Psychical Research. 8vo, pp. 4. London, January 1903. [RPR 14 (9)]
- [Another edition.] 8vo, pp. 4. London, April 1927. [RPR 14 (10)]
- Society for the Study of Supernormal Pictures, Budget.** Folio, nos. 53, 57-65, 68, 70-101. Birmingham 1920-1924. [25 i 30]
[Reproduced from typewriting ; accompanied by 42 cards bearing photographs.]
- Tijdschrift voor Parapsychologie.** Edited by P. A. Dietz and W. H. C. Tenhaeff. 4to, vol. i, etc. Amsterdam 1928, *in progress.* [3 h 51, etc.]
- Variétés.** 8vo, vol. ii (no. 6). Bruxelles 1929. [RAH 5 (16-19)]
[Contains a series of articles on witchcraft, magic, etc.]
- World's Congress Auxiliary, The, Preliminary Announcement of the Committees on a Psychical Science Congress, to be held in connection with the World's Columbian Exposition of 1893.** 8vo, 6 pp. folder. [Chicago 1893.] [R 21 h 15 (111)]

PART II

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- Adams (Edwin Plimpton), Translation of Einstein (A.), The Meaning of Relativity. [17 g 24]
- Adler (Alfred), The Case of Miss R. : the Interpretation of a Life Story. Translated by E. and F. Jensen. 8vo, pp. xxii. 306. London 1929. [9 g 18]
- The Practice and Theory of Individual Psychology. Translated by P. Radin. 8vo, pp. viii. 352. [Second] revised edition. International Library of Psychology : London 1929. [10 b 8]
- Problems of Neurosis : a Book of Case-Histories. Prefatory Essay by F. G. Crookshank. Edited by P. Mairet. 8vo, pp. xxxvii. 178. London 1929. [10 e 28]
[With a bibliography.]
- The Science of Living. 8vo, pp. 264. London 1930. [9 g 25]
- Advertisement to the Jury-Men of England, An, Touching Witches. Together with a Difference between An (English and Hebrew) VVitch. 4to, [viii]. 24. London 1653. [R 12 a 47]
- Agrippa von Nettesheim (H. C.), The Vanity of Arts and Sciences. 8vo, pp. xviii. 368, portrait. London 1694. [R 12 c 12]
- Aigner (Eduard), Der gegenwärtige Stand der Wünschelrutenforschung. 4to, pp. 49-51, 74-76. [RT 3 (25)]
[Part of *Prometheus* (Leipzig 1912), xxiv.]
- Wesen und Wirken der Wünschelrute. Eine praktische Anleitung. 8vo, pp. 86, 21 diagrams and ill. Second enlarged and revised edition. Stuttgart 1939. [RDo 3 (9)]
- Alexander (Robert), Life, Death, and Destiny : a Layman's Quest for Enlightenment. 8vo, pp. 288. London 1929. [17 g 29]
- Alleyne (John), *Scripts in Glastonbury Scripts*, The. [24 e 8]
- Ambry (Artus Thomas d'), *Commentaires in Philostratus (Flavius), De la Vie d'Appolonivs Thyaneen*. [R 12 bb 24]

- [Animal Magnetism, Letter on]. 4to, 33-4. [R 20 f 20 (18)]
 [Part of the *Journal de Paris* (8 Janvier 1785), no. 8, *Supplément.*]
- [Animal Magnetism, Letter on]. 4to, pp. 1064-5. [R 20 f 20 (29)]
 [Part of the *Journal de Paris* (15 Septembre 1786), no. 258.]
- Anrep (G. V.), Translation and edition of Pavlov (I. P.), Conditioned Reflexes. [17 h 20]
- [Armitage (Doris Mary)], A Challenge to Neurasthenia. 8vo. pp. 52. London 1929. [RP 12 (3)]
- Artemidorus, De Somniorvm Interpretatione Libri Qvinque. Translated by J. Cornarius. 8vo, pp. 296. Lvgdvni 1546. [R 20 a 7]
- Asbeck (Melline d'), La Mystiquo de Ruysbroeck l'Admirable. Un echo du Neoplatonismo au XIVE Siècle. 8vo, pp. ix. 312. Paris 1930. [R 22 h 7]
- Augur (Helen), Translation of Sanctis (S. de), Religious Conversion. [10 b 2]
- Auteurs des Docteurs Medernes, Les, [Letter about the play of that name, denying its connection with Mesmer]. 4to, pp. 1410-1. [R 20 f 20 (8)]
 [Part of the *Journal de Paris* (28 Novembre 1784), no. 333.]
- Aveling (Francis), The Psychological Approach to Reality. 8vo, pp. xi. 251. London 1929. [25 hh 20]
- B. (D. M.), Translation of Sandreau (A.), The Mystical State. [22 c 7]
- Baumard (Claire), Léon Denis Intime. Preface by Sir A. C. Doyle. 16mo, pp. 169, portrait. Paris 1929. [8 d 19]
- Beard (George M.), A Practical Treatise on Nervous Exhaustion (Neurasthenia), its Symptoms, Nature, Sequences, Treatment. 8vo, pp. xx. 198. New York 1880. [10 a 36]
 [Inscription by the author.]
- The Psychology of the Salem Witchcraft Excitement of 1692 and its practical application to our own time. 8vo, pp. xx. 112, diagram. New York 1882. [21 e 24]
- Beard (M. G.), Translation of Thalbitzer (S.), Emotion and Insanity. [10 e 22]
- Baerwald (Richard), Psychologische Faktoren des modernen Zeitgeistes. 8vo, pp. 1-85. Schriften der Gesellschaft für Psychologische Forschung (Heft 15). Leipzig 1905. [9 i 34]

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—— Zur Psychologie der Vorstellungstypen mit besonderen Berücksichtigung der motorischen und musikalischen Anlago. Auf Grund einer Umfrage der Psychologischen Gesellschaft zu Berlin bearbeitet. 8vo, pp. x. 444. Second, unaltered edition. Schriften der Gesellschaft für Psychologische Forschung (Heft 18-20). Leipzig 1928. [9 i 37-39]

[With a bibliography.]

Barbequiere (), Réponse de l'Auteur de la Maçonnerie Mésmérienne à la lettre du très-vénérable F. Grégoire Fromes, de l'Ordre des Frères de la Charité, et de l'Harmonie Mesmérienne de Cadillac, insérée dans le Journal de Guienne, No. 204. 4to, pp. 856-7, 860-1. [R 20 f 20 (24)]

[Part of the *Journal de Guienne* (30, 31 Mars 1785), nos. 211, 212.]

Barberin (de) and Monspey (de), Expérience Magnétique. 4to, pp. 3. Lyon 1784. [R 20 f 20 (2)]

Barius (Gabrielus), Life of the author, in Joachim of Flores, Vaticanina. [R 12 a 45]

Barrett (J. O.), Horoscope [Preface] to Peebles (J. M.), Seers of the Ages. [23 b 21]

Barth (Otto Wilhelm), Editor of *Verinnerlichung*. [R Bi 5 (4)]

Barton (Margaret) and Sitwell (O.), Sober Truth: a Collection of Nineteenth-century Episodes, Fantastic, Grotesque and Mysterious. 8vo, pp. 280, 17 ill. London 1930. [18 a 18]

Baunscheidt (Carl), Der Baunscheidtismus. Vom Erfinder dieser neuen Heillehre. 8vo, pp. xlv. 692, portrait. Bonn 1886. [17 a 26]

Bayle (P.), Some Account of the Rosicrucians, in [Montfaucon de Villars ()], The Count de Gabalis. [R 12 a 48]

Bayley (Weston D.), Preface to Tubby (G. O.), James H. Hyslop-X. [6 e 15]

Becker (Wern. H.), Therapie der Geisteskrankheiten für praktische und Irrenärzte. 8vo, pp. v. 112. Leipzig 1911. [10 a 18]

Bedenken eines berühmten Gelehrten über des famosen Schröpfers Geister-Citiren. 8vo, pp. 16. N.p. 1775. [R 20 d 56]

Behr (Herman), Editor of [Curran (P. L.)], Light from Beyond. [17 g 22]

—— ——— ——— Telka. [17 g 21]

Bell (A. H.), Translation of France (Vicomte H. de), The Modern Dowser. [6 g 50]

- Benoist (René)**, Petit Fragment Catechistic d'une plus ample Catechese de la Magie reprehensible & des Magiciens, pris de l'une des Catecheses & Opuscules de M. René Benoist, in **Massé (P.)**, De l'Imposture et Tromperie des Diabes. [R 20 a 2]
- Traicté Enseignant en Bref les Causes des Malefices, Sortileges et enchanteries, tant des ligatures & neuds d'esguillettes pour empescher l'action & oxercice du mariage qu'autres, & du remede qu'il faut auoir à l'oncontre, in **Massé (P.)**, De l'Imposture et Tromperie des Diabes. [R 20 a 2]
- Bentivegni (A. von)**, Anthropologische Formeln für das Verbrechertum. 8vo, pp. 45. Schriften der Gesellschaft für Psychologische Forschung (Heft 6). Leipzig 1893. [9 i 25]
- Bergson (Henri)**, Prefatory letter in **Stephen (K.)**, The Misuse of Mind. [25 hh 11]
- Beringer (Kurt)**, Der Meskalinrausch, seine Geschichte und Erscheinungsweise. 8vo, pp. v. 315. Monographien aus dem Gesamtgebiete der Neurologie und Psychiatrie (Hoft 49). London 1927. [17 i 7]
- Bernheim (H.)**, Die Suggestion und ihre Heilwirkung. Authorised German edition by S. Freud. 8vo, pp. 415, ill. Leipzig, Wien 1888. [15 i 39]
- Bernou (J.)**, La Chasse aux Sorcières dans le Labourd (1609). Etude historique. 8vo, pp. 416. Agen 1897. [21 f 17]
- Best (W. M.)**, The Principles of the Law of Evidence. With elementary rules for conducting the examination and cross-examination of witnesses. Edited by S. L. Phipson. 8vo, pp. xxxiii. 673. Twelfth edition. London 1922. [17 i 9]
- Besterman (Theodore)**, Editor of *Congrès International des Recherches Psychiques*, Transactions. 4th. [4 h 43]
- *Folklore and Psychical Research*. 8vo, pp. 396-398. [RPR 13 (3)]
[With a reply by H. J. Rose. Part of *Folk-Lore* (London 1926), xxxvii.]
- *Library Catalogue of the Society for Psychical Research* (Supplement 1928-1929). 8vo, pp. [56]. [London] 1929. [4 g 10]
- List of F. W. H. Myers's Signed Contributions to the *Proceedings* and *Journal* of the Society for Psychical Research, in **Lodge (Sir O. J.)**, *Conviction of Survival*. [4 g 21]
- *On Clairvoyance*. 4to, pp. 33-38. [RTC 6 (14)]
[Part of *Psychic Research* (New York 1928), xxii.]
- *The Phenomena of Psychical Research*. 8vo, pp. 110-117, 179-186. [RPR 15 (6)]
[Part of *The Link* (London, April, July 1930), iii.]

Besterman (Theodore)—

——— Some Modern Mediums. 8vo, pp. xi. 189, 24 portraits and diagrams. London 1930. [5 e 35]
 [*Journ.* xxvi. 122 ; with bibliographies.]

Bigge (Sir L. A. Selby-), Editor of Hume (D.), *Enquiries concerning the Human Understanding.* [25 hh 17]

——— ——— ——— *A Treatise of Human Nature.* [25 hh 18]

Binet (Alfred), *The Psychic Life of Micro-Organisms. A Study in Experimental Psychology. With a Preface by the Author written especially for the American Edition. Translated by T. McCormack.* 8vo, pp. xii. 121, 17 diagrams. Chicago 1889. [17 g 32]

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Bjerre (Paul), *Death and Renewal.* Translated by I. von Tell. 8vo, pp. 346. London 1929. [17 g 30]

Blackmore (Simon Augustine), *Spiritism, Facts and Frauds.* Introduction by the Right Rev. J. Schrembs. 8vo, pp. 535. London 1924. [24 c 4]

Blatchford (Robert), Preface to Purchas (T. A. R.), *The Spiritual Adventures of a Business Man.* [24 d 32]

Blavatsky (H. P.), Some Unpublished letters. Introduction and commentary by E. R. Corson. 8vo, pp. 255, 5 portraits and ill. London [1929]. [7 c 35]

Bodisco (Constantin Alexandrowitch), *Recherches Psychiques (1888-1892). Dédiées aux Incrédules et aux Egoïstes. Traits de Lumière, Preuves matérielles de l'existence de la vie future, Spiritisme expérimental au point de vue scientifique.* Preface by Papus [G. Encausse]. 4to, pp. v. xvi. 7-125, facsimile and 3 plates (2 in colour). Paris 1892. [5 d 22]

Bois (Jules), *Le Satanisme et la Magie.* Preface by J. K. Huysmans. 8vo, pp. xxvii. 427, 34 plates and ill. [On cover: Fifth edition.] Paris 1896 [on cover: 1895]. [21 f 15]

Bolton (Dorothy), Translation of Saurat (D.), *Literature and Occult Tradition.* [18 a 22]

[**Bonnefoy ()**, *Analyse raisonnée des Rapports des Commissaires sur le Magnétisme, Reply to.*] 4to, p. 1496. [R 20 f 20 (11)]

[Part of the *Journal de Paris* (19 Décembre 1784), no. 354.]

[——— ——— *Defences of.*] 4to, pp. 1529-31. [R 20 f 20 (13)]

[Part of the *Journal de Paris* (26 Décembre 1784), no. 361, *Supplement.*]

Bonnefoy ()—

—— Réponse . . . à la lettre insérée dans la Feuille du 16 [*sic*, for 19] Décembre 1784. 4to, p. 47. [R 20 f 20 (21)]

[Part of the *Journal de Paris* (11 Janvier 1785), no. 11.]

Bonnet (Edgard Emmanuel), *Le Problème de la Survie et les Maladies de la Mémoire*. 8vo, pp. 33. Paris 1930.

[RP 11 (9)]

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FURTHER INQUIRIES INTO THE ELEMENT OF CHANCE IN BOOKTESTS

BY THEODORE BESTERMAN

THE nature and origin of booktests have been fully described by Mrs Sidgwick in the introduction to her paper on this subject.¹ Throughout her paper she emphasises the complexity of the phenomenon and the difficulties involved in evaluating it. As is the case with all such "free" material, that is, such as cannot be statistically investigated in the same way as numbers and playing cards, the evidential value of booktests can only be definitely established by means of control experiments. Consequently Mrs Sidgwick conducted a limited investigation of this kind. She took an actual test given in a sitting with Mrs Leonard and checked it against twelve books selected by her at random.² The experiment, however, was on too small a scale to provide adequate material for comparison. A little later, therefore, a larger experiment was undertaken, though on different lines. Sixty people were asked to choose ten books each, at random. After they had chosen the books they were asked to verify from each book three tests devised for the purpose. The 1800 passages thus obtained produced, according to the late Colonel Baddeley's analysis, an average of 4·7 per cent. of success, as against 36 per cent. obtained by Mrs Leonard over the whole of such of her actual booktests as were examined by Mrs Sidgwick.³

The objection could be raised against this experiment that it was wholly artificial, having no relation to a genuine booktest, as had Mrs Sidgwick's original investigation of chance, and that it was conducted under conditions having no resemblance to those of an actual booktest. Under those circumstances chance was not, as it were, given a fair trial. It seemed useful, therefore, to repeat Mrs Sidgwick's experiment on a larger scale, and also to supplement it with an experiment in which persons claiming supernormal powers, or having some experience of booktests, or having considerable literary

¹ "An Examination of Book-Tests obtained in Sitzings with Mrs Leonard," *Proceedings* (1921), xxxi. 242 ff.

² *Ibid.*, pp. 379-86.

³ "On the Element of Chance in Book-Tests," *Proceedings* (1923), xxxiii. 606-20.

knowledge, should attempt to give booktests in the ordinary way. Thus, the dice would be heavily loaded in favour of chance. The present paper reports the result of these two small investigations.

I

The form taken by the last-mentioned experiment was as follows. A number of members and others were invited to take part, and those who agreed to do so were sent the following circular :

“ 4 February 1931.

“ Thank you for having kindly agreed to take part in our experimental investigation of booktests.

“ The object of the experiment is to discover whether individuals (other than mediums) who are thought to have some supernormal faculty or who are successful in sittings with mediums, can produce booktests which are at all comparable with those given by mediums.

“ What we ask you to do is to try, when you feel in the mood (so as to give the subconscious as free play as possible) at any time during the week from Sunday, the 8th of February to Saturday, the 14th of February (both dates inclusive), to imagine that you are in Mr Besterman's flat on the second floor of 47 Great Ormond Street, Bloomsbury, W.C. 1, and to give a booktest from it. I hope that the procedure is known to all the experimenters.

“ Replies should be addressed to the Secretary, Society for Psychical Research, 31 Tavistock Square, London, W.C. 1, and should reach me not later than Monday, the 16th of February. Please mark your envelope with a ‘ B ’ in the top left-hand corner.”

Owing to absence, delay, and other causes, only a small number of replies that could be used was received, eighteen in all. Miss Carruthers then very kindly co-operated by allowing the unopened envelopes to be handed to her by Miss Newton, and by bringing them to my flat, there opening them, and verifying the references from my shelves. The results are set out below. In view of the disappointingly small number of replies, I have not thought it worth while to make elaborate analyses, and have contented myself with a minimum number of laconic annotations, which appear in italics within square brackets. It will be seen that some of the numbers are missing. This is due to the fact that the unopened envelopes received before the final date were numbered on the outside for identification, and that some of them, on being opened, were found to contain only apologies for inability to take part, and the like.¹

[1]. “ Go to the eleventh book from the right ; on the second shelf from the floor ; in the book-cases opposite the door by which

¹ The references to my books should not be compared with each other, for I purposely changed the places of some of them between the experiments.

you enter the room; page 75; ninth line from bottom; there should be words that remind you of a member of your family once very dear to you; I think, a woman, but of that I am not quite sure [no]." The Association of Special Libraries and Information Bureaux, *Report of Proceedings of the Second Conference*: London 1926.

[2]. "In the first book-case you come to as you turn to the left on entering the room, on the second shelf from the top, the fifth book from the left-hand side, page 65, there is a reference to Phoebus Apollo [no]." Henrik Ibsen, *The Pretenders and two other Plays*: Everyman's Library, London [1913].

[3]. "I see a bookcase opposite a window [no]. On the second shelf or row of books from the ground, 4th book from left (facing bookcase). A book with a greenish or bluish cover [not correct of the corresponding book in any bookcase]. Page 14 I get impressions of travel or of description of foreign scenes. Not so much in the East as nearer at home in Europe. Perhaps Germany or Switzerland [no, as before]. Name of a town beginning with B or St somewhere on this page (14) or the opposite page opening on this [no, as before]. Also something on p. 14 to do with light or brightness or shining [no, as before]."

[5 (A)]. "A sitting-room with a good many books in it, three or four lots [three]. Take the first lot as you go round the room to the left on entering. Third shelf up, fifth book from the left. Page 37, in the upper part of the page. Something about a citadel, a fortress, an idea of high walls, very strong [no]. An impression of a small statue somewhere near the books [no]. Also an impression of something bright blue [yes, the covers of the book]." Herbert Jenkins, *William Blake*: London 1925. This book is arrived at by ignoring two thin pamphlets, neither having 37 pages, which are almost invisible when the shelf is inspected.

[7]. "After about five minutes, I found myself thinking of an alcove with a curved top, about the height of a door I thought [yes, a recessed doorway, but it has not a curved top]. Got the impression of green paper [no] and white paint [no] connected with the alcove. There were a good many shelves [yes], and they went up to about the height of a frieze in a room [yes, but there is no frieze]. Then I got the idea that the paint was cream, not white [no]. And I became not sure whether the green was due to paper, or was the colour of books in the top row [yes, but not in the room with the alcove]. I thought it might be a batch of green books. A soft green [yes]. From left to right the books seemed smallish at first [no] and then became the size of good sized novels [yes] and these were a soft green colour. I thought they were Thackeray at first, and then began to

wonder if the colour had made me think that, as it was much the colour of our Thackerays. I decided in the end that the green was a dull green, like a slightly faded reseda [*no*], and that Jane Austen was the author [*no*]. But I 'got' nothing from inside any book. *We have green Jane Austens!*" The top shelf in question contains only S.P.R. *Proceedings*.

[8]. "After two vain attempts for the book-test I got the following quite vividly. I saw an oblong room [*yes, but only slightly*]—all the colours in it seemed green [*yes*] and brown [*yes, the furniture*]. To the left-hand side of the room was a high shelf book-case [*yes*]—no glass doors [*no, i.e. it has glass doors*]. Above it was a very small convex mirror in a gilt frame [*no*]. (The odd thing was I saw this convex mirror every time I tried to visualise the flat.) On the top shelf of the book-case, the 4th or 5th volume from the left I saw a book—it seemed in dark green [*no*] but I saw no name on it. On page 87 on the fifth line I saw the word *augur* [*no*]. This was all I got and it is rather meagre, but the word 'augur' came in a flash, most deeply from my subconscious self."

[9]. "Enter the room and take second shelves from door as one turns left. Third shelf from floor" [*what follows consists of three distinct tests which have been divided accordingly*].

(A). "5th book from left end; on p. 54 see reference to South Africa and the climate there [*no*]. P. 74, description of a fight [*no*]." H. G. Wells, *The Dream*: 3rd impression, London 1924.

(B). "7th book from left end; p. 5, descriptions towards the bottom which might apply to Mr Besterman's adventures while travelling on the Continent for the S.P.R. [*no*]. On pp. 7 and 8 names of his parents and of a sister now passed on [*no*]." H. G. Wells, *The Invisible Man*: London 1897.

(C). "10th book from left end; p. 84, reference to political controversies of last century [*there is an allusion to suffragettes*]." H. G. Wells, *Marriage*: London 1912.

[10]. "Go to the bookcase nearest the fireplace and to the left of it. Take the second row from the left, and the third book from the right-hand end. On p. 113 you will find a reference to the sea [*no*] (or to something beginning with the letter C?) [*yes, the name Crofts*]. I get the name Lynton [*no*]—or is it Bournemouth? [*no*]." Bernard Shaw, *Mrs Warren's Profession*: London 1913. This book is paged [ii]. xxxvi. [157]-235. The success indicated occurs when the pages are counted from p. [i]; counted from p. i there is no success; counted from p. [157] there is no p. 113.

[11]. "I have no confidence in this myself—but there may be something in it. At one period of 'abstraction' it came to me that

on the 2nd shelf (from bottom) on page 73 of the 3rd book from left wall, facing North, some relevant message would be found. I don't know Mr Besterman's library at all, but the position seemed clear. Later I tried again to get the sort of message, and what came to me was either (1) some reference, direct or indirect, to the late Edward Clodd or his line of thought, (2) or to the conquest of mind over matter, (3) or some thought generally relevant to your investigations." [*It is impossible to determine which bookcase corresponds most closely to the indications given ; but the tests do not apply to the appropriate book in any bookcase.*]

[12]. "I much regret that I have practically nothing of interest to report. I find that when one consciously tries to do these things, the faculty won't work! The only *sub*-conscious impressions I have had are, that one of Mr Besterman's bookcases is on the right of the window in the front room [*yes*]. And the names 'Sophonisba' (a poem) and 'Pliny' have floated about in my mind. When trying the experiment *consciously* I would make a guess that there is a book on a shelf about 4 feet 6" up from the floor—near the middle—page 52—right hand side, half way down, which has to do with the aforesaid names [*no*]."

[13]. "Oval—*orphan*. Case right of fireplace well bound leather books [*no*]. 3rd shelf from top, 2nd book from right, 10th line, p. 36. I think oval to do with an *orphan* [*no*]." Edgar Allan Poe, *Tales of Mystery and Imagination*: Everyman's Library, London 1912.

[14]. "Single shelf of books in a sitting-room, rather high up on the wall [*no*]. 4th book from the left. Green cover. On page 41, reference to stars and anemones."

[15]. "Bookshelves on right of fireplace. Third shelf from bottom, third book from the left end, p. 57—(or p. 348) about one third of page from bottom. Mention of a subject of great mutual interest to self and a departed friend [*no*]." H. G. Wells, *Ann Veronica*: London 1909.

[16 (A)]. "There are three lots of books in the room [*yes*], one large bookcase and two smaller lots of shelves [*yes*]. The test is from the large bookcase, and I think this case stands between a door and a window, against the wall that runs between the door and a window [*yes*].

"The test book is on the second shelf from the bottom, the second row of books, there are mostly dark coloured books in that shelf, a lot of dark blue and black books [*no*]. The test book is a red book or is close to a bright red book. It may be a dark red book close to a bright red one or it may be bright red itself. It is the ninth (9th) book counting from the left end of the shelf; it is a largish

book, the size of a 'memoir' or of Axel Munthe's 'Story of San Michele' and not a thin book either, it is rather bulky [*all these particulars are true of the 9th book from the right*]. The test is at the very top of the 14th page, not more than half an inch from the top in any case; a reference to something sour, acid, perhaps fruit or an acid drink [*no*] and on the 111th (one hundred and eleventh) page, half way down, an allusion to the Last Judgment [*no*]. Quite near the test book, or it may even be touching it, a small thin dark book with a white spine label is lying along the top of the other books, poetry, I think [*true again, calculated from the 9th book from the right*]."

[17]. "A row of books in Mr Besterman's flat, on a level with his shoulder. The sixth book from the extreme left of the row. Page sixty-one—about the middle of the page. A reference to a tree or trees, or to a picture of a tree or trees [*not correct of any bookcase*]."

[19]. "I once had an impression of a book with an unusual blue cloth binding—and if anything else was indicated it would be the second shelf down—3rd book from left—but it was all very vague [*not correct of any bookcase*]."

[20]. "I entered the room and made my way across it to the wall facing the door where there were books. I had noticed gaps on the lower shelves [*yes*] but I looked along a row of books between 5 and 6 feet from the ground from which I noticed a book had been taken [*no*]. Next to the gap and to the right of it I took a book and turned it over to page 27. Hitherto the feeling of heat or cold had not occurred to me but reading down the page of which I remember nothing I had the feeling of extreme warmth. I noticed some music being played somewhere, and, as I was leaving, the word Taormina suddenly occurred to me, but it seemed to have no connection with anything at all."

[24]. "Her only idea was 'A book about roses, lying on a big round table' [*no*]."

It will be seen that in this experiment, although it was conducted with subjects who, for one reason or another, might be expected to score successes above the average, in only three instances were any hits made at all approaching an evidential standard. These are numbers 5 (Mrs Salter), 9 (the Rev. C. Drayton Thomas), and 16 (Lady Troubridge).¹ These three percipients were therefore asked to give a further series of tests under similar conditions, and kindly agreed to do so. Mrs Salter's further tests were as follows :

¹ It is to be noted that these three percipients are amongst those who have had the widest experience of booktests.

[5]. "First set of shelves going to the Right. Same room as last time."

(B). "3rd shelf up, 6th from L. P. 34 'stranger than fiction,' something that suggests the idea that truth can be stranger than fiction [no]." *The Works of Bernard Shaw*: London 1930, vol. vii.

(C). "Same shelf, 2nd book from L. P. 89, about the middle, something about horses [no]." *The Works of Bernard Shaw*: London 1930, vol. ii.

(D). "Shelf immediately below: 2nd book from L. P. 18, about the middle, Pounds, shillings and pence—calculations about money, the value of money [no]." *The Antiquaries Journal*: London 1922, vol. ii.

(E). "7th book from L., same shelf. P. 50, painted china or earthenware, something that suggests tea cups [*this is easily the best hit in the experiment: on p. 50 of this volume is part of an account of some newly found pottery from Macedonia, some of which is painted, and the word 'painted' in this connection occurs on the page. The word 'cups' also occurs, and the appearance of those referred to (illustrated on the page facing the test-page), definitely suggests 'tea-cups'.*]" *The Antiquaries Journal*: London 1927, vol. vii.

(F). "3rd book from L. [*taken from same shelf*]. P. 72. Early dawn—the rising sun, the rays of the sun [no]." *The Antiquaries Journal*: London 1923, vol. iii.

(G). "Lowest shelf. 4th book from R. P. 7 [*there is none*], lower part. Calm before a storm—haleyon days." Theodore Besterman, *The Belief in Rebirth among the Natives of Africa* (offprint): London 1931.

Next we have Mr Drayton Thomas's further tests:

[9]. "Shelf as before."

(D). "10th book from right side; page 25 see ref. to old-time feuds [*reference to Russian Revolution, and the name Huss occurs (cp. John Huss, the Bohemian reformer)*]; p. 54 see ref. to tempest, sea, lightship [*the name Sea View occurs twice*]; p. 56 see ref. to singing birds and vivid colours [no]." H. G. Wells, *The Undying Fire*: London n.d.

(E). "10th from left side . . . p. 8 description which would fit place where Mr Besterman and his father had a memorable escape from death [no]; p. 14 an allusion to infancy [no]. Near beginning of book see a picture suggesting a reunion after long separation [no]." H. G. Wells, *Marriage*: London 1912.

(F). "Count from left side. 3rd book, p. 7, names of two of Mr Besterman's relatives, one on his father's side and one on his mother's. Both of them known personally [no]; p. 8, towards bottom see reference to achieved ambitions [no]; p. 10 distinct allusion to

fortune-telling nr. top [no]." H. G. Wells, *Ann Veronica* : London 1909.

(G). "5th book. Black binding [no]; an unusual number of footnotes and marginal referenees [no]. Date written on flyleaf [no] which was epoch-making year in Mr Besterman's life. Title of book suggestive of disappointment and falsified hopes [?]; in preface, or early pages, a reference to Cambridge [no]; p. 9, allusion to fire-works [no]." H. G. Wells, *The Dream* : 3rd impression, London 1924.

(H). "4th book from left, p. 12, half way down see reference to heathen mythology [no]; p. 13, the word 'cosmos' [no]; p. 16, towards bottom of page find a sentence which eorrectly describes your views on psychical researeh [no]." H. G. Wells, *The Autoeracy of Mr Parham* : London 1930.

(I). "6th book from left, red back binding [no]. With title containing the syllable FOR [no]; p. 2, find names of three near relatives, two of them still on earth [no]; p. 8, see a description of locality which you will easily recognise as applicable to your surroundings just before coming to live in London [no]; p. 9, theological argument regarding Deity [no]." H. G. Wells, *Joan and Peter* : London 1918.

Finally, we have Lady Troubridge's additional series of booktests :

[16]. [All from the same bookease.]

(B). "The 23rd book from the left on the same shelf as the book of my first test, the 60th page [*there is none*], at the top—about 3 lines down a reference to jewellery and on the 9th page, at the bottom an allusion to the saints [no]. There are pictures, illustrations of some sort in this book [no], and it is a fat book [no]." A. W. Wheen, *Two Masters* : Criterion Miscellany, no. 1, 2nd impression, London 1929.

(C). "On the top shelf of the bookease the 10th book from the left is a largish thin book [no]. I feel maps in connexion with this book [no], half way down the 50th page there is a geographical allusion [no], and there is a name—no *two* names written in the beginning in ink [no]." *Proceedings S.P.R.*, vol. x.

(D). "The first book from left on the third shelf is bright blue [no]; it is a novel [*yes*] and 3 parts down the 20th page is a reference to stars [no], and the word 'love' occurs at bottom of the same page [no]. This book is divided into small chapters [*there are 37 chapters and an epilogue, in 438 pages*] and there is something very silly at bottom of the 50th page [*yes*]." *The Works of Bernard Shaw* : London 1930, vol. i (*Immaturity*).

(E). "The seventh book from the right end of the same shelf; a shabby book [no]—joints weak [no], bound in old leather I think

[no]; I feel it oldish [no] and paper rather discoloured [*cream-coloured*]; half way down the 11th page a dog is mentioned [no] and on the last page of the book Northern peoples or Seandinavian are alluded to [no].” George Moore, *Pure Poetry*: [London] 1924.

(F). “At the very top shelf of bookease is a small, fat, blaek, book, like a prayer book, or bible, but I think a prayer book, very bulgy and shabby and stuffed in between larger books [no].”

(G). “A red book, the binding not shiny or smooth—rather rough to the touch; on pages 6 and seven facing each other, half way down page and almost touching two referenees to affection, union [no]; possibly the words ‘love’ and ‘friendship’ [no]. This is a book of a rather spiritistie tendeney dealing with belief in reunion after death. I do not know what shelf this book is on, only that it is in that bookcase [*there are two books in the bookcase answering to the general description: Lydia W. Allison, Leonard and Soule Experiments in Psyehical Research (1929) and John F. Thomas, Case Studies bearing upon Survival (1929)*].

It is very difficult to estimate in conerete terms the results of this experiment, and to compare them with those obtained in actual booktests. This difficulty is chiefly due to the very vague and general nature of most of the experimental tests quoted above. We can, however, note that of the 38 booktests, comprising, so far as it is possible to count them, 113 separate indications, only five can be described as evidential hits. These are 5A (colour of book), 5E (earthenware and eups), 9C (suffragettes), 9D (old-time feuds and sea), and 16A (general description of bookease and inverted description of book). Of these, the only one that is comparable with a good Leonard booktest is 5E. It is obvious, in short (espeeially when it is remembered that Mrs Sidgwick estimated Feda’s booktests to be suceessful to the extent of about 36%),¹ that in this experiment ehance, even under the most favourable eircumstanees, did not produce results even remotely approaching those obtained by Mrs Leonard.²

II

The other experiment alluded to, that in which Mrs Sidgwick’s original inquiry into ehance was repeated on a larger seale, has now to be described. This was also carried out with the books in my flat. I sent a list of the numbers 1 to 26, the number of full shelves in my flat, to three members of the Society, Miss Ina Jephson, Mr C. E. Beehhofer Roberts, and Mr H. F. Saltmarsh. Without telling

¹ Mrs Henry Sidgwick, *op. cit.*, xxxi. 245-6 n.

² This, of course, is simply another way of saying that the odds against the purely ehance occurrence of Feda’s results are very heavy.

them the object of the request, I asked them to place against each number a figure not higher than twenty, followed by an L or an R. In this way I obtained 78 references, the number 26, for instance, followed by 9L, meaning the ninth book from the left on shelf number 26. Miss Newton then came to my flat with the three lists, determined at random to which shelves the numbers should apply, and performed the laborious task of writing against each reference the name of the book to which it was found to apply.

In the meanwhile I had asked Mrs Salter to select three actual booktests suitable for the purpose of the experiment. The three tests she chose are all from Mrs Sidgwick's paper, and are here summarised for convenience.

Booktest i

Feda said that in the second paragraph of page 71, or about the middle of the page, would be found a message, of which she said that :

“ (1) It refers to a past condition.

“ (2) But has also an application to the present.

“ (3) It is an answer to a thought which was much more in your mind at one time than it is now,—a question which was once much in your mind, but is not now, especially since you have known Feda.

“ (4) On the opposite page [p. 70] is a reference to fire.

“ (5) On the opposite side [p. 72] is a reference to light.

“ (6) On the opposite side is a reference to olden times.—These have nothing to do with the message but are just tests that you have the right page.

“ (7) On the same page or opposite page or perhaps over the leaf [pp. 70-72] a very important word beginning with S.”

In the original experiment all these seven indications were verified. The second paragraph (stanza) proved to be part of a poem by Oliver Wendell Holmes :

“ The weary pilgrim slumbers,
His resting place unknown,
His hands were crossed, his lids were closed,
The dust was o'er him strown ;
The drifting soil, the mouldering leaf
Along the sod were blown,
His mound has melted into Earth
His memory lives alone.”

These lines

(1) Refer to early settlers in America, that is, to “ a past condition.”

(2) They have an application to the present, in that they answer the sitter's doubts about the burial of the communicator.

(3) The sitter wrote : " It was a question in my mind constantly at one time whether it would be possible to identify the spot with the help of the officers present, and when the war was over to mark it with a cross. I have thought very little of that lately and have not felt concerned as I did at first that his grave was unmarked and unknown."

(4) On the opposite page occur the lines :

" Still shall the fiery pillar's ray
Along the pathway shine."

(5) There are several references to light on p. 72 : " flaming," " sunlight," and others.

(6) The whole page contains a poem descriptive of a paddle steamer.¹

(7) The above-mentioned poem, called " The Steamboat." ²

For the purpose of the experiment I have assumed that (3) applies to me, and that the test of importance in (7) should be importance in the context.

Booktest ii

This test ran as follows : " On page what is called one four of this book, fourteen, wait a minute, something made her feel, gave her a feeling of heat, something hot, heat, half way down that page. But she'd better explain, it might come from two sources, it might come from a mention of heat, like a hot sun, or a hot fire, or it might come from a mention of great anger, but spoken of as heat ; . . . "

In the actual booktest Feda's indications were verified by the occurrence of the words " ardent patriot." ³

Booktest iii

In this test Feda said :

" Page 15 of the same book, half way down or a little above perhaps, it speaks—wait a minute, speaks—do you want to give the position exactly ? He's making a line across half way down the

¹ My verification of (5) and (6) differs from that of the sitter. This is due to the fact that the latter treated " opposite page " and " opposite side " as synonymous, whereas I think that the former refers to p. 70 and the latter to p. 72. However, I examined a copy of the book in question in the British Museum, and found, as can be seen above, that Feda's indications apply almost as well to p. 72 as to p. 70. The score is not affected. In the next item (7) there is another difference, and this time one that does affect the score, in Feda's favour. The sitter regarded this as a failure, but I agree with Mrs Sidgwick in thinking that it may reasonably be regarded as a success.

² Mrs Henry Sidgwick, *op. cit.*, xxxi. 260-4.

³ *Ibid.*, p. 281-2.

page, and the position is about a quarter of an inch above that line, he's got a reason for doing that, on that line, a quarter of an inch above half way down that page, there is a word or words . . . a long pole . . . I've got to say those words, and he's pretending to show me a long, long pole in his hand. (Feda indicates by gesture with extended arm some one grasping a long upright pole or stick.) [Sitter : Like a staff ?] It's sticking up and it looks straight. (Again indicates holding on to a perpendicular stick.) But there's something at the top what takes off the straightness . . . ”

At the place indicated was found the word “pole,” which the context showed to be a long alpenstock ; but there is no reference to anything at the top taking away from the straightness.¹

It will be seen that these three booktests are particularly suitable for the purpose of our experiment. The first one contains seven separate indications, none of them particularly evidential, spread over three pages. The second test gives a specific but abstract and not very evidential indication on a particular part of a page. And in the third booktest a concrete and highly evidential indication is given referring to a very exactly described position on the page.

The results of submitting these three actual booktests to chance verification in the manner explained, are now tabulated.

¹Mrs Henry Sidgwick, *op. cit.*, xxxi. 287-8.

TABLE I

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|---|--|---|-----------|
| 1. | <i>Proceedings S.P.R.</i> , vol. xxv. | (1) No. (2) Yes; it deals with current problems. (3) No. (4) No. (5) No. (6) No. (7) Yes; the word "subliminal." | Yes; three-fifths down the page are the words "glowingly eulogistic account." | No. |
| 2. | <i>Journal S.P.R.</i> , vol. xxii-xxiii (bound as one volume, but with two paginations). Vol. xxii. | (1) Yes; an account of a past accident. (2) Yes; the account was obtained for a "present" purpose; <i>i.e.</i> the preparation of the case of which it forms part. (3) No. (4) No. (5) No. (6) No. (7) No. | No. | No. |
| 3. | <i>Ibid.</i> , vol. xxiii. | (1) Yes; a reference to an old case. (2) Yes; it is quoted to illustrate a new case. (3) No. (4) No. | No. | No. |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|---|--|--|-----------|
| | | (5) Yes; references to photography [$\phi\omega\sigma$, light]. (6) No. (7) Yes; the word "super- normal". | | |
| 4. | W. F. Prince, <i>The Case of Patience Worth</i> ; Bos- ton 1927. | (1) Yes; references to past experiences. (2) Yes; they are quoted for a "present", pur- pose. (3) No. (4) No. (5) Yes; quotations from <i>New York Sun</i> . (6) Yes; in particular the words "an older time". (7) Yes; the word "spirit". | No. | No. |
| 5. | Havelock Ellis, <i>Kanga Creek</i> ; Golden Coe- kerel Press 1922. | There are not 71 pages in this book. | Yes; reference to a "stuffy little room" and to [hot] "weather". | No. |
| 6. | Rt. Hon. L. S. Amery, <i>Em- pire and Prosperity</i> ; Criterion Miscellany, no. 23, London 1930. | (1) Yes; references to the history of Empire eo- operation. (2) Yes; reference to the present position of the same. | No. | No. |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|---|---------------------------------------|---------------------------------------|--|
| (3) | | No. | | |
| (4) | | No. | | |
| (5) | | No. | | |
| (6) | | No. | | |
| (7) | | Yes; the word "safe-guarding". | | |
| (1) | 7. Theodore Besterman, <i>A Bibliography of Annie Besant</i> ; London 1924. | (1) Yes; a list of past publications. | No. | No. |
| (2) | | No. | | |
| (3) | | No. | | |
| (4) | | No. | | |
| (5) | | No. | | |
| (6) | | No. | | |
| (7) | | No. | | |
| (1) | 8. Bernard Capes, <i>The Romance of Lohengrin</i> ; London 1905. | (1) Yes. | This page bears only an illustration. | Yes; a picture in which appears prominently a sword in a long straight scabbard. The hilt is just over half way up the page. |
| (2) | | No. | | |
| (3) | | No. | | |
| (4) | | Yes; the word "flash". | | |
| (5) | | Yes; the word "shining". | | |
| (6) | | Yes. | | |
| (7) | | No. | | |
| (1) | 9. Alfred Elwes, <i>Lake Ashleigh</i> ; London [1892?]. | (1) No. | | |
| (2) | | No. | | |
| (3) | | No. | | |
| (4) | | No. | | |
| (5) | | No. | | |
| (6) | | Yes; reference to knights in armour. | | |
| (7) | | No. | | |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|--|--|----------|-----------|
| 10. | François Mauriac, <i>Des-tins</i> : 58th edition, Paris 1928. | (1) No. (2) Yes; it is a contemporary novel. (3) No. (4) No. (5) No. (6) No. (7) No. | No. | No. |
| 11. | W. M. Thackeray, <i>The History of Henry Esmond, Esq.</i> : London 1902. | (1) No. (2) No. (3) No. (4) No. (5) Yes. (6) Yes; mythological allusions. (7) No. | No. | No. |
| 12. | H. G. Wells, <i>Tono-Bungay</i> : London n.d. | (1) No. (2) Yes; it is a contemporary novel. (3) No. (4) No. (5) No. (6) No. (7) No. | No. | No. |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|---|---|--|-----------|
| 13. | Pierre Villetard, <i>Monsieur Bille dans la Tourmente</i> : Le Livre de Demain, no. 28, Paris 1929. | (1) No. (2) Yes; it is a contemporary novel. (3) No. (4) No. (5) No. (6) No. (7) No. | No. | No. |
| 14. | <i>Painting and Decoration</i> , N.p., n.d. [An advertising booklet.] | There are not 71 pages in this booklet. | Yes; "extreme weather conditions", and, lower on the page, "sweating". | No. |
| 15. | W. S. Gilbert, <i>Fifty Bab's Ballads</i> : London n.d. | (1) No. (2) No. (3) No. (4) No. (5) No. (6) Yes; old-fashioned legal jargon is introduced. (7) No. | No. | No. |
| 16. | <i>The Poetical Works of Alexander Pope</i> , ed. G. R. Dennis: London 1907, vol. ii. | (1) No. (2) No. (3) Yes; on this page occurs part of the "Universal Prayer", alluding to religious problems once much in my mind, but no longer so in recent years. | Yes; the word "mild". | No. |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|--|---|----------|-----------|
| | | (*) No. | | |
| | | (5) No. | | |
| | | (6) No. | | |
| | | (7) No. | | |
| 17. | Walt Whitman, <i>Leaves of Grass</i> : The People's Library, London, 1909. | (1) No. (2) Yes. (3) No. (4) Yes; the words "half-burn'd brig", (5) Yes; the words "examining with a candle", (6) Yes; the words "walking the old hills of Judaea", (7) No. | No. | No. |
| 18. | Joseph Dimier, <i>Un Régulier chez les Joyeux</i> : 5th edition, Paris 1928. | (1) Yes; autobiographical. (2) No. (3) No. (4) No. (5) No. (6) No. (7) No. | No. | No. |
| 19. | Richmond H. Hellyar, <i>W. N. P. Barbellion</i> : London 1926. | (1) Yes. (2) Yes. (3) No. | No. | No. |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|---|---|---|--|
| (4) | | No. | | |
| (5) | | No. | | |
| (6) | | No. | | |
| (7) | | No. | | |
| 20. | R. H. Mottram, John Easton, and Eric Partridge, <i>Three Personal Records of the War</i> : London 1929. | (1) Yes. (2) Yes. (3) No. (4) No. (5) No. (6) Yes; references to past wars. (7) No. | No. | No. |
| 21. | Geoffrey Chaucer, <i>The Canterbury Tales</i> : Golden Coekere Press 1931, vol. iv. | (1) Yes. (2) No. (3) No. (4) No. (5) No. (6) Yes. (7) No. | Yes; the lines "As rody and bright as dooth the yonge some . . . Arrayed after the lusty secon sote lightly, . . ." | Yes; along the margin of the whole page is a wood engraving of a bare, pole-like branch, with occasional leaves. |
| 22. | <i>The Laws of Croquet</i> : London 1929. | Does not contain 71 pages. | No. | No. |
| 23. | Arthur R. Hewitt, <i>The Law Relating to Public Libraries</i> : London 1930. | (1) Yes. (2) Yes. (3) No. (4) No. (5) No. (6) No. (7) No. | (a) Page xiv: Blank. (b) page 14: No. | (a) Page xv: No. (b) page 15: No. |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|---|---|--|-----------|
| 24. | <i>Journal of the Royal Anthropological Institute</i> , vol. ix [Part 2]. | No pages 14, 15, 71, the numbers beginning with page 269. | | |
| 25. | Η Παλαια Διαθηκη : Oxonii 1848, tom. i. | (1) Yes. (2) No. (3) No. (4) No. (5) No. (6) No. (7) No. | Yes; " και ἀνήμεγεν εις ὀλοκαυτων ἐπι το θυσιαστηριον," [" and offered burnt offerings on the altar".] | No. |
| 26. | Moses Gaster, <i>The Asatir</i> : London 1927. | (1) Yes. (2) No. (3) No. (4) No. (5) No. (6) Yes. (7) No. | No. | No. |
| 27. | George Sarton, <i>Introduction to the History of Science</i> : Washington 1927, vol. i. | (1) Yes. (2) Yes. (3) No. (4) No. (5) No. (6) Yes. (7) Yes; " science". | No. | No. |

| No | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|---|--|---|-----------|
| 28. | <i>Proceedings S.P.R.</i> , vol. xx. | (1) Yes. (2) No. (3) No. (4) No. (5) No. (6) No. (7) Yes; "script". | Yes; the words "burning", "fire engine", "fire-light". | No. |
| 29. | <i>Proceedings S.P.R.</i> , vol. xxxiv. | (1) Yes. (2) Yes. (3) No. (4) No. (5) Yes; "illuminating". (6) No. (7) Yes; "science". | Yes; several references to the sun and to a brilliant red star. | No. |
| 30. | [W. F. Prince], <i>Experiments with Physical Mediums in Europe</i> : Boston 1928. | (1) Yes. (2) No. (3) No. (4) No. (5) Yes; several. (6) No. (7) Yes; Frau "Silbert". | No. | No. |
| 31. | Francis de Croisset, <i>La Fête Cinghalaise</i> : Col-lection Poivre et Sel, no. 5, Paris 1929. | (1) Yes. (2) Yes. (3) No. (4) No. (5) No. (6) No. (7) No. | Yes. | No. |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|---|--|----------|--|
| 32. | <i>New Dostoevsky Letters</i> , trans. S. S. Kotliansky; The Mandrake Booklets, London n.d. | (1) Yes. (2) No. (3) No. (4) No. (5) No. (6) Yes; the words "almost a historical study". (7) No. | No. | No. |
| 33. | [Sale Catalogue; Fosbury Manot, 18-21 February 1930.] | (1) No. (2) No. (3) No. (4) No. (5-6) Opposite side is blank. (7) No. | No. | Yes; just half way down the page is the line: "dwarf pillars, turned column and tripod". |
| 34. | J. M. Barrie, <i>Auld Licht Idylls</i> ; 11th edition, London 1898. | (1) No. (2) Yes; contemporary tales. (3) No. (4) No. (5) Yes; "Licht". (6) No. (7) No. | No. | No. |
| 35. | Maxim Görki, <i>The Orloff Couple</i> ; Popular edition, London 1915. | (1) No. (2) Yes; contemporary novel. (3) No. (4) No. | No. | No. |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|--|--|--|--------------------------------------|
| | | (5) No. (6) No. (7) No. | | |
| 36. | Sir Walter Scott, <i>Kenilworth</i> ; Victoria Edition, London 1897. | (1) Yes. (2) No. (3) No. (4) No. (5) No. (6) Yes; historical novel. (7) No. | No. | No. |
| 37. | Arthur Machen, <i>The Great God Pan</i> ; London 1916. | (1) No. (2) Yes; contemporary stories. (3) No. (4) Yes; "burn". (5) No. (6) No. (7) Yes; "Suicides", title of story. | (a) p. xiv: Yes; "sunlight". (b) p. 14: No. | (a) p. xv: No. (b) p. 15: No. |
| 38. | H. G. Wells, <i>Memnochile</i> ; London 1927. | (1) No. (2) Yes; contemporary novel. (3) No. (4) No. (5) Yes; "glow". (6) Yes; "Peter the Hermit". (7) No. | No. | No. |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|--|---|--------------|-----------|
| 39. | D. H. Lawrence, <i>Lady Chatterley's Lover</i> : Florence 1928. | (1) No. (2) Yes; contemporary novel. (3) No. (4) No. (5) No. (6) No. (7) Yes; "sex". | No. | No. |
| 40. | Sieur de Royaumont, <i>The History of the Old and New Testament</i> : 3rd impression, London 1705. First pagination: | Less than 71 pages. | No. | No. |
| 41. | <i>Ibid.</i> , Second pagination: | (1) Yes. (2) No. (3) No. (4) No. (5) Yes. (6) Yes. (7) Yes; page headed "The Sun Stands Still". | No. | No. |
| 42. | <i>Ibid.</i> , Third pagination: | (1) Yes. (2) No. (3) No. (4) No. (5) No. (6) Yes. (7) No. | Yes; "fire". | No. |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|---|--|--|--|
| 43. | <i>The Iliad of Homer</i> ; Everyman's Library, London n.d. | (1) Yes. (2) No. (3) No. (4) Yes; "fire'd". (5) No. (6) Yes. (7) No. | (a) Page xiv : No. (b) Page 14 : Yes; de- scription of Chryses's sacrifice. | (a) Page xv : No. (b) Page 15 : No. |
| 44. | John Milton, <i>The Poetical Works</i> : <i>Paradise Lost</i> ; The Canterbury Poets, London n.d. | (1) Yes. (2) No. (3) No. (4) No. (5) No. (6) Yes. (7) No. | (a) Page xiv : No. (b) Page 14 : No. | (a) Page xv : No. (b) Page 15 : No. |
| 45. | William Wordsworth, <i>The Poetical Works</i> : Oxford 1913. | (1) Yes. (2) No. (3) No. (4) No. (5) Yes. (6) Yes. (7) No. | (a) Page xiv : Yes ; " fiery ", (b) Page 14 : No. | (a) Page xv : No. (b) Page 15 : No. |
| 46. | James Agate, <i>Alarums and Excursions</i> : London 1922. | (1) No. (2) Yes; contemporary essay. (3) No. (4) No. (5) No. (6) No. (7) No. | No. | No. |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|---|---|----------|----------------------|
| 47. | <i>The Autobiography of Countess Sophie Tolstoy</i> ; Richmond 1922. | (1) Yes. (2) No. (3) No. (4) No. (5) No. (6) No. (7) No. | No. | No. |
| 48. | <i>The Plays of John Galsworthy</i> ; London 1929. | (1) No. (2) Yes; contemporary play. (3) No. (4) No. (5) No. (6) No. (7) No. | No. | No. |
| 49. | Geoffrey Chaucer, <i>The Canterbury Tales</i> ; Golden Cockerel Press 1930, vol. iii. | (1) Yes. (2) No. (3) No. (4) No. (5) No. (6) Yes. (7) No. | No. | Yes; as in 21 above. |
| 50. | <i>A Catalogue of Copyright Books available in Pocket Series at 3/6 net</i> ; 2nd edition, London 1931. | Does not contain 71 pages. | No. | No. |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|--|--|---|--|
| 51. | <i>MacLachose Types</i> : Glasgow 1927. | (1) Yes. (2) No. (3) No. (4-5) Blank. (6) Yes. (7) No. | Blank. | (a) 1st pagination: No. (b) 2nd pagination: No. |
| 52. | <i>The Author</i> (1929), vol. xl, no. 1. | Does not contain 71 pages. | No. | No. |
| 53. | Η Παλαιά Διαθήκη Oxonii 1848, tom. ii. | No pages 14, 15, 71, the numbers beginning with page 811. | | |
| 54. | Sir Oliver Lodge, <i>Raymond</i> : 3rd edition, London 1916. | (1) Yes. (2) No. (3) No. (4) No. (5) No. (6) No. (7) Yes; "spirits". | No. | No. |
| 55. | Gustave Geley, <i>L'Ectoplasmie et la Clairvoyance</i> : Paris 1924. | (1) Yes. (2) Yes. (3) No. (4) No. (5) Yes; "lucidité". (6) No. (7) No. | Yes; references to strong and intense light, which a later reference contrasts with cold light. | No. |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|--|---|--|------------------|
| 56. | <i>Proceedings S.P.R.</i> , vol. vii. | (1) Yes. (2) Yes. (3) No. (4) No. (5) No. (6) No. (7) No. | No. | No. |
| 57. | <i>Journal S.P.R.</i> , vol. xiii. | (1) No. (2) Yes; contemporary case. (3) No. (4) No. (5) No. (6) No. (7) No. | No. | No. |
| 58. | <i>Life and Letters</i> (1931), vol. vi, no. 34. | No pages 14, 15, 71, the numbers beginning with p. 165. | | |
| 59. | <i>The Works of Bernard Shaw</i> , vol. 9: London 1930. | (1) Yes. (2) Yes; contemporary play. (3) No. (4) No. (5) No. (6) Yes. (7) No. | (a) Page xiv: No. | (a) Page xv: No. |
| 60. | F. W. H. Myers, <i>The Prince of Wales at the Tomb of Washington</i> : Cambridge 1861. | Does not contain 14 pages. | (b) page 14: Yes; "fire", "fireplace". | (b) Page 15: No. |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|--|--|--------------|-----------|
| 61. | Theodore Besterman, <i>The Belief in Rebirth of the Druses and other Syrian Sects</i> (offprint): London 1928. | No pages 14, 15, 71, the numbering beginning with page 133. | | |
| 62. | Curer Bell, <i>The Professor</i> : London 1880. | (1) Yes. (2) No. (3) No. (4) No. (5) Yes. (6) Yes; reference to "Latin". (7) No. | Yes; "fire". | No. |
| 63. | Anatole France: <i>Pierre Nozière</i> : London 1923. | (1) Yes. (2) No. (3) No. (4) No. (5) No. (6) Yes. (7) No. | No. | No. |
| 64. | Walter Pater, <i>Marius the Epicurean</i> : London 1924. | (1) Yes. (2) No. (3) No. (4) No. (5) No. (6) Yes. (7) No. | No. | No. |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|---|--|----------|-----------|
| 65. | Count Leo Tolstói, <i>The Two Pilgrims</i> : Revised edition, London n.d. | (1) Yes. (2) No. (3) No. (4) Yes; "burned". (5) No. (6) No. (7) No. | No. | No. |
| 66. | H. G. Wells, <i>The Research Magnificent</i> : London 1915. | (1) No. (2) Yes. (3) No. (4) No. (5) Yes; "illuminating". (6) No. (7) No. | No. | No. |
| 67. | W. D. Howells, <i>Between the Dark and the Daylight</i> : London 1907. | (1) Yes. (2) No. (3) No. (4) No. (5) Yes; "lighted", "lantern". (6) No. (7) No. | No. | No. |
| 68. | C. S. Evans, <i>The Sleeping Beauty</i> : London 1920. | (1) Yes. (2) Yes. (3) No. (4) No. (5) No. (6) No. (7) No. | No. | No. |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|--|--|---------------------------------------|---|
| 69. | <i>The Poems of George Herbert</i> : The Canterbury Poets, London n.d. | (1) Yes. (2) Yes. (3) Yes; there is an answer on this page to my (still existing) doubts about survival. (4) No. (5) No. (6) Yes; reference to Christ. (7) Yes; "Sunday", the title of the poem. | (a) Page xiv: No. (b) Page 14: No. | (a) Page xv: No. (b) Page 15: No. |
| 70. | <i>P. Vergili Maronis Opera</i> : Oxonii n.d. [The pages are not numbered, and have been counted from the first page of text.] | (1) Yes. (2) No. (3) No. (4) No. (5) No. (6) Yes. (7) No. | No. | Yes; just above half way down the page "pedum"; [shepherd's crook]. |
| 71. | Norman Douglas, <i>Paneros</i> : Florence n.d. | (1) Yes. (2) Yes. (3) No. (4) No. (5) No. (6) Yes. (7) No. | No. | No. |
| 72. | Maxim Gorky, <i>Reminiscences of Leo Nicolayevitch Tolstoi</i> : 2nd edition, Richmond 1920. | (1) Yes. (2) No. (3) No. (4) No. (5) Yes; "lighted". (6) No. (7) Yes; "sin". | Yes; "fire". | No. |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|---|--|---|--|
| 73 | [James] <i>Thomson's Poetical Works</i> : Edinburgh 1861. | (1) Yes. (2) No. (3) No. (4) Yes; "fired", "torch", "flame", etc. (5) Yes; "flash". (6) No. (7) Yes; the title "Summer". | (a) Page xiv: No. (b) Page 14: Yes; "Thus pass the temperate hours: but when the Sun Shakes from his noon- day throne the scatter- ing clouds", etc. | (a) Page xv: No. (b) Page 15: No. |
| 74. | Harold J. Laski: <i>The Limitations of the Expert</i> ; Fabian Tract, no. 235, London 1931. | Does not contain 71 pages. | No. | No. |
| 75. | [Association of Special Libraries], <i>Report of Proceedings of the First Conference</i> : London 1925. | (1) No. (2) Yes. (3) No. (4) No. (5) No. (6) No. (7) Yes; "scientific". | No. | No. |
| 76. | Littré-Beaujean, <i>Dictionnaire de la Langue Française</i> : 11th edition, Paris 1905. First pagination: | (1) Yes. (2) Yes. (3) No. (4) Yes; "autodafé", "feu", etc. (5) Yes; "soleil". (6) Yes; Greek and Latin etymologies. (7) Yes; "s[ubstantif]". | Yes; "Adustion... Cautérisation à l'aide du feu". | No. |

| No. | Name of Book. | Test i. | Test ii. | Test iii. |
|-----|--|--|----------|-----------|
| 6 | 77. <i>Ibid.</i> , Second pagination (<i>Dictionnaire d'histoire et de géographie</i>): | (1) Yes. (2) Yes. (3) No. (4) No. (5) Yes; "soleil". (6) Yes. (7) No. | No. | No. |
| | 78. E. D. Simon and Marion Fitzgerald, <i>The Smoke- less City</i> : London 1922. | (1) No. (2) Yes. (3) Yes; but the question to which an answer is sup- plied is still in my mind. (4) No. (5) No. (6) No. (7) Yes; "smokeless". | No. | No. |
| | 79. Nea Walker, <i>The Bridge</i> : London 1927. | (1) No. (2) Yes. (3) No. (4) No. (5) No. (6) No. (7) Yes; "spook". | No. | No. |
| | 80. E. Lefébure, <i>Le Miroir d'Encre dans la Magie Arabe</i> (offprint): Alger 1905. | No pages 14, 15, 71, the numbering beginning with p. 205. | | |

It is possible to bring out the meaning of these results in a more or less accurate way. To do so it is only necessary to determine the estimated odds against Feda's indications (pp. 68-70 above) being verified by chance, to determine the relative value of the successes obtained in the actual booktests, and similarly to evaluate the successes obtained by chance, as set out in the above table. This has been done in Tables II and III. In the former of these the seven separate indications of booktest i are dealt with, and in the latter Table booktests i (as a whole), ii, and iii are considered. The values of the various tests have been estimated as accurately as possible with the available data.¹ But it must be emphasised that the comparative value of the figures obtained in this way is not affected by the accuracy of the estimated odds, since the same odds are applied to the actual booktests and to the 80 artificial ones.

¹ If the experiment had been on a larger scale it would have been necessary to take various points into consideration which have been here ignored. It might then be doubtful, for instance, whether the seven indications in booktest i should be combined by simple multiplication.

TABLE II

| Indications : | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|--------------------------------------|-----|-----|-------|------|------|-----|-----|
| Possible Score : | 1/2 | 1/2 | 1/100 | 1/10 | 1/10 | 1/4 | 1/3 |
| Scores obtained in actual booktest : | 1/2 | 1/2 | 1/50 | 1/10 | 1/10 | 1/4 | 1/3 |
| 1. | — | 1/2 | — | — | — | — | 1/3 |
| 2. | 1/2 | 1/2 | — | — | — | — | — |
| 3. | 1/2 | 1/2 | — | 1/10 | — | — | 1/3 |
| 4. | 1/2 | 1/2 | — | — | 1/10 | 1/4 | 1/3 |
| 5. | — | — | — | — | — | — | — |
| 6. | 1/2 | 1/2 | — | — | — | — | 1/3 |
| 7. | 1/2 | — | — | — | — | — | — |
| 8. | 1/2 | — | — | 1/10 | 1/10 | 1/4 | — |
| 9. | — | — | — | — | — | 1/4 | — |
| 10. | — | 1/2 | — | — | — | — | — |
| 11. | — | — | — | — | 1/10 | 1/4 | — |
| 12. | — | 1/2 | — | — | — | — | — |
| 13. | — | 1/2 | — | — | — | — | — |
| 14. | — | — | — | — | — | — | — |
| 15. | — | — | — | — | — | 1/4 | — |
| 16. | — | — | 1/50 | — | — | — | — |
| 17. | — | 1/2 | — | 1/10 | 1/10 | 1/4 | — |
| 18. | 1/2 | — | — | — | — | — | — |
| 19. | 1/2 | 1/2 | — | — | — | — | — |
| 20. | 1/2 | 1/2 | — | — | — | 1/4 | — |
| 21. | 1/2 | — | — | — | — | 1/4 | — |
| 22. | — | — | — | — | — | — | — |
| 23. | 1/2 | 1/2 | — | — | — | — | — |
| 24. | — | — | — | — | — | — | — |
| 25. | 1/2 | — | — | — | — | 1/4 | — |
| 26. | 1/2 | — | — | — | — | 1/4 | — |
| 27. | 1/2 | 1/2 | — | — | — | 1/4 | 1/3 |
| 28. | 1/2 | — | — | — | — | — | 1/3 |
| 29. | 1/2 | 1/2 | — | — | 1/10 | — | 1/3 |
| 30. | 1/2 | — | — | — | 1/10 | — | 1/3 |
| 31. | 1/2 | 1/2 | — | — | — | — | — |
| 32. | 1/2 | — | — | — | — | 1/4 | — |
| 33. | — | — | — | — | — | — | — |
| 34. | — | 1/2 | — | — | 1/10 | — | — |
| 35. | — | 1/2 | — | — | — | — | — |
| 36. | 1/2 | — | — | — | — | 1/4 | — |
| 37. | — | 1/2 | — | 1/10 | — | — | 1/3 |
| 38. | — | 1/2 | — | — | 1/10 | 1/4 | — |
| 39. | — | 1/2 | — | — | — | — | 1/3 |

Scores obtained by chance booktests.

| Indications : | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|-------------------------------------|-----|-----|-------|------|------|-----|-----|
| Possible Score : | 1/2 | 1/2 | 1/100 | 1/10 | 1/10 | 1/4 | 1/3 |
| Scores obtained in actual booktest: | 1/2 | 1/2 | 1/50 | 1/10 | 1/10 | 1/4 | 1/3 |
| 40. | — | — | — | — | — | — | — |
| 41. | 1/2 | — | — | — | 1/10 | 1/4 | 1/3 |
| 42. | 1/2 | — | — | — | — | 1/4 | — |
| 43. | 1/2 | — | — | 1/10 | — | 1/4 | — |
| 44. | 1/2 | — | — | — | — | 1/4 | — |
| 45. | 1/2 | — | — | — | 1/10 | 1/4 | — |
| 46. | — | 1/2 | — | — | — | — | — |
| 47. | 1/2 | — | — | — | — | — | — |
| 48. | — | 1/2 | — | — | — | — | — |
| 49. | 1/2 | — | — | — | — | 1/4 | — |
| 50. | — | — | — | — | — | — | — |
| 51. | 1/2 | — | — | — | — | 1/4 | — |
| 52. | — | — | — | — | — | — | — |
| 53. | — | — | — | — | — | — | — |
| 54. | 1/2 | — | — | — | — | — | 1/3 |
| 55. | 1/2 | 1/2 | — | — | 1/10 | — | — |
| 56. | 1/2 | 1/2 | — | — | — | — | — |
| 57. | — | 1/2 | — | — | — | — | — |
| 58. | — | — | — | — | — | — | — |
| 59. | 1/2 | 1/2 | — | — | — | 1/4 | — |
| 60. | — | — | — | — | — | — | — |
| 61. | — | — | — | — | — | — | — |
| 62. | 1/2 | — | — | — | 1/10 | 1/4 | — |
| 63. | 1/2 | — | — | — | — | 1/4 | — |
| 64. | 1/2 | — | — | — | — | 1/4 | — |
| 65. | 1/2 | — | — | 1/10 | — | — | — |
| 66. | — | 1/2 | — | — | 1/10 | — | — |
| 67. | 1/2 | — | — | — | 1/10 | — | — |
| 68. | — | 1/2 | — | — | — | — | — |
| 69. | 1/2 | 1/2 | 1/25 | — | — | 1/4 | 1/3 |
| 70. | 1/2 | — | — | — | — | 1/4 | — |
| 71. | 1/2 | 1/2 | — | — | — | 1/4 | — |
| 72. | 1/2 | — | — | — | 1/10 | — | 1/3 |
| 73. | 1/2 | — | — | 1/10 | 1/10 | — | 1/3 |
| 74. | — | — | — | — | — | — | — |
| 75. | — | 1/2 | — | — | — | — | 1/3 |
| 76. | 1/2 | 1/2 | — | 1/10 | 1/10 | 1/4 | 1/3 |
| 77. | 1/2 | 1/2 | — | — | 1/10 | 1/4 | — |
| 78. | — | 1/2 | 1/25 | — | — | — | 1/3 |
| 79. | — | 1/2 | — | — | — | — | 1/3 |
| 80. | — | — | — | — | — | — | — |

Scores obtained by chance booktests.

TABLE III

| Booktests : | i | ii | iii |
|---------------------------------------|-----------|----------------|----------------|
| Possible Score : | 1/480,000 | 1/10 | 1/300 |
| Scores obtained in actual booktests : | 1/240,000 | 1/10 | 1/250 |
| 1. | 1/6 | 1/10 | — |
| 2. | 1/4 | — | — |
| 3. | 1/120 | — | — |
| 4. | 1/480 | — | — |
| 5. | — | 1/10 | — |
| 6. | 1/12 | — | — |
| 7. | 1/2 | — | — |
| 8. | 1/800 | — | 1/300 |
| 9. | 1/4 | — | — |
| 10. | 1/2 | — | — |
| 11. | 1/40 | — | — |
| 12. | 1/2 | — | — |
| 13. | 1/2 | — | — |
| 14. | — | 1/10 | — |
| 15. | 1/4 | — | — |
| 16. | 1/50 | 1/10 | — |
| 17. | 1/800 | — | — |
| 18. | 1/2 | — | — |
| 19. | 1/4 | — | — |
| 20. | 1/16 | — | — |
| 21. | 1/8 | 1/10 | 1/100 |
| 22. | — | — | — |
| 23. | 1/4 | (a) — (b) — | (a) — (b) — |
| 24. | — | — | — |
| 25. | 1/8 | 1/10 | — |
| 26. | 1/8 | — | — |
| 27. | 1/48 | — | — |
| 28. | 1/6 | 1/10 | — |
| 29. | 1/20 | 1/10 | — |
| 30. | 1/60 | — | — |
| 31. | 1/4 | — | — |
| 32. | 1/8 | — | — |
| 33. | — | — | 1/200 |
| 34. | 1/20 | — | — |
| 35. | 1/2 | — | — |

Scores obtained by chance booktests.

| Booktests : | i | ii | iii |
|--------------------------------------|-----------|-------------------|----------------|
| Possible Score : | 1/480,000 | 1/10 | 1/300 |
| Scores obtained in actual booktests: | 1/240,000 | 1/10 | 1/250 |
| 36. | 1/8 | — | — |
| 37. | 1/60 | (a) 1/10 (b) — | (a) — (b) — |
| 38. | 1/80 | — | — |
| 39. | 1/6 | — | — |
| 40. | — | — | — |
| 41. | 1/240 | — | — |
| 42. | 1/8 | 1/10 | — |
| 43. | 1/80 | (a) — (b) 1/10 | (a) — (b) — |
| 44. | 1/8 | (a) — (b) — | (a) — (b) — |
| 45. | 1/80 | (a) 1/10 (b) — | (a) — (b) — |
| 46. | 1/2 | — | — |
| 47. | 1/2 | — | — |
| 48. | 1/2 | — | — |
| 49. | 1/8 | — | 1/100 |
| 50. | — | — | — |
| 51. | 1/8 | (a) — (b) — | (a) — (b) — |
| 52. | — | — | — |
| 53. | — | — | — |
| 54. | 1/6 | — | — |
| 55. | 1/40 | 1/10 | — |
| 56. | 1/4 | — | — |
| 57. | 1/2 | — | — |
| 58. | — | — | — |
| 59. | 1/16 | (a) — (b) 1/10 | (a) — (b) — |
| 60. | — | — | — |
| 61. | — | — | — |
| 62. | 1/80 | 1/10 | — |
| 63. | 1/8 | — | — |
| 64. | 1/8 | — | — |
| 65. | 1/20 | — | — |
| 66. | 1/20 | — | — |
| 67. | 1/20 | — | — |
| 68. | 1/2 | — | — |

Scores obtained by chance booktests.

| Booktests : | i | ii | iii |
|---------------------------------------|-----------|--------|-------------------|
| Possible Score : | 1/480,000 | 1/10 | 1/300 |
| Scores obtained in actual booktests : | 1/240,000 | 1/10 | 1/250 |
| Scores obtained by chance booktests. | 69. | 1/1200 | (a) — (b) — |
| | 70. | 1/8 | — 1/300 |
| | 71. | 1/16 | — — |
| | 72. | 1/60 | 1/10 — |
| | 73. | 1/600 | (a) — (b) 1/10 |
| | 74. | — | — — |
| | 75. | 1/6 | — — |
| | 76. | 1/4800 | 1/10 — |
| | 77. | 1/160 | — — |
| | 78. | 1/150 | — — |
| | 79. | 1/6 | — — |
| | 80. | — | — — |

Thus we see that in this experiment also chance produces far worse results than does Fedá, even though the chance results have been scored very lavishly.

A subsidiary use, though a very interesting and significant one, which can be made of these Tables, is a comparison of the estimated chance probabilities, shown at the head of Tables II and III, with the actual probabilities indicated by the eighty chance booktests. The comparison is set out below.

TABLE IV

| | Estimated chance probabilities. | Actual probabilities over 80-89 tests, counting only complete hits. |
|---------------|---------------------------------|---|
| i (1) - - - | 1/2 | 1/1.8 |
| (2) - - - | 1/2 | 1/2.3 |
| (3) - - - | 1/100 | ? |
| (4) - - - | 1/10 | 1/10 |
| (5) - - - | 1/10 | 1/4.4 |
| (6) - - - | 1/4 | 1/2.7 |
| (7) - - - | 1/3 | 1/4.2 |
| i (1-7) - - - | 1/480,000 | 1/206,000 ¹ |
| ii - - - | 1/10 | 1/4.9 |
| iii - - - | 1/300 | 1/44.5 |

¹ Taking (3) at 1/100.

From this comparison we see first that in each of the seven indications of booktest i, and in booktest ii, the chance probabilities were estimated with very fair accuracy, indeed, in several cases with striking accuracy. On the other hand, the value of the long pole indication (booktest iii) was so difficult to estimate that I consulted several experts, all of whose estimated values greatly exceeded my own estimate of $1/300$. Yet we see that in 89 chance tests a complete success¹ was obtained in two instances (producing a chance probability of $1/44.5$), while in three other cases some approximate success was obtained. This tends to show, I think, that whereas it is possible to trust to commonsense in scoring matters of common observation, this is not so in more unusual tests, in which it is consequently impossible to be too conservative.²

I think we may reasonably sum up by saying that all the control experiments in booktests so far devised strongly indicate the presence of some extra-chance factor in the booktests given by Mrs Leonard.

¹ A complete success, that is, if we score chance on the generous lines I have followed. In fact, the word "pole" does not actually occur in either of these two hits.

² Table II also illustrates the inadequacy of a mere enumeration of successes without giving the successes a value. Thus, over the whole of the 560 indications analysed in Table II, chance has been successful in about 28% of cases. But when we realise that the figure is made up of successes most of which have a very small value, this percentage loses its impressiveness.

REVIEW

Transactions of the Fourth International Congress for Psychical Research. Edited by Theodore Besterman. Svo, pp. iii. 259, 2 plates. London: Society for Psychical Research, 1930. Price 7s. 6d. net.

The series of International Congresses for Psychical Research, as objectively perpetuated in their *Transactions*, appears more and more clearly to be serving a real purpose in the advancement of our subject. The first Congress in 1921 may have suggested that the desire for marvels was stronger than the desire for research. The excellent report of the Gröningen psychologists on their experiments in telepathy seemed, for example, strangely out of tune with the general trend. At the second Congress, the dread of creating a similar impression resulted in the passing of a resolution protesting against the popular confusion of spiritualism with psychical research. It is to be doubted whether this declaration served the intended purpose. But that Brugmans, representing the Gröningen group, again presented a detailed report, and that a few serious papers were read, served to save this Congress also from absolute failure. That the third, held in Paris in 1927, was able to lift itself from this level, is attributable in large part to the wisdom of certain French colleagues, especially, I believe, to the astuteness of M. Warcollier's analysis of telepathic phenomena. This Congress gave definite promise that such meetings might help to keep us nearer together.

The fourth Congress, as judged from its *Transactions*, has done better still. There are not many papers which betray that non-chalance so evident at the first two Congresses. The theoretical papers are offered by competent philosophers and scientists, who understand the intricate problems with which they deal. Several reports of cases are vivid, interesting, and cogent; and some of the reports of experimental work are serious contributions, inviting the closest perusal and the most serious analysis and reflection.

Philosophical papers are presented by Driesch, Oesterreich, and Schneider, among others; these undertake to show the implications of contemporary biology, psychology, and epistemology for the interpretation of supernormal phenomena. Oesterreich's papers are particularly able presentations of epistemological and psychological theory. The fact that the transference of an idea which is not at

the time in the agent's consciousness involves more difficulties than can at present be solved either by brain-wave, spiritistic, or Kantian theories is cogently shown in a few of Oesterreich's sentences; the same problem arises later in reading Tanagra's paper on telepathic impressions received from an unconscious stratum of the agent's mind. It is of interest to see that really serious philosophers have here been willing to give our problems time and thought. In particular, Husserl's phenomenology is sketched by Oesterreich in such a way as to suggest that serious consideration of the problem of the nature of knowledge is in order even in the most immediately pressing aspects of our work.

Among the papers on method and procedure, the most impressive is Mr Salter's direct challenge to all who know of any physical phenomena the serious investigation of which they desire. He proposes nothing less than that the International Congress Committee should formulate standard conditions of control applicable to the different classes of controllable phenomena, by which the *bona fides* of mediums can be ascertained and conditions for serious research for students of physical phenomena made available; furthermore, that mediums refusing to work under control conditions be no longer discussed in psychical publications. That this would fulfil a crying need can scarcely be doubted by anyone who has followed the dismal story of the physical phenomena of the last dozen years. Disagreeable facts about the Schneider brothers have been getting more and more plentiful, and by 1927 the Valiantine and Margery cases had gone their way into that limbo to which the repeatedly exposed medium is assigned, since no more torrid region is available. The importance of Mr Salter's suggestions can only be realized by one who will peruse any of the various journals in which physical phenomena play a large part, or by those few distressing articles in the present *Transactions* which proceed exactly as if the last dozen years had taught us nothing. Reports on various marvels appear to have been offered at the Athens Congress without so much as a description of the control used, the aching void being plugged with phrases to the effect that the persons making the inquiry were of the utmost scientific integrity, or that the person reading the report had seen the phenomena himself. Among the many new cases which are reported are one involving supernatural knowledge about the details of a murder, one regarding levitation among the der-vishes, and one on prolonged experiments with Frau S. of Breslau. The cases are reported too inadequately to justify any definite impression. Mr Salter's comment on the desirability of excluding unauthenticated cases from psychic publications might, I think, be held to apply to the transactions of psychic congresses.

These strictures are perhaps a little too severe in relation to the

exciting poltergeist reported by Baron von Winterstein. The account is a typical and a good poltergeist story. One finishes the reading of it without any idea in the world how the dry plaster got into the hair of the sitters, how the saucer was broken without the cup being moved, how objects were hurled and faces drenched. True, but one also comes away from a performance by a good conjurer, having seen such things in full light and not knowing how they happened except that they did not happen supernaturally. I do not argue that the lady in question was a fraud; in fact, I am unable to believe she was. But to report and to publish such a case adds nothing whatever to our science.

Were the circumstances but slightly different, I should have to say the same about Mr Feilding's account of the bleeding pictures and the bleeding Host of the Abbé Vauchère. How the things could have happened which Mr Feilding saw happen, or which his friend saw happen, is entirely beyond my imagination. Did pictures of Christ actually ooze blood, in quantities frequently copious, or did the Host upon the Altar pour forth so much blood that it had to be soaked up with cloths? The water-pot which appears in one part of the narrative as the guilty party seems too weak an accomplice to have done much. I venture to think that cases of this sort, at which we throw up our hands in the knowledge that *any conclusion whatever* is unwarranted, are probably good for us in the present state of our ignorance. One such case competently and patiently pursued, as this was, is valuable if for no other reason than to remind us of the complexity of the kinds of evidence with which we have to deal.

Sir Oliver Lodge and Mr Besterman discuss the status of psychical research and the reasons for its failure to gain recognition from the majority of the scientific world. Both seem to incline to the opinion that the phenomena are so complicated as to have precluded the possibility of rapid and definitive advances from one stage to another, such as marks the orderly progress of most sciences. Mr Besterman, in fact, undertakes to show most concretely that public sentiment during the half century has gradually become more friendly. His case, in relation to the attitude of the reading public, is strong; but as regards the existence of any visible trend of this sort in the scientific world, I must sadly dissent. Surely the science most directly related to psychical research is psychology. I doubt whether a daily visitor to laboratories of psychology, with an opportunity to live in and breathe their intellectual atmosphere, would venture to suggest that the academic halls echo with gentler taunts than those which greeted Sidgwick and Myers in 1882. Mr Besterman implies that the situation is better in the United States, reporting that "the psychological departments of two American universities

(Harvard and Leland Stanford) have sections specifically dealing with psychical research, and another (Clark) recently organised a course of lectures on the case for and against our subject" (p. 119). Having participated in two of the three academic adventures described here, I beg to be allowed my gasp of protest. A small fellowship does exist in Harvard, enough to give half-time work to a graduate student, but for several reasons which will occur to the reader, it is vacant a good deal of the time. If Mr Besterman has studied the publications resulting from the Stanford inquiries, I wonder why he avoided reference to the peculiar circumstances attending the fellowship there? The lectures at Clark included discourses by such authorities as Dr L. R. G. Crandon. Psychical researchers may be grateful that the series attracted no more attention than it did.

Psychical research, as Sir Oliver Lodge's candid title makes clear, is *not* generally recognized by scientists, and he points out some of the reasons. Probably the first reason is the attempt of science to get a unified view of the world, and the desire of psychologists to assimilate their data to those of the systematized physical and biological sciences. Psychology, one might say, is a closed fortress which casual arrows are not likely to penetrate, and new towers are constantly being built which are harder and harder to hit. In the second place, psychical research, with all respect to the many fine minds which have contributed to it, presents a bewildering mass of authenticated and half-authenticated odds and ends, the basic laws of which can only be dimly divined. We play upon corners of a vast and bewildering domain, conceiving that the accumulation of more facts will somehow advance our subject. New cases are constantly published while we forget those published earlier. Psychical research would, under favourable circumstances, be regarded by the scientific world as ethnology would be regarded if it consisted chiefly of accounts of the megaliths or spades of particular peoples, or the way in which they form the pluperfect tense in ceremonial language. We suffer from a plethora of undigested and indigestible data.

Such progress as we have made is, for the most part, directly attributable to the systematic thinking-out and testing of hypotheses. Consider, for example, Mrs Sidgwick's early hypotheses regarding hauntings, and regarding the nature of trance communication, and the several hypotheses regarding telepathy published in *Phantasms of the Living* and in Myers's *Human Personality*. Such hypotheses have constantly guided and systematized investigations regarding telepathic and mediumistic phenomena. In the same connection must be reported the remarkable series of methodical hypotheses and testings of hypotheses characteristic of the work of Warcollier during the last twenty years. All these hypotheses are

incompletely verified, but they, rather than bundles of detached facts, underlie most of the progress we have made.

In the same connection it is to be noted that the present *Transactions* report long-distance telepathic experiments, conducted by groups at Paris, Warsaw, Vienna and Athens, which achieved a level of brilliance hardly ever surpassed in well-authenticated work. In the analysis of the results Dr Konstantinides has shown that he is alert to an array of psychological problems which usually appear in connection with telepathic phenomena, presenting the data in such form as to permit the reader to verify for himself some of the interesting points which Warcollier and earlier workers have emphasized. Of special interest is the fragmentation of the telepathic image, the "contagion" among percipients, the substitution of concrete for abstract elements, and the appearance, through some link on a subconscious level, of items associated with the object chosen for transmission. In other words, the present series is not a mere reporting of facts; it is a critical consideration of the special psychological phenomena manifesting themselves through these facts. On the other hand, it is most regrettable that the investigators appear to have been indifferent to the special mental and physical conditions of individual persons from one experiment to another, and have made no effort to discover the reasons for successes in some cases and failures in others. The difficulty is accentuated by the fact that statistical control of the results is not undertaken at all.

Certain implications of all this seem pertinent to the plans for the Congress to be held in London next year. If the international committees, and the British Committee in particular, merely undertake to improve slightly upon the general scientific level of the Fourth Congress, the result will be disheartening. If, in a generous desire to further international co-operation, the S.P.R. permits badly controlled or incompletely reported phenomena to be described, the reaction of the British public will, of course, be unfavourable. From a scientific point of view, there is a further problem, namely, the danger that mere observations of cases, *dissecta membra* thrown out in some spasm of nature and failing to give us any new insight, be given preference over material which permits such interpretation as would serve definitely to credit or discredit some working hypothesis. I have already indicated personal partiality for some of the theories of Myers and of Mrs Sidgwick, but I should not wish to suggest that *any* hypothesis seriously thought out and pertinent to any group of facts should be *taboo*. Such bewildering data as confront us justify leaps in the dark, and even a poor hypothesis, honestly pursued, should, it seems to me, be given precedence over papers which merely report more observations. I am aware that this plea will arouse dissent; I ask only that it receive a hearing.

If one corner of our vast terrain were explored in truly workmanlike fashion with order and thoroughness, and its laws experimentally or statistically ascertained, we should do a very great deal for psychical research. The present *Transactions* show that we are doing too much and not doing it well.

Would it not be wise to consider now whether the scientific standards for papers to be admitted should not be considerably raised ? If first-class research work with experimental or other properly observed phenomena were presented in such fashion as to lay bare the principles underlying them, the repercussion upon the scientific world would be considerable. As indicated above, one such new contribution has been offered at each of the four congresses. Would it not be appropriate that the jubilee of the S.P.R. should be marked by a greater abundance of reports of this sort ? Serious scientific work could make up the entire programme at London if so desired ; or, if there is really not enough such work, could not the programme be made short and the remaining time be given to round-table discussions of methods of research ? Our obligation to avoid offence to certain individuals or groups is very much less pressing than our obligation to make clear to critical and scientific minds what sort of scientific standards we aim to achieve.

GARDNER MURPHY.

IS PROOF OF SURVIVAL POSSIBLE ?

I. IS PROOF OF SURVIVAL POSSIBLE ?¹

BY H. F. SALTMARSH.

THE object of this paper is to inquire how far any type of evidence dealt with in psychical research can afford proof of the survival of human personality if it were to be found in an ideally perfect form.

I am going to suppose that there is an example of each particular type of phenomenon so well established from the evidential point of view, so clear cut and free from embarrassing complications, that no question as to the facts can be raised. For example, if we speak of telekinesis I shall assume that a material object has actually been moved without contact, if we attribute supernormal knowledge to a medium I shall take it for granted that all normal channels whereby the knowledge might have been acquired were completely blocked.

That this is not so in actual experience few will be disposed to deny: our grain is always mixed with chaff and requires much sifting and cleansing before being fit to use, but by making the above assumptions the purely logical critique of the position is rendered easier.

There is one preliminary point which requires attention. In what sense do we use the word proof ?

It is a word of great elasticity of meaning, ranging from the absolute or apodeictic proof such as some claim to find in mathematics, down to the legal meaning, as when counsel says that a witness will "prove" so and so.

Nowadays absolute or apodeictic proof is somewhat out of fashion; mathematical physicists, and even some mathematicians, have abated their pretensions to attain to absolute truth and are satisfied with, in fact prefer, the high probability afforded by statistical law.

This is not the place to enter into any discussion of the question whether absolute proof is ever attainable, more particularly so as truth derived from the data of experience can never claim a higher validity than extreme probability.

I am perfectly convinced that I see an object in the sky (called the moon), yet it is theoretically possible that I may be hallucinated, that everybody who tells me that they also see this object may also

¹ Read at a Private Meeting of the Society, 28 October, 1931.

be hallucinated or else deliberately lying, that all confirmatory evidence, such as photographs of the object in question, which I think I see, are either hallucinations or fakes. It is highly improbable that this is so, but as it is theoretically possible, it follows that absolute certainty is not attainable.

In the same way, so long as it is theoretically possible for a man to lie and to be hallucinated or otherwise deceived, no evidence of survival can possibly afford absolute proof. The nearest approach which I could attain to this would be for me actually to find myself surviving after death, yet even then I should presumably have to rely on my memory of having undergone physical death, and memory often plays false. Anyhow I could not communicate the proof to anyone else. It would be a purely subjective proof, hence not of scientific validity. The only fact of which I am absolutely certain is that I am conscious at the present moment. This I cannot doubt, for the fact of doubting in itself involves or implies consciousness. I can, however, if I please, doubt all else.

High probability, then, is all that we can hope for in this as in all other matters, but we need not be disturbed by this fact, since, as Eddington says, "Proof is an idol before whom the pure mathematician tortures himself. In physics we are generally content to sacrifice before the lesser shrine of Plausibility."¹

What we have to see, then, is not whether the phenomena investigated by psychical research prove survival, but how far they establish its plausibility. Alternative explanations are always theoretically possible; what we have to decide is how far they are probable.

We can start the inquiry by dividing the phenomena into two classes, the physical and the mental. We will consider the physical first.

These are the phenomena where some event happens involving a physical object, such as the movement of a solid body, the production of light, sound or heat waves, the extrusion of teleplasm, and so on. There must also be included in the physical group those cases where the only material object involved is the body of the medium; examples of these would be levitation, immunity from hurt when handling hot coals, etc., also such phenomena as changes of voice, gesture and handwriting.

Now it is clear that in order that events of this kind should have any value as evidence of survival they must possess some characteristic which will connect them with some deceased person. The bare fact that a material object is moved in a way we cannot account for by normal means does not afford any clue to the identity of the agent. All we could say in the most favourable circumstances

¹ *Nature of the Physical Universe*, p. 337.

would be that some unknown agency is involved and that that agency exhibits intelligence; we could not argue that it was, or ever had been, human, still less that it was connected with some one particular person.

Thus when any special characteristics which might connect them with a deceased person are absent, we can rule out physical phenomena as completely unevidential of survival. Where, however, the phenomena show some special characteristics which connect them with some definite deceased person, any evidential value for survival rests entirely on those characteristics.

The chief forms of special characteristics are when teleplasm forms some recognisable likeness such as a face, when the matter is impressed in a recognisable way as with a fingerprint, when the direct writing reproduces a recognised handwriting or signature, and the direct voice a recognised voice. The two last may be paralleled in the type of phenomenon in which the medium's body alone is involved, as when the medium's hand writes in a recognisable handwriting or her voice reproduces a recognisable voice. To these may be added those cases where the medium uses recognisable gestures.

The argument for survival from such phenomena would apparently run somewhat as follows. Special characteristics, such as facial features, fingerprints, handwriting, voice and gesture, belonging to a deceased person, are reproduced by a medium who is normally ignorant of these details; the source of the knowledge must therefore be outside her; and the original owner is most likely to be that source.

Now the most ardent enthusiast for physical phenomena would hardly claim that this argument is a strong one, and I think that a little criticism will suffice to deprive it of most of what cogency it appears at first sight to possess.

First of all, there must always be an alternative source from which the medium might draw the information, allowing, of course, the use of telepathy and clairvoyance. The characteristics to be evidential must be verifiable; it follows, therefore, that the information concerning them must be in the possession of some one living or else recorded somewhere. A more detailed discussion of this point may be postponed until mental phenomena are under discussion. Secondly, the evidential characteristics are all reproductions, the original having presumably been destroyed by death. Now there are in existence several agencies of reproduction, *e.g.* an artist can reproduce a face, as in a picture, photography can be employed for the same end or to reproduce fingerprints, handwriting can be imitated by a forger, voice and gesture by a clever mimic.

On the assumption that such phenomena occur it cannot be denied that the medium has the power to produce teleplasm in the form of faces, for she actually does do so, just as an artist has the power to produce pictures of faces. If the teleplasm can take the form of a face it can presumably take the form of *any* face. If the medium can make the imprint of a hand, other than her own, appear on a mould, she can presumably form that imprint how she pleases. We have no idea of the mechanism employed and there may be conditions which limit the medium's powers in this matter, but we cannot legitimately use our ignorance of the conditions as premises in an argument to establish a definite proposition, *i.e.* the agency of a surviving personality.

There is one further point. All these characteristics originally depended on a highly complex arrangement of the skin, muscles, nerves, etc., of the living body of the deceased person. This arrangement was broken up at death and the material scattered. In order to be reproduced this material must be reassembled in its original form or a facsimile made out of other material. Is there any reason for holding that the person who originally owned that body is the only or even the most likely agent who could do this reassembling?

I am inclined to think that this is not so.

Those about me must have a much greater familiarity with my facial appearance than I have myself, my habitual gestures are largely unconscious, and I doubt very much whether I should not experience surprise at hearing my voice on a gramophone. I certainly should not recognise my own fingerprint. As regards handwriting the case is different. I myself am much more familiar with my own writing than anyone else can be, but my familiarity is with the appearance of it, not with the mechanism of its production, which is largely unconscious. This may be an individual peculiarity of my own, but I find that if I purposely think of the movements of my hand in signing my name I almost invariably make a bad signature, also that when writing normally my thoughts are concentrated on the matter about which I am writing, and not at all on the formation of the letters. The experience of others may possibly be different in this matter.

Were it possible for me to use an unfamiliar mechanism, such as the organism of a medium, I see no reason to suppose that my handwriting would be unchanged. In actual fact we know that lesion of the nerves or muscles of the writing hand may cause complete change in the writing. It seems to me that there are weighty arguments against the proposition that the agency which enables the medium to reproduce these characteristics of a deceased human being is the surviving consciousness of that person. That consciousness would probably not possess the requisite knowledge.

The only hypothesis which, in my opinion, renders it at all plausible is the theosophical theory of "etheric doubles". These are said to be exact replicas of the material body constructed of some rarefied material stuff, called ether : they persist for some time after physical death and can be partially revitalised.

I must not give space to go further into the details of this theory but will simply point out that there is, so far as I know, not one jot of reliable independent evidence of the existence of etheric doubles, and that to create *ad hoc* an entirely new type of entity solely for the purpose of bolstering up an otherwise wobbly hypothesis is logically inadmissible. As a result of these considerations I conclude that the evidence for survival derivable from any of the types of physical phenomena here mentioned is of the slightest description ; it amounts to no more than a suggestion.

I turn now to the mental phenomena.

These consist in the communication by the medium of information not normally accessible to him, or the reproduction or description of psychological characteristics of some personality alien to him.

Seeing that the hypothesis of survival postulates the continued existence of the personality of the deceased and that personality implies some continuity of memory and psychological characteristics, the objections raised in the discussion on physical phenomena do not apply. If the possibility of direct communication between mind and mind, as in telepathy, is admitted, there is no logical objection to holding that the agency which enables the medium to produce these phenomena is the surviving personality. It would have the requisite knowledge.

We can subdivide the mental phenomena into two types, viz., the giving of information and the reproduction of psychological characteristics. Information can be of past, present or future events, psychological characteristics can be either forms of thought, which would include habitual associations of ideas, or forms of speech. Description of mental and moral characteristics would, of course, be included under the heading of information. Consider first information.

The argument for survival would be somewhat as follows. The medium exhibits knowledge normally inaccessible to him ; we admit the possibility of telepathy by means of which information can be transferred direct from mind to mind and that the deceased possessed the requisite knowledge ; therefore if consciousness survives, it would be a possible source from which the medium derived the information. Provided there is no other possible source, it follows that mind, or some fragment of mind such as memory, survives death.

In my report on the Warren Elliott sittings (*Proceedings*, xxxix. 172 ff.), I put forward my reasons for not accepting the theory that what, if anything, survives is only the memory or a fragment of the memory of the deceased. It is unnecessary to repeat these here, and I will assume that the theory is rejected.

It is obvious that the proviso as to other possible sources of the information is the crux of the whole argument.

Now it is logically impossible to prove a negative in such matters, for to do so one would need a thorough knowledge of all possibility, which is equivalent to omniscience. The most we could do is to show that no other possibility is actually known and that it is unlikely that, did it exist, it would be overlooked.

In actual fact other possible sources of the information must always, from the nature of the case, be available. For the facts to be evidential must be verifiable, that is to say, the information must be capable of being checked from some independent source and could, therefore, have been derived from that source.

A strong case for survival, however, could still be made out if it could be shown that derivation from this alternative source was unlikely. The strength of the case would then depend on the degree of unlikeliness. It should, however, be noted that there is another hypothesis covering the facts which does not appear to imply survival in the usual sense. This is based on the suggested relaxation of the temporal conditions under which some strata of the minds of the sitter or medium function. For example, the specious present of the subconsciousness might cover a much longer period than that of the normal supraliminal consciousness and extend back into the past over a considerable period of "time". This hypothesis is of a somewhat speculative nature, and what evidence there is in support of any arguments for or against it, also all consequences arising from its acceptance, come rather within the province of psychology and metaphysics than of psychical research. It will therefore be left aside.

Let us leave information concerning the past until the other two classes have been discussed.

It is pretty clear that information concerning present events, even if normally inaccessible to the medium, can by itself afford no proof of survival. If the information be verifiable then there must either be some spectators of the events and telepathy from them could account for the facts, or else subsequent observation must enable us to infer their occurrence. In this latter case, *i.e.* where there were no actual spectators, the fact that the events were known to the medium implies the exercise of some sort of clairvoyant faculty on the part of some one. I do not see that there is any strong reason for supposing it to be more likely that such a faculty

should be possessed by the surviving consciousness of a deceased person than by a consciousness still functioning through a physical body. We have a certain amount of fairly good evidence of living persons exercising clairvoyance, while we know nothing of the powers of the hypothetical surviving consciousness.

It is, however, perhaps possible to bring forward some rather speculative arguments in support of the theory that operating through a physical organism limits the powers of the psychical entity which is the true man, and that, therefore, one might expect that a disembodied mind would exhibit wider powers than one embodied.

Even if this were admitted, it would not prove that the disembodied mind had ever been embodied and had survived physical death. Clairvoyance would not be evidence of survival but only of spirit agency.

As regards prediction, except in cases of prediction based on inference from the past, it is so difficult to form any idea of how this can be possible that even if the fact were established little use could be made of it as a datum. It is a phenomenon so inexplicable, so utterly out of joint with the rest of our experience, that it stands alone; we cannot establish connections between it and any other phenomenon.

It might perhaps be argued with some show of reason that the temporal conditions governing a disembodied mind must be less rigid than those under which an embodied mind functions, but this would not prove that the source of the prediction is a surviving human consciousness, but only that it is a disembodied one. Prediction by inference from past or present events is a phenomenon with which we are well acquainted. It is a power possessed by living men and rests on well known logical grounds. It may be suggested that the apparently supernormal predictions which we assume to have been made by the medium are due to an extended knowledge of the data and a heightened power of inference. But here again there is little reason for ascribing these wider faculties to disembodied rather than to embodied minds, and none whatever for holding that the disembodied minds, if they exist, are necessarily those of deceased human beings.

The utmost we can say, then, is that supernormal knowledge of present or future events may possibly suggest, but does not prove, spirit agency, while affording no evidence of survival.

Let us now turn to the case where the medium gives information concerning past events, knowledge of which was definitely inaccessible to him and was definitely known to have been in the possession of the deceased person. Provided that means of communication with the medium exist, the surviving mind of the deceased is a

possible source of the information. We have to assume telepathy, or something like it. We have good evidence that telepathy occurs between living persons, and it is not a very great extension to hold that there may be direct communication between an embodied and a disembodied mind.

But where the information is in the possession of a living person an explanation of the phenomenon not requiring even this extension is always available as an alternative to the survival hypothesis.

The question of psychical linkage is of importance in this connection and it is on this point that the value of evidence for survival turns. If the living person who possesses the knowledge is the actual sitter there is an obvious link with the medium, they are already in normal communication, and telepathy may be assumed to occur between them. Information concerning facts within the knowledge of the sitter is, then, of little value as evidence for survival.

Where the knowledge necessary for verification is not in the possession of the sitter but is acquired subsequently from other sources, the evidence for survival may be considerably stronger. It turns on the question of the probability of the necessary connecting links between the medium and the possessor of the knowledge. If this linkage is very complex, very unlikely to occur, then it might be argued that the balance of probability lies on the side of the survival hypothesis. In this hypothesis we assume that the conscious mind persists after physical death, retaining some part of its normal memory and of its psychical characteristics, also that it has some power of communication with embodied minds. We must also assume that it is to some extent cognisant of, and interested in, the doings of persons still living on earth. The fact, therefore, that a relative or friend has a sitting with a medium could constitute the requisite link between the surviving mind and those present at the sitting. The linkage is simple and direct, corresponding, *mutatis mutandis*, to that between the sitter and the medium.

On the other hand the linkage between the medium and the living source of verification may be complex and indirect. Suppose, for example, that the medium makes a statement which purports to be derived from the memory of a deceased person, none of the sitters can verify it, and inquiry among friends produces no results; then, by a series of unlikely and unpredictable coincidences, the sitter becomes acquainted with a stranger who in the past had known the deceased and obtains the desired verification from him. The stranger had no knowledge of the sitting taking place nor of any persons connected with it.

Now unless we are prepared to credit the medium, the sitter or the stranger or some person *en route* between them, with what

amounts to potential omniscience, we have to postulate a very complex and unlikely series of links to account for the phenomenon.

If we hold that the mind of the medium goes out, as it were, in search of information and invades the memories of living persons, we still have to explain the fact that he discovered this hidden source. He had the whole world in which to search and nothing to guide him, or at least, that is how it appears to us with our very limited, almost non-existent knowledge of the conditions.

If, on the other hand, we hold that the telepathic impulse arises from the agent—in this case the stranger—we still have to explain how he came to know that the sitting was taking place, what directed his telepathic faculty to the medium and determined him to send that particular message at that particular moment.

The value of such phenomena as evidence for survival depends, then, on the relation between the probabilities of the two alternative explanations, and this is a matter in which it seems that each individual must exercise his own judgment. Estimates of the probabilities will vary immensely. For example, anyone who had already espoused the Behaviourist creed would place the probability of survival at almost nil, thus prejudging the whole case, while those who preserve an open mind on the matter will vary very much among themselves according to their dispositions, desires, and so on. Thus it seems to follow that to some people evidence of this kind would appear to afford extremely high probability of survival, for others it will give no more than a suggestion.

This arises from the fact that the value of the evidence is a function of two independent variables, for one of which, viz. the probability of the necessary linkage between the medium and the source of the verification, there may be substantial agreement, while for the other, viz. the probability of survival and the other assumptions necessary for the application of that hypothesis, estimates will vary to an almost unlimited degree, these estimates depending on individual idiosyncrasy. This analysis appears to me to account for the extraordinary difference in the interpretations placed on the same set of facts by equally competent and honest thinkers.

I want to make this point quite clear, as I think it is important. If psychical phenomena could afford crucial proof of survival there would be nothing more to be said once we had satisfied ourselves as to the validity of the proof. But, as I have endeavoured to show, this is not the case, the best we can expect is a probability, more or less strong.

Now the plausibility of any hypothesis is measured by the ratio between its probability and that of the various possible alternatives.

We have, therefore, in the balance the psychical evidence affording a certain probability to the survival hypothesis, but we have also in the scales all arguments for and against survival derived from other sources, also all our preconceived notions, our desires, hopes, fears and prejudices.

Thus it may be that the psychical evidence has to force its way against overwhelming obstacles.

There is another possible explanation which must also be borne in mind, viz. the possibility of the information having been conveyed telepathically by the deceased person prior to his death to some other person, possibly the sitter, in whose subconscious mind it has lain latent until drawn therefrom by the medium. Though this other person were subconsciously aware of the facts, knowledge of them would never rise into his normal consciousness; for verification, therefore, another source would have to be depended upon.

Our knowledge of the possibilities of the subconscious is so limited that it is impossible to form any estimate of the probability of this explanation in any particular case. All we can say is that it is theoretically possible. In such cases as that known as the Chaffin Will case, this alternative must be considered. If a sealed envelope containing a message is deposited before death and the contents correctly given in a purporting communication from the deceased writer, one could explain the facts by this hypothesis of latency. If the message were in cypher and the keyword nowhere actually recorded, the translation of the message would appear at first sight to constitute almost irrefragable evidence, for the verification would depend on the success of the translation. Such a case, which so far as I know has never yet happened, would, it is true, bar out clairvoyance on the part of the medium or sitter but would not exclude the latency hypothesis.

Communication of the whereabouts of objects hidden by the deceased prior to death could also be explained on these lines; in fact once we admit the possibility of knowledge remaining latent in the subconsciousness and being somehow conveyed to the medium, no evidence based on past history can be held to point conclusively to survival.

To make the tale complete we must also take into account the possibility of clairvoyance on the part of the medium or sitter. Where the information is recorded in writing, where actual physical facts exist which could convey it or from which it might be deduced, it is always possible to attribute the medium's acquisition of the knowledge to clairvoyance. Here again our knowledge of the nature, conditions and limitations of clairvoyance is so small that we can form no estimate of the plausibility of this hypothesis; we can only say that there is some evidence which seems to point to

the occasional existence of the clairvoyant faculty. The question of linkage is, however, of importance and may in certain cases establish an antecedent improbability against the clairvoyance hypothesis. Unless we are prepared to equate the clairvoyant faculty to "the all-seeing eye" we have to give some account of what turned the medium's clairvoyant attention in the right direction. The faculty may exist and the physical fact may be there, but there must be some linkage to bring them together. This linkage may be as complex and inherently unlikely as was seen possible in the case of verification by "the stranger". Such linkage would reduce very much the probability of clairvoyance as an alternative explanation.

The position, therefore, seems to be that in all cases where the evidence consists of communication of information concerning the past there are always at least two alternatives to the survival theory, first, the medium may derive the information from the source whence verification ultimately comes either by telepathy or clairvoyance; second, the information may have been conveyed telepathically before death to some person in whose subconscious memory it has lain latent until emerging at the sitting. The respective probabilities of all possible explanations are extremely difficult, if not impossible, to estimate even very roughly. It seems to follow that, even if we do get evidence for survival, we can never know how strong or how weak it is.

A word about cross-correspondences. These, even in their ideally perfect form, can only afford evidence of a source extraneous to one of the mediums employed, and perhaps of a definite purpose or plan. It is a bare theoretical possibility that the subconsciousness of one of the mediums is the source, but it appears more likely that the messages originate from some independent mind. There is, however, nothing to indicate whether this mind is embodied or disembodied. It may, of course, be that the matter of the message gives a clue to the identity of the author, but this is nothing to do with the cross-correspondence as such.

We may now turn to the other type of mental phenomena, viz. reproduction or description of psychological characteristics. It is here that we may hope to find the most convincing, if not the most logically conclusive, evidence for survival.

Apart from the *prima facie* recognition of physical appearance, we know our friends mainly by their psychological characteristics, in fact, these, together with memory, may be said to constitute the person.

Now where a medium consistently reproduces the psychological characteristics of a deceased person this fact undoubtedly carries a considerable weight, though, of course, the fact that these characteristics are recognisable shows that a knowledge of them is

possessed by some living person. The necessity for the evidence to be verified carries with it all the same inherent weakness for this type of phenomenon as in other cases.

There are two sides of the matter to be considered. First, the medium's power to reproduce. We know from normal experience that a clever actor or mimic can give a convincing reproduction of another person. As a rule we know very little of the medium's powers as an actor, more particularly so when we bear in mind that we have to take into account subconscious as well as conscious powers. Here again we have an apparently insuperable difficulty in estimating probabilities.

The second side of the matter is the nature of the information. This is far more nebulous and indefinite than in the case of information concerning past, present or future events. From this it arises that verification is less certain, also that the conviction which is carried is to a large extent subjective and individual.

I might feel that the reproduction was convincing, but another person who had not known the deceased so well or had known another side of his character, might feel very differently. My conviction then is subjective and incommunicable; you can only take my word for it.

However, were a large number of independent competent observers of separate cases to be convinced, this objection would be to a great extent overcome; we could not suppose that so many people would honestly make the same mistake, and we should be bound to accept their testimony. This, however, affects only the question of recognition, not that of the source of the information. It cannot be repeated too often that our almost complete lack of knowledge of the nature of telepathy and clairvoyance, of their conditions and limitations, is sufficient of itself to introduce a very great weakness, from the logical point of view, into all our arguments. It is like trying to solve an equation which contains two independent unknowns.

We may make the assumption that there is some analogy between telepathy and normal communication, though there is very little to support such an assumption.

If we assume this we can say that communication of definite information of past or present facts would be easier than of psychological characteristics. I could in a short conversation give another person information concerning many facts of the past history of a deceased friend, but it would require a very much longer description to enable even a first-class actor to give a convincing reproduction of his psychological characteristics. It is probable that this assumption is always tacitly made to some extent, and it thus arises that evidence of this kind carries with it a greater feeling of

conviction than mere information concerning facts of history, but until the grounds of the assumption are established it remains an open question whether the conviction is justified.

Of the two varieties of psychological characteristics mentioned, knowledge of habitual forms of speech would be easier to convey telepathically, hence evidence of this nature is of somewhat lower value. Habitual forms of thought and association of ideas are one of the most individual characteristics of any person, and it seems to me that if a large number of instances of reproductions of this nature by mediums under good evidential conditions could be collected, a fairly strong presumptive case for survival might be established, though it would fall far short of logical conclusiveness and the conviction it carried would vary widely with each individual.

For the sake of completeness a brief mention of certain spontaneous phenomena must be made.

Phantasms of the living, taken by themselves, would appear to have little or no direct bearing on the question of survival, although as forming an important part of the evidence of communion between mind and mind independent of the normal sensory channels, they may help to refute the hypothesis of the physical nature of mind and thus remove a serious *a priori* obstacle to acceptance of survival.

Phantasms of the dead appear at first sight to form the basis of a fairly strong argument for survival, which might be stated somewhat as follows. It is found that phantasms of the living tend to occur with greater frequency when the person whose phantasm appears is in a state of crisis; it is probable, therefore, that such a state is an efficient factor in the production of a phantasm. If this be so the agency lies to some extent with the person whose phantasm appears.

When phantasms of the dead appear, if we may assume that the conditions of production are the same, the agency of the deceased is a requisite part of the phenomenon and such agency may be held to imply survival.

It is obvious that a weak part of this argument is the assumption that the conditions of production of a phantasm of the dead are the same as those of one of the living; our knowledge of the mechanism is so slight that it is impossible to say if this assumption is justifiable. Also it might be objected that the agency required for the production of a phantasm does not necessarily involve the activity of any factor inherent in personality. As a general rule, in cases of phantasms of the living, the part played by the agent is a quite unconscious one so far as we know. Moreover there is an even greater weakness arising from the possibility of latency; the percipient may have received the impression while the agent was

still alive and it may have remained latent in the subconsciousness until a favourable opportunity for emergence occurred. The fact that the frequency of phantasms decreases rapidly from the time of death of the agent seems to point to this explanation.

It is sometimes claimed that death-bed visions form a peculiarly evidential type of this class of case, but it seems, *a priori*, that a dying person can hardly be considered as good a witness as one in good health. There appears some ground for thinking that the dying are rather more than normally suggestible, and the unquestionable fact that there is a widespread expectation of death-bed visions renders it probable that such will frequently occur, though they may be entirely subjective in character.

Among certain classes of the population it is thought to be only right and proper that the dying person should have visions of heaven and of their departed friends and relatives. When an expectation with so strong a sentiment attached impinges on a person in a highly suggestible state, it is small wonder that it is fulfilled.

It is sometimes stated that these death-bed visions consist only of persons already dead, and where there is included among those seen someone of whose death the percipient is normally unaware, this is held to be evidence of the agency and hence survival of that person. But I suggest that there is no evidence that death-bed visions consist solely of persons already dead. In fact, there are cases of a dying mother apparently seeing her living children. That they should mainly so consist, I consider sufficiently explained by the strong pre-existing expectation.

Where information not normally known to the percipient is conveyed by the phantasm then the case becomes subject to the same criticisms and rules as where the information is communicated through a medium and its evidential value must be assessed accordingly. The value is not affected by the fact that the percipient is dying.

Were a perfectly satisfactory poltergeist case to occur we might argue therefrom the existence of an extraneous agency, but there is nothing to indicate or even suggest that that agency is or ever was human. Where a haunt exhibits human characteristics it might be thought that the surviving mind was implicated in the agency. Here again, however, our ignorance of the conditions is so profound that no valid argument can be established.

There remain two further points to be considered. First, whether any combination of the various types of phenomena would afford more conclusive evidence than when taken separately; second, the "faggot theory".

Now I think that there is little doubt that were a medium to give information known to have been in the possession of a deceased

person and verifiable only by means of a complex series of linkages, and at the same time to reproduce the psychological and perhaps some of the physical characteristics of the same deceased person, the evidence would be as strong as it is possible to get. If we accept the survival hypothesis we have one single though possibly internally complex explanation of all the facts; if we reject it we have to assume the combination of several separate explanations. Even if we estimate the probability of survival at a lower figure than that of any of the events involved in the alternative explanations the combined probability of these latter may very likely be considerably less.

In simple cases probabilities are combined by multiplication, so that supposing that we had on one side a single explanation with probability $1/100$, and on the other three combined events with each a probability of $1/10$, we should get a final ratio of $1/100$ for the single explanation to $1/1000$ for the combined.

However, the case under discussion is not so simple as this and the combination of probabilities would not be by plain multiplication, because we do not know how far the various alternative hypotheses are independent of each other; for example, the reception of a telepathic message from some living person giving information of past events with which the ostensible communicator was concerned may, of itself, strengthen the rapport between that person and the medium and thus render the transmission of information concerning the physical and psychological characteristics easier. Thus supposing the independent probability of telepathy from the living person concerning the past is $1/m$, and concerning psychical characteristics $1/n$, after rapport has been established by the first telepathic message the probability $1/n$ may become $1/n - x$. We do not know that this actually is so but it is possible.

We have two separate difficulties: in the first place we cannot form any reliable estimates of the individual probabilities, in the second we do not know the formula for their combination. It seems therefore that though a case such as described, if it could be found, would give apparently strong evidence, we cannot say how strong it would be.

The faggot theory is that while an isolated case may afford but slender support for the survival theory, the whole bulk of cases taken together supplies evidence of almost irresistible strength, the analogy being, of course, with the weakness of a single stick as compared with the strength of a faggot.

When all the cases are of a similar nature this theory is, I think, demonstrably false. We are not dealing here with the probability of a certain event happening or not happening; had this been the point at issue, multiplication of examples would have been relevant.

The accumulation of masses of evidence is desirable for the purpose of establishing the existence of the phenomena, but it does not help in the interpretation when it is all of the same kind.

In putting forward an hypothesis we are ascribing an event which has actually happened to one particular cause among alternative possible causes. The probability of this explanation being correct is a function of the combined probabilities of the etiological factors which have gone to produce the event, and is the same whether it occurs only once or a hundred times. It is on the ratio of this probability to that of the other possible alternatives that the plausibility of the hypothesis rests. Where the evidence is not all of a similar nature the case is not quite so simple, but even here the faggot theory fails to afford the increase of strength which is claimed for it by some of its supporters.

Suppose we have four alternative possible causes for an event and that the probability is the same for each, say $1/4$, then, whatever number of similar cases we have, any selected cause will have a plausibility represented by the fraction $1/4$. But if out of one hundred such cases there are reasons for excluding two out of the alternatives in 20 instances and the probability of the remaining two remains equal, the combined probability of either of them over the whole number of cases becomes $3/10$, for in the 80 cases the most probable number of times we should expect to find the selected cause is $80 \times 1/4 = 20$, in the remaining 20 cases it is $20 \times \frac{1}{2} = 10$, thus giving in all 30 times in 100 = probability $3/10$.

This is a slight accession of strength, but far short of that claimed by the faggot theory ; moreover, it applies equally well to the other cause which remained in the 20 cases.

One can imagine circumstances when the multiplication of the number of cases would increase the plausibility of the survival hypothesis to a very great extent, but these are always instances of competition between a single and relatively simple hypothesis which will cover all the facts of every case without stretching and a series of more or less complex combinations of alternative explanations, combinations moreover which differ each from the other and require a variety of chance coincidences to bring them about.

The following is an attempt to represent the matter symbolically. Let there be a number of alternative possible causes, A, B, C, D , and assume that the relative probabilities of each are known.

When the case stands thus: Either A, B, C or D , then the number of instances has no effect on the strength of the evidence. Example: Suppose that a medium gives me some information which could not have been normally acquired and I can account for it either by the survival hypothesis or by telepathy from the living

or by clairvoyance on the part of the medium, then however many times this happens it will not affect the strength of the evidence for any of the alternative explanations.

When it stands :

$$\begin{array}{l} n \text{ cases either } A, B, C \text{ or } D \\ n_1 \text{ ,, ,, } A, C \text{ or } D \\ n_2 \text{ ,, ,, } A, B \text{ or } D, \end{array}$$

and so on, the strength of the evidence is somewhat increased in the manner shown in the example given above.

Example : Suppose I have a number of cases of supernormal information as above and I can account for some of them either by survival or by telepathy or by clairvoyance, but for others telepathy is barred out, while for the rest clairvoyance is not available as an alternative, then the strength of the evidence for survival is slightly increased by the increase of the number of cases.

When it stands : Either *A* or *B* and *C* and *D* combined in the same way, the number of instances has no effect on the strength of the evidence.

Example : Suppose that I have a number of cases and they can all be explained either by survival or else by telepathy combined with clairvoyance in a certain manner, then the number of cases has no effect on the strength of the evidence.

But when it stands :

$$\begin{array}{l} n \text{ cases either } A \text{ or } xB \text{ and } yC \text{ and } zD \\ n_1 \text{ ,, ,, } A \text{ or } x_1B \text{ and } y_1C \text{ and } z_1D \\ n_2 \text{ ,, ,, } A \text{ or } x_2B \text{ and } y_2C \text{ and } z_2D \end{array}$$

where x, x_1, y, y_1 , etc., stand for different modes of combination, chance coincidence, assumptions, stretchings and variations of hypothesis in different directions, then the theory holds good and the strength of the evidence for *A* is increased.

Example : Suppose that all of the cases can be explained by survival, some of them alternatively by a combination of telepathy and clairvoyance involving certain coincidences, others by a different combination of telepathy and clairvoyance involving other coincidences, and so on, then the increase of the number of cases may, if they are all different, largely increase the strength of the evidence for survival.

But in this, as elsewhere, until we have put definite estimates on the various probabilities involved, we cannot say what the increase amounts to. The conclusion, then, to which I arrive from this analysis is that no logical proof of survival is at present possible from the evidence studied by psychical research, though I particularly do not desire to be dogmatic and say that it will never be

possible. A fairly strong presumptive case might conceivably be made out were the evidence to be forthcoming in a sufficiently perfect state, but owing to the difficulties in estimating the probabilities of the various alternatives, no agreement as to its actual strength is likely to be reached; conviction will be, and seems likely to remain, completely subjective and dependent on individual idiosyncrasy. It is conceivable, however, that a case might occur where the probability of the hypotheses alternative to survival was obviously and incontestably so infinitesimally minute that the unlikeliness of any of these hypotheses being correct could only be overcome by absolute disproof of survival, which, as we have seen, is not forthcoming.

I do not at present know of such a case, but if one could be found it would be sheer prejudice and obstinacy to withhold a provisional acceptance of some form of survival. It should be noted that such acceptance can only be provisional and subject to withdrawal, because it is always possible that some ingenious sceptic may sometime discover a totally fresh alternative hypothesis which will account for the facts in a more plausible manner.

II. ON THE DIFFICULTY OF PROVING INDIVIDUAL SURVIVAL.

BY SIR OLIVER LODGE.

I WAS not able to be present when Mr Saltmarsh read his Paper. He sets out clearly the many alternative hypotheses that could be said to account for certain kinds of experience. Proof after all is a question of probabilities. I do not suppose that a sledge-hammer proof which knocks down all opposing theories and finally exterminates them is ever attainable by us, even in physics. It has occasionally happened that a theory has been adopted and has held the field for nearly a century, and yet has been modified at the end and incorporated with some opposition theory which had seemed extinct. What we need in science is a working hypothesis that we can test, getting results from it that we can verify, until ultimately its probability becomes so great that we may have confidence in it as an approach to certainty.

If we grant the possession by a medium of an extensive faculty for telepathy and clairvoyance, no record of the past is safe from the application of those powers. Yet there is a limit to our credulity in those directions, and, after time and much experience, one may feel that our only escape from accepting the straightforward appearance is to strain the alternative hypothesis unduly. An extensive faculty of clairvoyance can hardly be attributed to an extension of the normal faculty of the medium without the intervention of some other intelligence, of whose activity many phenomena contain more than an indication: and I think Mr Saltmarsh would agree that the amount of evidence available for establishing the existence and activity of *some* intelligence, other than that of incarnate humanity, may be said to amount to proof. But as he points out, this does not establish the activity of any specified individual.

What we have established, I consider, is the existence of a spiritual world. To establish personal identity in connexion with such a world is a more difficult problem. The faculty of reading a closed book can hardly be attributed to the powers of a person encased in the flesh and using his bodily sense-organs: it involves something more. And so does the perception of a bodily apparition or representation of some deceased person. The Ancients used to attribute an apparition or phantasm, not to the person immediately

represented, but to a messenger from the gods, who could put on the appearance of that person for the purpose of conveying a message. Witness the legend of Ceyx and Alcyone in the Eleventh Book of Ovid's "Metamorphoses," where Morpheus impersonates the dead husband, and gives a message to his sorrowing wife.

It becomes therefore a question which can legitimately be asked whether any plan can be devised whereby personal identity can be proven, or at least rendered more probable as an explanation than any other hypothesis that can be suggested. Anticipation of the future has been suggested; but that is more than we ought to expect from any deceased relative of our own. The power may sometimes be exhibited, but it suggests a knowledge more likely to be attained by some intelligence who has had time and opportunity to go beyond common experience, and to transcend any powers possessed by ordinary humanity.

The point or crux about which Mr Saltmarsh raises the difficulty is the establishment of the personal identity of some quite ordinary person. Facts in his life, or documents recorded by him in the past, would seem to be useless, since they can be arrived at or deciphered by other means. I want to ask therefore whether there are any steps that could be taken by, say, an individual member of the S.P.R., interested in the subject, and anxious to do his best to prove his own survival, that would be accepted by Mr Saltmarsh, or any other experienced critic, as conclusive, or as raising the probability in favour of that view to so high a degree that for all practical purposes it amounts to certainty.

Let me therefore take an imaginary case, and see what flaws can be found in it. The test most approved seems to be some personal habit or idiosyncrasy, not too well known or capable of imitation, and preferably not known at all, but recorded by the individual before his death in such a way that the record can be deciphered afterwards and be accepted as reasonable. Suppose for instance that a person whom I will call *A* has had an obsession since childhood of some absurd childish verse or short poem, which has frequently recurred to him throughout life, but which, being entirely frivolous, has never been spoken about or mentioned to a soul, the insignificance of it being such that *A* is rather ashamed of it than otherwise, and sees no meaning in mentioning it. The supposed poem or verse must be quite meaningless, not forming any part of daily life, and not having the least interest even for himself, but yet one which has been so frequently recalled as to be permanently ingrained in his memory, so that he may hope to remember it sufficiently to recall it in full detail even after he has lost his bodily organs and passed through the transition called death; assuming, as we are bound to, that such a state of things is any way feasible, for if we

start with the initial impossibility, no proof can be given us. Suppose further that *A* has sufficient sense to perceive that the mere recital of the poem as recorded in his posthumous document would not suffice ; for it would have to be assumed that a medium could read that, even in a closed envelope. Let us suppose therefore that he takes pains to enter into further detail, having had a lifelong opportunity of doing so. He has noticed, let us say, that the verse contains seventeen words of one syllable, nine words of two syllables, four words of three syllables, and one of four ; and that as a preliminary he gives through several mediums hereafter the meaningless jumble of figures 17, 9, 4, 1, and then in due time amplifies the meaning of these figures, and says what they are intended to signify ; and that, foreseeing this attempt that he will make hereafter, he has recorded in his deposited document the fact that he will send these figures, and will afterwards expand their meaning. He might take some further steps, and record why or under what circumstances the trivial verse took such a hold on him. It must not be a verse of any importance, or one that could be called a quotation. It might be a portion of a *Babballad*, for instance ; though even these are familiar to several people, and are too well known to be suitable. I would rather suppose that the thing he has thus thoroughly memorised is quite uninteresting and meaningless, even to himself, that he cannot explain why it has stuck in his memory and been analysed in almost a physiological manner ; the details of which analysis could hardly be imagined by the most expert clairvoyant, but which nevertheless, in the case I am imagining, is to be given through several mediums by the person who thus intends to establish his identity, and will likewise be found recorded in the posthumous document that is to be ultimately opened and read.

If this experiment could be carried out thoroughly, both by the deceased person who thinks the object sufficient to justify him in taking all that trouble, and by the survivors who have been entrusted with the document and who must be supposed to act wisely,—not to be in a hurry, but to wait until they get the assent of *A* himself as to what they think they will find in the deposited document, before they open it,—then to me the hypothesis that that individual is still functioning, and that the messages really come from him and from no one else, seems to me the only one that meets the case. There may be loopholes for scepticism even in such an imaginary case as that. It requires rather an exceptional concatenation of circumstances to make the test possible. But if that would not be a proof that would satisfy a reasonable critic, then I don't see how anyone anxious to prove his identity hereafter could proceed with the task.

III. REPLY TO SIR OLIVER LODGE.

BY H. F. SALTMARSH.

BEFORE making any comment on the imaginary case which Sir Oliver Lodge suggests, may I first say that I agree that sufficient evidence is available to establish as a sound working hypothesis the existence of a spiritual world. Accepting telepathy as a fact and holding, as I consider that there is reasonable empirical and theoretical grounds to hold, that it is a purely psychical process, it is for me a short step from embodied minds functioning in a non-physical environment to inhabitants, that is to say disembodied minds, in that environment. As regards Sir Oliver's imaginary case, this would, I admit, set up a strong presumptive case for personal survival, the more so as it exhibits a post-mortem conative factor as well as the persistence of memory, thus excluding the hypothesis of persistence of mnemonic fragments as suggested by Dr Walter Leaf and Dr C. D. Broad.

Yet I think that the captious critic might pick holes even in such a case. For example, it might be pointed out that *A* planned the experiment before his death and might, therefore, have unconsciously conveyed the information concerning it to someone who has survived him, in whose subconscious memory it has lain latent until drawn upon by the mediums. I admit that the requisite linkages would be complex and unlikely but not, under favourable circumstances, wildly impossible.

Or again, in the posthumous document *A* has recorded his intention to give the figures as a preliminary test, and if it were possible for a medium clairvoyantly to read the verse contained in this document, the record of the intention to give the preliminary test could also be read. The verse itself would supply the figures.

The ingenious combination of a cross-correspondence with a scaled message case undoubtedly strengthens the evidence, and were the figures to be given at a sitting at which no one connected with *A* was present and the connection with the *A* case to arise only in a subsequent comparison of records, I think that the personal survival hypothesis would show a probability considerably higher than that of the several alternatives.

The main point which I wished to bring out in my paper is,

however, that the probability set up by any of the types of psychical evidence mentioned is only one factor in establishing the plausibility of the survival hypothesis. It has to go into the scales together with all sorts of preconceived ideas and prejudices, desires, hopes and fears, also arguments and evidence, for and against, based on physical, psychological, ethical and religious grounds. The weight of these factors varies with each individual and is as a rule absolutely incalculable, besides being by no means constant. It is true, as Sir Oliver says, that even in physical science sledge-hammer proof is unattainable, but the order of magnitude of the probabilities with which the physicist has to deal is incomparably greater than anything we can hope for in psychical research. Probabilities of magnitudes such as 1 to 10^{40} or 10^{60} can force their way into the mind with almost irresistible force, moreover there is, as a rule, an almost complete absence of any emotional obstacle.

Thus, while whatever my mood I never doubt the Second Law of Thermodynamics, I may to-day feel that Sir Oliver's case would give me a substantial assurance of survival, yet to-morrow, if ill and depressed, I might be inclined to stress the objections.

May I suggest an imaginary case; it is one which seems to be not beyond the possibility of realisation seeing that very similar experiments have actually been carried out. In order to make it clear I will take characters from Dickens.

Suppose that David Copperfield had a son, whom I will call David Junior. After his father's death he gets into ostensible communication with him through a medium and finds that the contents of sealed envelopes can be read.

He proposes an experiment to his father and selects twelve photographs of old family friends and relatives. These he hands to a total stranger who seals them in opaque envelopes. The sealed envelopes are then handed to a second stranger who shuffles them and selects one at random. At the next sitting the father is asked to give identifying details of the person whose photograph has been selected. He says, "She would not allow donkeys on her green". David Junior then opens the envelope and finds the photograph of Miss Betsy Trotwood but cannot understand the reference.

However, he inquires among surviving friends of his father and learns from one of them about Miss Trotwood's objection to donkeys going on the green in front of her house, a fact of which he was himself unaware.

Now the medium, even if she could by clairvoyance see the photograph in the sealed envelope, could not identify it as Miss Trotwood, nor would she know about the donkeys. The only living persons who could identify the photograph would be David Junior or some surviving friend of his father.

While there is nothing to suggest that any of these possess clairvoyant faculty, it is possible that they may do so. One cannot prove a negative in such cases, although prolonged experiment might establish a strong probability. Anyhow, David Junior did not know about the donkeys and the friend who supplied the information had no knowledge of the experiment. The person who could comply with all the conditions would be David Senior.

I suggest that this would be extremely strong evidence of identity, although I can find alternative explanations.

The message might come from Betsy Trotwood herself or some other spiritual personality who knew the circumstances, but owing to our almost complete ignorance of the conditions of post-mortem existence, if such there be, we cannot say how far this is probable.

Or again, David Junior might have clairvoyantly recognised the photograph and, knowing the conditions of the experiment, have subconsciously tapped the mind of his father's surviving friends for some identifying details. And finally there may exist some conditions of which we are totally unaware by means of which a knowledge of the past may be obtained by certain supernormally endowed persons. Such, for example, as the "akashic records" of the Theosophists.

My first alternative, while not definitely proving the survival of David Senior, implies most probably his survival or that of Betsy Trotwood or some of her friends, though the communication might have come from a non-human intelligence masquerading as David Senior. The second would require a set of conditions and linkages which, to my mind, are extremely improbable, while the third is simply explanation of "ignotum per ignotius".

Should such a case be forthcoming, particularly if arising during the course of a long series of communications in which the ostensible communicator gives evidence of identity of the usual kind and behaves in a manner consistent with the personality purported, I should, as a matter of purely personal conviction, feel myself bound to accept the personal survival hypothesis as substantially proved, though always subject to reconsideration in the light of fresh facts.

EVIDENTIAL EXTRACTS FROM SITTINGS WITH MRS LEONARD.

BY THE REV. W. S. IRVING AND THEODORE BESTERMAN.

PART I.

TESTS OF VARIOUS KINDS.

BY THE REV. W. S. IRVING.

IN venturing to publish the following extracts, mainly taken from my recent sittings with Mrs Leonard, I do so in the hope that they will be of interest not only to other regular Leonard sitters, enabling them to compare their results with mine, but also to that larger body of our members who have no opportunity of having sittings of their own with this medium. Except when otherwise stated, the extracts are verbatim, save that repetitions are cut out, as also are the continual interjections of "Wait a bit!", "Wait a minute!", with which Feda's sentences are interspersed. It would seem as though it were necessary that the flow of material should not be interrupted by pauses, yet the speed with which the material is given makes it, at times, almost impossible to get it down; this difficulty is surmounted, therefore, by the continual repetition of sentences, which enables us to keep pace with the Communicator, and to obtain a complete record of the sitting. To give all these repetitions in a report would be to spoil the even flow of the script and to cause confusion.

1. *Booktests and Impressions.*

My Communicator, Dora, who purports to be my wife and has at various times given evidence of her identity, claims to be able to go to houses with which I am unacquainted, and to get booktests and impressions from those houses. In the first of these extracts, she has gone to the house of Mrs Kingsley Tarpey, where she would seem to have been on several occasions before. It is, I think, several years since I have met Mrs Tarpey, and then I knew nothing whatever about her. She was so kind as to take notes for me once at a sitting with Miss McCreddie, though I did not know her name at the time, and I have several times seen Mrs Tarpey at the S.P.R.

Rooms. That is as far as my acquaintance with her goes. I have never been to her flat. Mrs Tarpey has, however, I understand, had some Leonard sittings herself.

Note by Mrs Kingsley Tarpey, 22 August 1931. "Neither Mrs Leonard nor Mr Irving have ever been to my flat. Mr Irving was not personally known to me, for though I had taken notes for him at a sitting with Miss McCreddie, he was anonymous on that occasion, and I only heard his name accidentally some months later. About six years ago Fedra said, referring to my Communicator, 'He's been helping Dora and Dora has been to your flat'. As I have a sister Dora I thought it referred to her. At a later sitting there was another reference and I showed some surprise. Fedra then said: 'It's not the Dora you are thinking of, it's Mr Bill's Dora'. I asked Miss Newton if she could tell me anything of Mr Bill and Dora, and, on explaining why, she said she thought it would be better to tell me nothing for fear of spoiling evidence. Several booktests at my flat followed. The next year I was away some months and lent my flat to a friend. Fedra mentioned at my next sitting that Dora had been, but could get nothing. 'It was like a feather bed'."

Extract from a Sitting with Mrs Leonard, 28 April 1931. Sitter:
Rev. W. S. Irving. Recorder: Mr Theodore Besterman.

... Now, Mr Bill, are you ready, 'cos she going to Mrs William's—what she call "The Tarpauline One". Mr Bill! Same room as before. What she call there "the nice light room". [Note 1.]

Mr Bill! Books again walking round to the left. She's taken the third shelf, and the second book from the left. [Note 2.]

This book felt to her to be a book of the imagination. A book of the what? Of the imagination, she says. By that I mean, not a historical work, or collection of facts, but a book of the imagination. I felt, you know, strange thoughts in it—strange thoughts—mental wanderings of an interesting and happy kind, but, I should say, all on the plane of imagination. [Notes 3, 4, 13.]

I want page seven, she says, the proper page seven that you asked her for [at the sitting not long before this test was given, we had managed to persuade the Communicator, at last, to go by the actual numbers on the page], 'cos on page seven, there's a reference to a happy land, a happy state, which I think is meant for our world. It certainly fits it, describes it. I want you to think of this in that way. There's rather an unusually large margin at the sides of the printing. I wonder if it is poetry, or blank verse. It may not be, but its spaced and arranged on the page rather in that way. Oh! Such a funny word beginning with an O. Like a foreign word. She's trying to write it up for me. Seems to be connected with

this same page—like a foreign word. One Feda knows? Are you sure it isn't Osteopath? No, it isn't. Only, I know what an Osteopath is! . . . Dora says "It's nothing to do with that at all, quite different, but it is a peculiar word, an uncommon word, beginning with O, and the interpretation of it, you see, means"—oh Dora—"interpretation of it means a soldier", [I put down "soldier" at the time as being the nearest word I could think of to the sound made by Feda, and so have, of course, left it in the script, but the word should obviously be "sojourn", as I recognised immediately after at the sitting], "place, condition where one can stay. It fits in—works in—with the rest of the thing—a happy place". It's no good saying it to him—"a happy place that I told you of". [Note 14.] It's not the facing page—the page through. Do you know what I mean? Holding this page in your hand, [Feda illustrates] the other side of it—sunsets, describing sunsets. [Note 15.] Beginning of the book, at the beginning of the book, there's a mention of, what she would call, something reminded her, made her think, of Roman Solecism—Catholicism. That's right. [Note 16.] . . . It's only a reference to it. Something that made her immediately feel the condition. She felt it so strongly. She knows you'll recognise it when you see it too.

Oh! Ask if a book has been lately placed in there—near there—where she's taken the book from? She felt it had. [Note 5.] "The lady has been"—been what? Rubbing something very hard—rubbing something with her hand, so hard, just by these books. Put good deal of vigour into it. [Note 6.] There's something very pretty, sort of blue colour, near the books, too. Not the wall. Not all blue—fleckings—touches of clear, lightest, blue—fleckings—on or against the wall near the books. [Note 7.]

And she does like, will you tell her, the picture of the little bridge with the broken handrail. Will you say that? (Yes.) She likes that. [Note 8.]

And the yellow flowers, the small yellow flowers, that has been in the room recently. Were they out of season, out of their time, very much? Something said about their being a little before, or after, their time. [Note 9.]

Oh! Is there a ledge outside this room, a ledge? It seemed to me I could step out, you know, she says. Not usual is it, in London, or near London, but felt I could step out, and I felt as if someone had been stepping out—reaching out—and saying: "It's growing—it's growing." Have you got that, Mr Bill? (No.) No, he says, he hasn't got it! That's right, Mr Bill, you say so! (All right now.) Did you get: Someone had been stepping out, reaching out, and saying "It's growing?" (Yes.) Dora think something near the window, and yet outside. [Note 10.]

And ask her please if she has hurt her hand by or with this window, recently, will you? (Yes.) By or with this window. Standing, you see, close to it, and saying "Oh! Oh! I've hurt myself. How awkward! How very awkward!" That was, I think, the word used. What, Dora, I don't understand! "But awkward." [Note 11.] A prayer has been offered in this room recently—a prayer offered—for someone who is ill, very ill—a woman. Definite prayer has been given in this room, lately, asking that this person should be relieved of pain. Evidently the person was not only ill, but in pain. Tell her I got a feeling of some kind of inflammation, I think of nerves—an inflammation of the nerves. Tell her I took up the prayer, doubled it, strengthened it. Hope it may do good. Our thoughts do help *definitely*. Tell her I took it up. I think she'll understand, she says, she'll understand. That's right, Mr Bill. . . . [Note 12.]

Mrs Tarpey's notes.

[Note 1.] On Tuesday, April 28th, I received a telegram from Mr Irving saying that a booktest had been given; by the last post I had the first notes of the "impressions". The books in the bookcases were not disturbed before the examination of them by the official of the S.P.R.

[Note 2.] A small bookcase has been put on the left, between writing-table and bureau, since Dora's last visit to this flat to get tests. . . . Mr Bill's first note said third shelf *up*.

[Note 3.] The book referred to, *Laughing Boy*, was bought in January 1931. It has only been in this bookcase five or six weeks.

[Note 4.] It is a book full of imagination, and the theme is unusual, an attempt to get at the psychology of an American Indian, retaining his racial traditions, and yet in touch with modern ideas.

[Note 5.] The books in this case were rearranged about three or four weeks ago to make room for a book of reference received as a present.

[Note 6.] On Thursday, April 23rd, a very vigorous rubbing and brushing of a garment took place on the table close to this bookcase; the previous week the room was spring-cleaned, but not by myself. [Note. When Mrs Tarpey told me of the incident of rubbing she said she herself had cleaned and rubbed a velvet coat, which she showed me. I. Newton.]

[Note 7.] Covering an ottoman near the bookcase is an Indian embroidery with tale discs. Sitting where I am writing the tale looks blue and the pattern is "flecked". There is also blue in the carpet, but flecking does accurately describe the drapery. The ottoman is against the wall. [Confirmed, I. Newton.]

[Note 8.] No picture of bridge in this room, except one giving the Arno and the extreme end of the Ponte Vecchio. No handrail.

[Note 9.] Close to the window, outside, a Forsythia flowered fully six weeks before the usual time.

[Note 10.] There is a wide stone parapet or ledge outside the window, with a space on a lower level where one can step out. Plants in pots and boxes which have survived the winter. I have frequently both stepped out and leant out during the past two or three months, and have been surprised and pleased to find apparently dead wood showing buds. I must have said "It's growing" more than once to my maid, who corroborates this.

[Note 11.] My maid hurt her hand (scraped two fingers) and had them bandaged, on Tuesday, the 28th, not in this room, but was in the room later. She did show me her hand and say, "I've hurt myself". I did say about the bandage and her work, "How very awkward, be sure you keep it well covered."

[Note 12.] On April 14th I had a sitting in this room with a medium, Miss Anne Geddes. When it was over I told her of the serious illness of my niece, whom she knew and liked very much. She was deeply affected, and offered a silent prayer for her recovery. She saw her, clairvoyantly, surrounded by light and free from all pain, and, very naturally, interpreted this as meaning she would survive, but I knew that my niece's illness was of so grave a nature that there was no hope, and I thought the vision meant release. I did not say so to Miss Geddes. Next morning my niece died. The illness was scarlet fever, and the lungs became septic. There had also been much pain from the heart.

[Signed] J. T. KINGSLEY TARPEY.

May 1st, 1931.

Miss Newton's Notes.

The test was verified by the Secretary, who went to Mrs Tarpey's on Thursday, April 30th, 1931, and later made the following notes :

[Note 13.] The second book from the left on the third shelf up, in the bookcase on the left, was *Laughing Boy*, by Oliver La Farge. Extracts from Introductory Note, pp. vii-viii :

"This book is a work of fiction. I have tried to be as true as I knew how to the general spirit of Navajo things, to customs and character, but all personages and incidents in the story are fictitious, as well as places. I have used some real place-names applied to imaginary places. . . . This story is meant neither to instruct nor to prove a point, but to amuse. . . ."

[Note 14.] On page 7, there are nine lines completing Chapter 1. Towards the middle of the page Chapter 2 begins :

“ A small drum beating rapidly concentrated the mixed noises with a staccato unison. Young men gathered about the drummer. Laughing Boy might have eaten more, but he left the fire immediately with Jestng Squaw’s son. Someone led off high-pitched at full voice, ‘ *Yo-o galeana, yo-o galeana* ’. By the end of the second word the crowd was with him ; more young men hurried up to join the diapason, ‘ *Galeana ena, galeana eno, yo-o ay-e hena ena* ’. They put their arms over each other’s shoulders, swaying in time to the one drum that ran like a dull, glowing thread through the singing, four hundred young men turning loose everything they had ”.

On page 6, facing page 7, there are the following words :

“ *Hozho hogahn ladin nasha woyen. . . .*

In the house of Happiness there I wander . . . ”.

[Note 15.] On the back of this page (p. 8) there is a description of a bonfire, 20 feet long, and of the figures of the Indians showing up against the night sky with here and there a reflection of firelight on their dark faces or horses’ eyes. There is no mention of a sunset. (Compare with this the following on page 4 : . . . “ showed a distant bonfire in the dusk with mounted Indians moving in on it like spokes of a wheel Now they all lined up, with the dull, red sunset behind their black figures. . . . Over by the fire was shouting, and another line tearing towards them.) . . . ”

[Note 16.] There is nothing at the beginning of the book that suggests Roman Catholicism, or the Pope. . . .

[Signed] I. NEWTON.

To me, however, the word “ bonfire ” which occurs on both page 4 and page 8 is reminiscent of “ gunpowder, treason and plot ”—and anti-popery celebrations on the fifth of November.

While on the subject of tests from Mrs Tarpey’s, I will include two little “ impressions ” taken from her house on an earlier occasion :

*Extract from a Sitting with Mrs Leonard, 3 May 1927. Sitter :
Rev. W. S. Irving. Recorder : Mrs Braekenbury.*

[FEDA]. . . . Is there fish in this room—fish, fish, fish ? Mr Bill ! I don’t think there could possibly be fish in a room—not a respectable room ! Dora says “ There’s been something done with special reference to fish lately, fish. The atmosphere seemed full of fish ”. She says “ Mentally, I mean ”. What ? I don’t think that’s a nice test ! “ Well,” Dora says, “ I always like to notice the unusual ”. . . .

[Note 1.]

Mr Bill ! Will you see if there’s a picture with trees *very* pronounced—especially trees, so that you’d *have* to say “ It’s a picture of trees, not country, but trees ” in this room ? Dora says “ course

many pictures have got trees in them but you would look at them and say 'It's a picture of a garden,' or 'of the country'—but this you would have to call 'a picture of trees'. They're in the foreground. They're very pronounced—very pronounced". . . [Note 2.]

[Note 1.] These tests were verified for me by Miss M. Wallace, who was at this time working at the Rooms, and who kindly went to Mrs Tarpey's on the following evening, 4 May 1927. The following is from Miss Wallace's notes on the tests :

"This [fish test] Mrs Tarpey considered quite extraordinary. She has a favourite Persian cat who is a fastidious feeder, and great pains are taken to give him fish meals. Special fish is bought for him, and this fish he always eats in this sitting-room on a plate under a small table that stands almost next to the bookshelves referred to. . . .

[Note 2.] "There are altogether five of Mrs Tarpey's paintings in the room containing *trees*. Among these there is one that could be said to be 'a picture of a garden,' another 'of the country,' but one is *of trees only*, and could only possibly be called 'a picture of trees'. There are two large firs, or pines, right in the foreground, and the only background is a rather golden sky effect—nothing else in the picture. This picture caught my eye on entering the room, and I could see at once it was the one referred to."

My next extract is from a series of tests taken from The Crown House, Newport. It is a booktest :

Extract from a Sitting with Mrs Leonard, 6 May 1930. Sitter :
Rev. W. S. Irving. Recorder : Mr N. C. Fonnereau.

[FEDA]. . . This is at Mrs Nelly's [Feda's name for Mrs Salter] and it's a room on the ground floor, one to which she has been several times before, Mr Bill. She usually goes to the same room in Mrs Nelly's . . . You remember she told you there are more than one lot of books in this room, so she has to do the going round to the left thing, and she wants to take the very first section of books on the left, walking round the room on the left. Now she counted the shelves very carefully, and she counted the third shelf from the bottom. . . . She went on to the fifth book—fifth—on this same shelf. . . . This fifth book, on page thirty-one, see if there's anything about sweet smells, Mr Bill, sweet smells. Page thirty-one. Feel like sweet smells. . . . And what did you say, Dora? Dora says "Do you remember her noticing, when she was here on the earth, Rosemary,—Rosemary," she says, Mr Bill? I think roses is nicer, but she says, Mr Bill, that she was fond of rosemary when she was here. She wondered if you remembered her speaking of it, and

thinking of it? Now, she's not sure that rosemary is mentioned on the page. . . . Mr Bill! It certainly does speak of sweet scents on this page, and it reminded her of one or two things she liked when she was here herself, and the rosemary was one of them. And lavender, Mr Bill, and lavender. She used to be very fond of these two things when she was here. And do you remember the sweet—sweet briar? (Yes.) Oh, Mr Bill! Did she have a bush of it? She showing me a bush like a branch.

W. S. I. I don't remember the sweet briar.

FEDA. She's holding up a branch. Oh, Mr Bill! I'm not sure whether she means when she was with you. You may have had to ask someone else about this. She must have had a bush or tree of it which she was fond of. It isn't in a bottle. It's growing what she's showing me—so you may have to ask about that, Mr Bill. You got something in your garden that smell, Mr Bill, that Dora used to like. Something with a sweet scent, not roses or anything, but more like a bush, but it's [Here a voice said "untidy"] become rather untidy. She says "untidy", Mr Bill, as if you've neglected it a bit. Isn't it naughty! But it's got the smell all the same, Mr Bill. . . .

Mrs. Salter wrote to me concerning these tests: "The bookcase in question from which tests have been taken at several of Mr Irving's earlier sittings is in the drawing-room at The Crown House. It should be noted that the room was spring-cleaned about a fortnight ago and the books have been replaced in the shelves by the servants in quite a different order from the order in which they were at the time of the last test. . . . The fifth book from the left in the third shelf up was *Ballads & Sonnets* by D. G. Rossetti. The words 'Rose Mary', the title of the poem, occurs at the top of p. 31. . . . [Signed] H. de G. S. May 7, 1930."

Ballads and Sonnets is published by Ellis and White, 1881. It should be noted that the words "Rose Mary" form the heading of a large number of other pages in this book also. It is correct that my wife was very fond of rosemary and lavender when she was here. I still have old bushes of both these plants in my Vicarage garden here, which were there, I think, in my wife's time, and may have been when we first came to this Parish in 1913. The latter point is uncertain though, as my wife used to take cuttings, and plant them out, so that the present bushes may be from her cuttings. She used also to dry the lavender and use it for scent. In view of the importance of this test, I got my neighbour, Mr Frank Summers, to come over and inspect the bushes, and witness to their age and condition. Both the rosemary and the lavender are now very untidy and straggling. The former has a gooseberry bush growing

up with it. "Sweetbriar" I cannot place, though I think I have heard my wife speak of it. I don't think there is any in the garden here.

The following impressions are also from The Crown House, but not given at the above sitting. They are selected as interesting types :

*Extract from a Sitting with Mrs Leonard, 29 July 1930. Sitter :
Rev. W. S. Irving. Recorder : Mr N. C. Fonnereau.*

[FEDA]. . . . Oh, Oh! She just forgotten something she ought to have said. Not in connection with books, but it is with Mrs Nelly. Please ask her, Has she been discussing her father's hats lately, 'cos she said she'd been both thinking of them, and noticing them in rather a special way. Dora says "I expect she'll laugh when she remembers. . ."

Note by Mrs Salter : "I myself have not discussed or mentioned my father's hats lately, but the following incident seems relevant : Friday, 25 July 1930, was Prize Day at our local grammar school, of which my husband is a Governor. There was a special service in the morning to which all the boys walked in procession, followed by the Headmaster (a D.Sc. of Cambridge University) in his scarlet gown and black velvet doctor's hat. A neighbour, walking with my husband to the service, remarked that she always thought the hat rather a funny one, to which my husband replied (in effect) : 'It's a hat with which I'm very familiar. Amongst other people my father-in-law wore one.' My father was a Litt.D. of Cambridge. I did not attend the service myself and knew nothing of this incident, until my husband related it to me on 31 July. It was at once called to his mind when I asked him if he had talked or thought lately of my father's hats." [To the above Mr Salter adds : "I confirm this. W. H. Salter. 31/7/30."]

*Extract from a Sitting with Mrs Leonard, 28 April 1931. Sitter :
Rev. W. S. Irving. Recorder : Mr Theodore Besterman.*

[FEDA]. . . . She's asking me "Has Mrs Nelly had a sitting for a long time?" I told her no, Mr Bill, I haven't seen Mrs Nelly for a long time—long, long, long time—only she wanted to be careful about something she said. She says, "It's this : When I went into the usual room, on the ground floor, that I, and Mr Arthur—that's Mrs Nelly's father—have used before, I felt as if she had been talking about going away—not a short journey, a few miles, but the possibility of a fairly long journey, for which she'd been consulting a map. It seemed as if she was rather uncertain of the position of some place to where she thought she might go ; and she must have been thinking of the map, and the place, in this room."

[Note 1.] “Tell her, also, the house isn’t falling down. It’s only the hinges of the door. It isn’t the sinking of the house at all—it isn’t sinking. It’s only hinges. I felt the thought, and you know we have a peculiar faculty which we can’t always use on your plane—only occasionally. We can only occasionally use it on the earth ’cos of the baffling, complicated thought-currents that interfere with us, but it’s this: it’s the ability to know whether a thing is right or wrong apart from your thoughts about it. Mrs Nelly, as I call her, evidently had the suggestion something was sinking—dropping—out of place. Apart from her mind altogether, I sensed she was wrong in her thought. It’s simply what I have said, ‘the hinges.’” That what she says, Mr Bill. [Note 2.]

. . . There’s another thing she doesn’t think she’s ever remarked on before: the inside of this door is different to outside. Doors are generally cut and panelled, they matches inside and out. She feels a difference with this one—not quite matches. And, at the top, or perhaps I ought to say “over the top”, there’s something that juts, sticks out, juts out. Here—you look! [Feda illustrates by drawing in the air high above her head]. “As she’s putting her hand something sticks out, like that, from top of door, peculiar rather, and would be, she thinks, peculiar to the house. Not a curtain-rod, or hanger, or something ordinary, that you’d find on any door—it’s more.” I’ll bust in a minute! “It’s peculiar to the house, or the room, to the formation of it,” she says. [Note 3.]

“Yes. And new birds too, new birds, they haven’t seen before there they’ve been remarking on.” They are new birds, Mr Bill, new birds . . . New species or breed of birds “‘breed’ is perhaps best”, she says, “breed”. That right, Mr Bill. [Note 4.]

Mrs Nelly was what? Worried about the children, one of the children? Will you ask Mrs Nelly if she was thinking about one of the children, about its ear, Mr Bill, ear—ear? That’s right, Mr Bill, she got something so distinctly: “child’s ear”. . . . [Note 5.]

Notes by Mrs Salter.

[Note 1.] My husband and I have once or twice lately discussed in the drawing-room (from which the booktests are taken) plans for a Swiss holiday we think of taking this summer. On at least one occasion we looked at maps of Switzerland. We had not been abroad together since the summer of 1928.

[Note 2.] Our house, which is old, has a distinct tilt forwards to the road, as a result of which most of the doors do not hang level on their hinges and have a marked tendency to swing open or shut, as the case may be. This peculiarity has been familiar to us ever since we lived in the house. We did at one time (some years ago) consider whether there was any danger of further subsidence

(especially in connection with the porch which is a distinctive feature of the house), but came to the conclusion there was no danger. I cannot remember thinking of this matter lately. [21.xii. 31. When reading this paper in typescript I was reminded that the door in question *had sunk* noticeably on its hinges a few months after the sitting, so that it had to be pared at the bottom to prevent rubbing on the carpet. It is impossible to say just when this sinking began. H. de G. S.]

[Note 3.] It is true that the drawing-room door is different inside and out. Inside it is white to match the rest of the drawing-room panelling. Outside it is dark to match the oak panelling of the hall. There is also a difference in the way the panels are cut inside and out. The only suggestion I can make as to something jutting out is that just over the door on the inside there runs a heavy oak beam supporting the ceiling. The beam being dark is in strong contrast to the white door.

[Note 4.] It is true that we have been talking about a new breed of birds lately. We have been hatching some Leghorns—for the first time for some years—and as they have not been very satisfactory, there has been a good deal of talk about them.

[Note 5.] I cannot remember noticing anything about the children's ears lately. More than a year ago, Martin's ears showed a tendency to stick out and for a time he wore a night-cap to prevent this. But the tendency is cured now. There was an appropriate reference to the matter some time ago in one of my own sittings. Perhaps the present remark is a reminiscence. [Signed] H. de G. S.

Mrs Salter tells me that her last sitting with Mrs Leonard was on 13 May 1930.

Extract from a Sitting with Mrs Leonard, 21 November 1929.

Sitter: Rev. W. S. Irving. Recorder: Mr N. C. Fonnereau.

[FEDA]. . . . "There's something unequal running all round this room." Perhaps mouses! "No, no! On the wall—something unequal. Something traced on the wall, and it wasn't put on equally. Gives one the feeling one side's lower than the other, a queer feeling—funny! You might think the whole thing had been dropped a little on one side." Dora didn't like things not equal on the earth. She'd notice them and think, Why wasn't that like that? She was, what you would call, observant [sic] of things like that. [Correct] Mr Bill! I think Dora would have had, what you call good eye for funny things, like lines being straight and what you call regularity. . . . [Note 1.] [Here followed booktests from the first and fifth books on the lowest shelf in the drawing-room. I am not including them in this paper as they are not of special interest.] "Wonder why as I stood facing the fifth book got a curious feeling

as of most wonderful sun, a sunny sky, a burst of sun. I think there must be a book with title meaning sunburst, or the full sun. A curious feeling as if I was looking at a golden glow—sunny—golden. I shall be so interested if you will find this out for me ? ” (Yes) “ And when you do . . . speak to me and tell me what it is, will you ? I don’t quite know myself, but it’s something there . . . It helps me when I understand after what it was.” [Note 2.]

Extracts from Mrs Salter’s notes.

[Note 1.] As to “something unequal”—between the white panelled walls of the drawing-room and the ceiling there are oak beams. The line of these is irregular and dips noticeably at several points, especially at the front of the room near the window. . . .

[Note 2.] In the third shelf from the bottom a little to the right of the second testbook there is a volume of poems by Swinburne, *Songs before Sunrise*. The volume has a representation of the rising sun stamped in gold on the back of the book.

Another place from which my Communicator claims that she finds it easy to get tests is Miss Newton’s flat. Here are some recent impressions :

*Extract from a Sitting with Mrs Leonard, 30 April 1931. Sitter :
Rev. W. S. Irving. Recorder : Mr Theodore Besterman.*

[FEDA.] . . . Will you tell Mrs Isabel [Feda’s name for Miss Newton]—she laugh—but tell her that Dora thinks the front of her coat *does* hang right. Is it a joke, Dora ? Yes, it is, in a way, but Mrs Isabel was thinking so much about the front of a coat. Thought it wasn’t right in line—wasn’t in line. Dora thinks it’s all right, but you’d better not say that, for if Mrs Isabel thinks it isn’t—it isn’t. Mrs Isabel rather positive. If she thinks a thing is so, it is so. If you argue with Mrs Isabel, and make her admit she’s wrong, she doesn’t really think she’s wrong inside her, she says. . . .

Note by Miss Newton.

“ This is rather a joke. I went with a friend to a Polytechnic dressmaking class on April 23rd and drafted by instructions as to lines and measurements which I did not understand at all, a pattern for a bridge coat. In the *Vogue* Illustration, which I was supposed to be copying, the fronts of the coat were narrow, and the fronts in my ‘ bloek pattern ’ were wide, and the instruetress insisted on them being so. I felt very rebellious, disapproved to my friend of Polytechnic patterns, preferred *Vogue*, but decided I must go through with the ‘ bloek ’ pattern, and so cut it out, and proceeded to make it. I still prefer *Vogue* patterns.”

*Extract from a Sitting with Mrs Leonard, 29 July 1930. Sitter :
Rev. W. S. Irving. Recorder : Mr N. C. Fonnereau.*

[FEDA.] . . . She wants you to ask Mrs Isabel something : Does Mrs Isabel want to change her beds round ? Dora tried to get in touch with her, and the moment she did she got bed, beds, beds, turning them round, changing them about. . . .

[Note.] I understand from Miss Newton that at Whitsuntide she went to stay with her sister at Stow-on-the-Wold. Miss Newton did not like the way the beds were arranged in one room, and said it was like a hospital ward. There was in consequence a changing round of beds.

*Extract from a Sitting with Mrs Leonard, 20 April 1926. Sitter :
Rev. W. S. Irving. Recorder : Dr V. J. Woolley.*

[FEDA.] . . . Dora says : "It's rather early days to plan holidays, but that's what she was thinking of when she was writing a letter just a very little while ago." She says, "Not a plan for an immediate holiday, but later on in the Summer. In this holiday she will be"—Dora says : "I don't know how to put this ! *Linking up with an old condition on new lines.*" Rather 'portant, Mr Bill, to get it just as she says it. . . .

Note by Miss Newton. "In the early afternoon of 19 April 1926, a friend and I booked berths for a cruise leaving on 7 August. The only other cruise I have been was in 1912. When discussing with my friend the coming cruise, I had the other in mind, and referred to it several times. This friend does not live in London . . . nor does she know anyone who has ever had a sitting with Mrs Leonard, or other mediums."

2. *An Experiment with books in a box.*

The following experiment was suggested by my Communicator, through Feda, as follows :

*Extract from a Sitting with Mrs Leonard, 21 November 1929.
Sitter : Rev. W. S. Irving. Recorder : Mr N. C. Fonnereau.*

[FEDA.] . . . Hasn't the scribe got any books ? I think she had her eye on the scribe's books 'cos she was looking at him in a very sort of longing way. 'Cos, you see, Dora's dreadful interested in 'em, and I think she's got the idea of trying him. . . . Has he got any locked up ? Oh ! What do you mean, Dora, did you want him to lock some up ? Mr Bill ! She wondered if he could get somebody—not himself 'cos he comes to the sittings—but get somebody, who hasn't been here at all, to put some books in a box.

[W. S. I.] Could you ? [to notetaker.]

[N. C. F.] Yes—certainly.

[FEDA.] She wondered if he could put some in a box, and lock them up, and him not to have the key, but the person who put them in to have the key. She would think that if he had three—Mr Bill, look! I'll have to be a bit careful! If he lay them like [Feda illustrates horizontally] on top of each other. She doesn't mind what kind of books, but she doesn't think timetables would be good. She says "Not any variety of subject". . . . She think she would like a wooden box best, or a leather one would do. She's not sure about metal. It might be all right, she's not quite sure, but she would like to do that in time for your next sitting, Mr Bill.

Following out the above suggestion, I placed the matter in Miss Newton's hands saying that if, in addition, she could manage to have books placed in the box of which nobody knew the titles it might be an improvement on the original plan. The following shows what was done :

"The books were contributed by Miss Horsell, Miss Newton and Mr Besterman, none of whom knew what the other two had contributed. The housekeeper, Mrs Tolhurst, was instructed on the afternoon of 14 January to take the collection of books into the *séance*-room, and without looking at the titles of any, to place three horizontally in a wooden box which was then given her for the purpose, to lock the box, and give the key at once to the Secretary, and the box to Tolhurst, who took it at once to Mr Fonnereau's house, and to take the rest of the books and keep them until after 28 January. [Signed] Th. B., I. Newton, E. M. Horsell."

Attempts to give tests from this box were made on 30 January 1930, 8 May 1930, and 25 September 1930, the box being taken back to the Rooms on each occasion on the day after the sitting, and opened in the presence of one or more of the S.P.R. officials. On each occasion a certain measure of correspondence may be said to have been found, I think, with what was stated through Feda, but whether beyond what chance-coincidence might give is a matter for criticism. I mention this because I am only describing one of the above results—the third. In this case, I understand that the test was again prepared for in the manner described above, three fresh books being placed in the box by Mrs Tolhurst from the store, and the box was sent to Mr Fonnereau's house in July as it was hoped that tests might be given at a sitting on 29 July 1930. No tests were given from the box however on that date, nor was any attempt made to do so. In answer to my question to the Personal Control as to whether we should "do the box" next time, D. G. I. replied: "He'd better keep the box in the same place. Sometimes if a thing is altered I don't know what it is—it confuses me." The box therefore remained at Mr Fonnereau's house until 26 September

1930, and during that time it was not opened by anyone. It was eventually opened, as described below, by Miss Newton, and at the time of the sitting the box had not been seen by me since it was opened at the S.P.R. rooms on 9 May 1930. So far as we know, Mrs Leonard is ignorant of Mr Fonnereau's identity.

Extract from a Sitting with Mrs Leonard, 25 September 1930.

Sitter: Rev. W. S. Irving. Recorder: Mr N. C. Fonnereau.

[FEDA.] . . . She wants to say something about the box first.

[W. S. I.] Yes.

[FEDA.] It's awful difficult, Mr Bill, describing to you what she feels, and what she giving me about the box. Look!

[W. S. I.] Yes.

[FEDA.] It doesn't feel as if the box is full, Mr Bill. She got, like, what you call, vacancies in it—vacaneies. Puzzled her very much, Mr Bill. Like blank places. Think the books must have been put such a way that they didn't like, fill the box, properly. [Note 1.]

Why does she get a feeling of pictures in connection with the box, pictures? She didn't see this, Mr Bill, but she got the feeling of pictures, illustrations, very much, while she was feeling what one can only call the top layer—the top layer—of the box. [Note 2.] Isn't it funny, Mr Bill! She can't get a booktest the ordinary way from it. She gets more like impressions about it than an ordinary booktest. Is there anything in this box, near the top of the box, make you think of very old people—very old people? She got such a strong feeling of elderly people, especially a very old man. [Note 3.]

And the initial T comes with it, T, T. Mr Bill! It's so funny the way she has to get that: she got it from the top of the box. She says "If it's from books it must be the top book inside." It's something like that 'cos she says "the top". She's moving her hand a bit towards the left too. [Note 4.]

What creaks so about the box? She finds it's a noisy box. Something makes a sort of creaking, rather unusually noisy sound—this box. Something to do with the opening, she thinks. It couldn't make a noise by itself, Dora. "You wouldn't expect it to be," she says, "you would expect it to be a quite well-behaved box, it isn't. There's something makes an unusual sound about it." She's sure she's right. Is it the same box as before? Got a different condition—feels different to her. Perhaps someone has used it, or some different magnetism put in it, something different about it. [Note 5.]

Hayward or Hereward. As you open this box can you see the name Hayward, or Hereward? A name sounding very much like that. Is it on something inside the box—name in the box? Name came to her so strongly sounding like Hereward—Hereward—Hereward—Hereward. [Note 6.]

Have you got that, Mr Bill ? She says " It's awfully funny doing this box, it's like sensing an area more than doing an ordinary booktest." Sensing an area, what you mean, Dora, sensing an area ? She didn't know how else to describe it : tapping, sensing, a small area, and seeing what you can get from it. What you call it ? Barrel—barrel ? All right. Well, it sounds as if it must be wrong ! Is anything shaped like a barrel in this room ? She seemed so sure about it. Anything shaped like barrel in this room ? Either a barrel, or something connected with, or shaped like a barrel in the room. Dora says " I expected you to say ' no, no ', but I should like you to look and see before you say no." " I feel I'm right about it," she says, " Yes, I feel I'm right." [Note 7.]

Is there something white, rather large and white, near the box ? Seemed to get a lot of white—rather large expanse of white. Not a white curtain, or white cloth—felt like white wood, might be metal painted white. It felt like white, hard wood. [Note 8.] Oh ! And there's something close to it with a round knob on. [Note 9.] Something has been falling down here—slipping down. Someone's been talking about it, and saying " That slips down, falls down." By *where* the box is, something's been slipping down. Yes ! That's all she could get about it.

[W. S. I.] Sorry.

[FEDA.] She couldn't get any more. Wasn't it a noosance ! " Most peeuiliar," she says. [Note 10.]

On the day after this sitting the box was taken as usual by the notetaker to the S.P.R. Rooms, and it was opened by Miss Newton in the presenee of Mr Fonnereau and myself.

Note by Miss Newton on the contents of the box : " *Tales of Old Japan* was on the top, underneath was *The Return*, and at the side, almost horizontal, was *The Burden of the Balkans*."

The following notes are mine :

[Note 1.] Two of the above-named books are small books, *Tales of Old Japan* being $6\frac{7}{8}$ inches by $4\frac{7}{8}$ inches, and *The Burden of the Balkans*, $6\frac{3}{8}$ inches by $4\frac{3}{8}$ inches, so that the box was not nearly full. The former of these, which was the top book, " the top layer " is by Lord Redesdale, Maemillan, 1910.

[Note 2.] *Tales of Old Japan* is distinguished by its thirty-eight pictures by Japanese artists. They are not commonplace. On the first page of Preface, numbered vii, attention is drawn to them as being of an exeptional nature : " For the illustrations, at least, I feel that I need make no apology. Drawn, in the first instance, by one Ôdaké, an artist in my employ, they were cut on wood by a famous wood engraver at Yedo, and are therefore genuine speeinens of Japanese art. Messrs Dalziel, on examining the woodblocks,

pointed out to me, as an interesting fact, that the lines are cut with the grain of the wood, after the manner of Albert Dürer, and some of the old German masters—a process which has been abandoned by modern European wood-engravers.” I do not recall any illustrations (apart from a possible Frontispiece) in the books of the former tests.

[Note 3.] *Tales of Old Japan* deals largely with elderly people, though “old” may of course be taken in a two-fold sense. The frontispiece represents nine Japanese warriors with spears and swords gathered around an elderly Japanese who is seated. Underneath is written: “The Rônins invite Kôtsuké No Suké to perform Hara-Kiri.” K.N.S. is described on page 13 as “some sixty years of age.” On the first page of Contents (numbered ix) I found: “The Story of the old man who made withered trees to blossom.”

In List of Illustrations (numbered xi) I found: . . . “The old man who caused withered trees to flower. . . .” On page 3: . . . “Some are venerable men, with thin grey hair. . . .”

[Note 4.] The title of the top book begins with the initial T, Tales.

[Note 5.] The box was the same as that used in the two former experiments. On two sides of the box are brass handles which rattle when the box is lifted. This latter point would be known to the notetaker.

[Note 6.] On the last page but two of the testbook *Tales of Old Japan* (omitting blank fly-leaves) I found: “Hereward the Wake.”

There is, of course, much more chance of the result being due to coincidence when a numbered page is not given—nevertheless, it must be noted that in this case the word “Hereward” was found on one of the pages examined first by me in the top book, for, having failed to find it at the beginning of the book, I turned, as my custom is, to the end to see if it was there. The word “Hereward” is conspicuous as it is in good black type, as are the other words on this page.

[Note 7.] Mr Fonnereau told us that on his dressing-table, about 2—3 yards from the box, there was a round box shaped much like a barrel. He brought the box for us to see. It is small, approximately 4 inches in height, and has bands round it which enhance the resemblance to a barrel.

[Note 8.] We were told by Mr Fonnereau that it would seem probable that what is here referred to is the white marble slab on the wash-stand which was close to where he kept the box in his room.

[Note 9.] Mr Fonnereau wrote later: “The knob mentioned in my tests is the knob on a little hand blotter—the closest object (I should think) to the ‘white expanse’ of my washing stand.”

[Note 10.] On Mr Fonnereau's recent return from his holidays he tells me that the maid apologised for not having a curtain over his wardrobe. The maid said that the curtain rod kept slipping down.

A copy of my notes 7, 8 and 10, given above, were sent by me to Mr Fonnereau for confirmation on 13 October 1931. He replied :

"I am glad to endorse the three statements given in your letter dated 13 Oct. 1931. The date of my return from my holiday in 1930 was Tuesday, 2 September 1930. [Signed] N. C. Fonnereau."

3. *A question of resemblance.*

Extract from a Sitting with Mrs Leonard, 22 September 1930.

Sitter: Rev. W. S. Irving. Recorder: Mr N. C. Fonnereau.

[FEDA.] . . . The Tarpauline One. . . . I'll go into the same room, a bright, good-sized sitting-room. . . . Oh! There's a table in this room, Mr Bill, that interests Dora. "It's rather similar to one that you've got at home, and it isn't a common table, it isn't the sort of pattern that you'd find in anybody's home. It's not a new one—it's a good many years old, and"—oh well! I'll just explain that to him! Mr Bill! She was trying to feel it, and she felt as if it had either a ledge on it, or a drawer in it, in which things are kept. She felt paper, Mr Bill, paper. And string, Dora? That is what she says, Mr Bill. Paper and string were two of the things she felt under it, do you see? Paper and string. There's something too on the ledge, or in the drawer, whichever it is she's not quite certain, looks to her like a small ball, Mr Bill, a round circular object that you can roll about, so she suppose that you can call that "a ball", Mr Bill, do you see? Dora very serious about it, Mr Bill, 'eos there's plenty of round things called by some special name, isn't there? . . . [Note 1.]

She wouldn't have noticed the table, Mr Bill, but it was like one of her's. You mean, Mr Bill's, Dora! She says, what's yours are her's. This table, though it isn't a very small one, gets moved about—shifted about, Mr Bill. It gets shifted about. She doesn't mean just like when a place is being cleaned in the ordinary way, but a rather peculiar way. Something has to be got at near this table, Mr Bill. . . . [Note 2.] There's a photo of someone passed over close to this table. As you're standing against the table you can feel it. The person is a man, and he's not one who's gone recently, he's gone some time ago, some years ago. Not the Communicator of the Tarpauline lady—not her regular Communicator.

[W. S. I.] Right.

[FEDA.] Impression from her mind was that the man whose photo was there had been a sort of teacher, or instructor, Mr Bill.



Mrs Tarpey's table, showing the portrait over it (see p. 147).



Mrs Irving's table (see p. 148).

[Note 3.] What's the bar doing there ?

[W. S. I.] Bar ?

[FEDA.] Like a rod, or bar's been left there. Mr Bill! There's a rod or bar close to the table there, just as if somebody had brought a long bar or rod into the room, and had put it down there just by the table, just as if they'd laid it there, Mr Bill, and she says she doesn't know what the thing's for, but she knows it's there. . . .
[Note 4.]

The above tests, which are from Mrs Kingsley Tarpey's flat, are given because they are all more or less concerned with the table—they followed some booktests not given here. The tests were kindly verified for me by Miss Newton on 23 September 1930. Further information was given to Miss Newton, by Mrs Tarpey, later, in letters.

Extract from Miss Newton's notes.

[Note 1.] "Table: Chippendale period, old oak, flaps with rounded corners. Legs fluted. One drawer, containing much string. Until recently Mrs Tarpey said, labels. Something rolled as we opened the drawer—a small wooden pepper-mill lying on its side; circular top and bottom; rolls every time the drawer is moved."

Extract from a letter by Mrs Kingsley Tarpey.

"The table described is said to be Chippendale, and is about of that period. It has a drawer at one end in which string, labels, cork-screws and some oddments are kept. I used the last luggage label from there recently. There is paper far back in the drawer wrapping some tapers: also there is paper lining it. . . . The table had leaves that drop, with rounded corners, and the legs have a long sparse fluted pattern." [Mrs Tarpey sent a sketch of the table, which is described there as Antique Pembroke Table. . . . The table, when leaves are up, is almost square.]

Extracts from Miss Newton's notes.

[Note 2.] "[The table] gets moved about nearly every time they have a sitting."

[Note 3.] "Standing by the table one faces a portrait of Mrs Tarpey's father. Put your hand out and you touch it."

Extract from Mrs Tarpey's letter.

"Above the table is a life-size portrait of my father in pastel, done after his death from a photograph. He died in 1888. . . . The latter years of his life he gave a great deal of his time to public

speaking, doing definitely educative work on the Irish question, and the Eastern question, in working men's clubs, and generally among working class audiences. . . . I think it would be quite right to speak of him as a teacher, as many younger men in our circle sat at his feet."

Extract from Miss Newton's notes.

[Note 4.] "There was no rod or bar near. Mrs Tarpey showed me a window rod which is often in the room and was much used for hanging pictures from about the middle of August for about a fortnight."

It will be remembered that I have never been to Mrs Tarpey's flat, and have therefore no knowledge of what her furniture is like. After her verification, Miss Newton wrote to me for a description of such tables of mine as might be in question. In reply, I sent sketches of four of my tables and a brief description of each. I understand that Mrs Tarpey and Miss Newton, having independently looked at my sketches, came to the same conclusion as to the table most like the one at Mrs Tarpey's, and it was not until after this that I was allowed to see the sketch, and description of that table. In certain particulars it resembles somewhat closely my wife's own writing-table in my drawing-room. Our table is of rose-wood, length $39\frac{1}{2}$ inches, width 18 inches, height $28\frac{1}{2}$ inches. The chief resemblance is in the flaps, rounded corners, thin carved legs—I think you would call them fluted—they have grooves down the two front legs, and there being one drawer.

Note by Mrs Kingsley Tarpey, 22 August 1931.

"None of the subjects referred to in Mr Irving's sittings have come up in my sittings with Mrs Leonard. Fedra has mentioned that she had been to the flat, and that she liked the room, "the nice light room that Dora likes." One other attempt, not very successful, has been made by another Communicator through Fedra to give a booktest at the flat. There has been no conversation between Mrs Leonard and myself about the room or the flowers or the balcony. Mrs Leonard knows that I am a painter, and has a picture of mine, but so far as I know, that would be the whole extent of her knowledge."

4. *The paper about the dentist.*

This test differs from most of the other tests in this paper in that it *may* be said to have been taken from my mind, *i.e.* there is nothing given that may not have been known to me years ago and

long since forgotten. It is, however, I think, original and interesting enough to be worth recording.

Extract from a Sitting with Mrs Leonard, 29 January 1931.
Sitter: Rev. W. S. Irving. Recorder: Mr Theodore
Besterman.

[FEDA.] . . . She's got blue on this morning, Dora has. Oh! She put it on rather specially. She hoped it would make you remember something you used to be fond of seeing her in. Journey? She says, "Journeys—journeys—journeys," Mr Bill.

[W. S. I.] I remember.

[FEDA.] And you were thinking of a special journey which she wore this thing—the blue. You were reminded of it and thinking of it, and something that worried her about a teeth [*sic*], at that time, that you will probably have forgotten but that you'll remember after. Have you got that, Mr Bill? "The journey, the blue dress, and teeth." She's almost sure you'll have forgotten. You'll have to think back about the teeth. She thought a lot at the time. She hadn't wanted it to happen just then. It was a noosance just then. That's why she remembers it, but she didn't expect you to, Mr Bill. While I'm talking about that—Whatever did you keep the paper about the dentist for so long at home—at home? You don't want it now. You kept it a long time at home. You've still got it. 'Tisn't any good. Thinks there's an eight on it.

[W. S. I.] Eight?

[FEDA.] Eight. Have you got that, Mr Bill? Now she had to bring these in then, in case she forgot them. . . .

[Note.] It is correct that I had recently been recalling a visit to a dentist which I had once made with my wife when she had gone there to have a tooth out with gas. When I pass near Clarence Street in Gloucester where the dentist lives, I often recall this visit, for my wife was not bothered as a rule with tooth trouble, and I can only recall this one occasion on which I went with her to have one out. She seemed to me long in coming round and I was nervous. My recollection, at the time of the sitting, as to the year or time of year when the above took place was vague, simply that it was not so very long before my wife's death. When I came to verify the test I hunted through my wife's personal receipts, account book, writing-table, etc., but could find nothing like the paper described. It seemed very doubtful whether any such paper was in existence, as we generally paid at the time for matters of this kind, —I always did myself. Having exhausted my wife's belongings, I turned to the house-file of receipts, which dates back to 1912. Starting then and working forwards through, I suppose, some hundreds of papers, I at last discovered the following:

“ 12 Clarence Street, Gloucester.
December 1914.

Mrs Irving, Oxenhall Vicarage, nr. Newent.

| | | | |
|---------|------------------------|-----|---------|
| Nov. 16 | Repairing and stopping | 2s. | 6d. |
| Dec. 8 | Gas and Drs Fec - | £1 | 1s. 0d. |
| | | £1 | 3s. 6d. |

Received with thanks,
C. Fox, 2 January 1915.”

It will be seen from the above that the “ eight ” said to be on the paper shows the actual date of the month on which the visit to the dentist of *which I had been thinking* took place. And further, the fact that this was in December makes it practically certain that my wife would be wearing her blue coat lined with fur. She only had one, and always wore it on “ journeys ” in winter. We live about ten miles from the dentist’s and probably went there and back by train. Motor buses did not, I think, run then. The receipt has been handed to Miss Newton.

5. A letter test.

*Extract from a Sitting with Mrs Leonard, 30 April 1925. Sitter :
Rev. W. S. Irving. Recorder : Mrs Dingwall.*

[FEDA.] . . . She’s got another little test for you, but the one she mean now is to welcome you when you get home.

[W. S. I.] Very nice.

[FEDA.] Mr Bill! You’re not to go and look for it in a case or anything, it will be in front of your eyes . . . when you get home. It is something that you’ll have to read because she sees a name that will remind you of very happy times that you used to have with Dora, a name of a place. It’ll be facing you when you get in. It’s like a booktest, but it isn’t from a book, but something that will be awaiting you and which will be—No!—and which you will pick up and look at. You’ll have to, Mr Bill. You’ll do it in the ordinary course of events. Now, Mr Bill, on this paper there’s a little sign—don’t think I’ve got it quite right, Mr Bill, but it looks a little bit like, a cross or a letter X. Time is mentioned on it too. A question of time is mentioned on this paper, too, like a date or an o’clock.

[W. S. I.] Old clock ?

[FEDA.] O’clock. What means time of day! You know what an o’clock means! That’s all about that, Mr Bill, but it will be a curious connecting link with you and Dora, and a place. Not the place you’re living in now, but another place where you were happy together. . . .

[Note.] Before leaving home I had arranged with the Newent Post Office people that my letters should be forwarded to me in London from Monday, 27 April, after the first delivery, to Thursday, 30 April 1925 inclusive, but that letters arriving after that date—on the Friday or Saturday—should not be forwarded. On my return home, on Saturday, 2 May 1925, I found on my dining-room table some half a dozen letters and two newspapers. One of these letters—a circular—to some extent tallies with Feda's description. It was addressed to *Mrs Irving* and, perhaps for that reason, was not forwarded to me early in the week, though it bears the post-mark Cheltenham, Paid $\frac{1}{2}$ d, 3.30 p.m. 28 April 1925. Inside was merely a printed card advertising the Spring and Summer models of a Cheltenham tradesman named Ayris, at whose shop my wife often used to make purchases. A monogram in gilded letters was at the top of the card. This monogram, which is approximately $\frac{3}{4}$ inches by $\frac{5}{8}$ inches at extreme points, appears to be of the letters W.A. or M.A., though it is not certain. In the centre of the monogram, two curved lines bisect one another making a figure something like a cross, X. In the bottom left-hand corner were the words "Telephone 820." In the bottom right-hand corner "Promenade, Cheltenham." Cheltenham has fuller happy associations for my wife and me than any other town, as so much of our time has been spent in it, or within easy reach of it. A curious point about this test is that the postman tells me this letter was not delivered at my Vicarage till the morning of my return—2 May—so that at the time of the sitting, the circular was at the Newent Post Office. Assuming that this circular is what was referred to through Feda, it is important to note that Ayris's circulars seem to be still sent to my house periodically, *i.e.* I remember having received them before. Unless, however, these Spring adverts are always sent out on the same date, it is difficult to believe that my subconscious mind can have anticipated the receipt of the circular—though not perhaps impossible. The circular has been sent to the S.P.R. Rooms with the script.

PART II.

A SERIES OF IMPRESSIONS FROM A HOUSE UNKNOWN TO THE MEDIUM, SITTER, AND RECORDER.

BY THEODORE BESTERMAN.

THE house here referred to is that of Mr and Mrs C. E. Stansfield, 70 Northcourt Avenue, Reading. Mrs Stansfield became a member of the Society at the end of 1929. During Mr Irving's sitting with Mrs Leonard of 20 November 1930 he received communications apparently connected with Mrs Stansfield's brother. Mr and Mrs Stansfield were not mentioned, but Mr Irving wrote to Mrs Stansfield, who is his cousin, to verify the date of her brother's death, which occurred thirteen days after the sitting. On 2 January 1931 Mr Irving wrote that he thought (though the reference was not definite) that Mrs Stansfield had been referred to at a sitting with Mrs Leonard on 8 May 1930, as being possibly willing to allow a booktest to be taken from her house. Mr and Mrs Stansfield consented to the attempt being made.

Mr Irving had not seen Mrs Stansfield or any member of her family for between thirty and forty years, and had never met Mr Stansfield or been in Reading.¹ He met Mr Stansfield for the first time in London on 1 May 1931. Neither on this occasion nor at the second meeting mentioned below was any description given of Mr and Mrs Stansfield's house.

On the day before, 30 April, Mr Irving had a sitting with Mrs Leonard. At this sitting, during the Personal Control, the Communicator, in the midst of much else, spoke the following words: "Will! Another name I want you to think of too. A name starting with Stan. I feel that name so near you now. I think it's linked up with you. (Mr Irving: Follow him up and take a booktest.) Yes. I'd like to. Will! it's a nice condition, quite a nice one, quite a nice one. The impression I get is of someone who would be interested in the subject. Not quite as we are, from a different standpoint."

Mr Irving read this passage the following day to Mr Stansfield, who expressed the hope that a test would be given from his house at the next sitting. This took place on 23 July 1931, when Feda said: "She went to two other places, Dora did, two, and found she couldn't get anything. Something in both conditions held her up. One of the places she went to felt quite empty, quite empty." It is not unreasonable to interpret this as a reference to the house of Mr Stansfield, who was at that time in hospital.

¹ I myself did not meet Mr and Mrs Stansfield until after the sitting of 24 September 1931, and knew nothing whatever about them.

Early in September 1931 Mr Irving wrote to Mr Stansfield asking him to arrange for his books not to be moved, in the hope that booktests might be given in forthcoming sittings, the dates of which were not given. On 19 September Mr Irving met Mr Stansfield for the second time, in London. During the sitting on 22 September no tests were given from Reading as expected. Consequently Mr Irving asked the communicator during the Personal Control: “(Will you try to go to the house of the person I mentioned the one I² called Stan and try and give the test on Thursday?) Yes. Will! I think it was thought about before.” The sitting here referred to was that of 24 September 1931, an extract from which now follows.

Passages in which Feda appears to be quoting the Communicator are placed in inverted commas. Words in round brackets were spoken at the sitting by Mr Irving. Editorial comments in the record are in square brackets; those distinguished in addition by my initials show variations between Mr Irving’s record and mine. The punctuation and division into paragraphs have been supplied by me.

Extract from a Sitting with Mrs Leonard on 24 September 1931.

Sitter: Rev. W. S. Irving. Recorder: Theodore Besterman.

[FEDA:] [1.] . . . Mr Bill, she’s been to a place for some books, not in boxes or anything, Mr Bill, but just ordinary booktest. To a place that you have been wanting her to go to for some time. You mentioned it last sitting, she say, last sitting she think, and you mentioned it also at a previous sitting when you were here before. (I remember.) She is building up an S, S.

[2.] And isn’t there a B to do with it too? Mr Bill, she is building up an S, but there is a name beginning with B connected too. Perhaps you have forgotten. It is possible you don’t even know it, but Dora is right. Bur, bur, bur [Beh, beh, beh. Th.B. Mr Irving’s spelling gives the sound better, but the

[1.] This is clearly a reference to the Stansfield house.

[2.] Edward Vipond Ballard, a friend and former colleague of Mr Stansfield (quite unknown to Mr Irving), died in January 1931. Mr Stansfield saw him the night before his death, helped his widow with the necessary arrangements, took control of the funeral, raised a fund for Mrs Ballard, and, in short, had been

² This was a slip of the tongue for “the person *you* mentioned, the one *you* called Stan . . .”

terminal r was not sounded]. It isn't B, u, y, [by. Th. B.] or B [Be. Th. B.] but like as if you were going to say bull or but [boott. Th. B. ; böot, to rhyme with soot]. Like that way, Have you got that ? The B person is very much connected, but he's passed over, Mr Bill. A person interested in the place, and the what you call the inmates. Those is lunatics ! No, these people isn't lunatics, they'se 'markably sensible.

[3.] She says " the B person is very interested with these indeed and has a connection, link," she call it, " with some books there. B. The B isn't a christian name, it's a surname." She says " I think about seven letters in it, about seven letters in it. Surname Murrad, Murrad, Murrad, Murrad [Barrett, Barrass, Barrett, Berard. Th.B.] I can't get this quite. Murrad, Mallard [Burrard. Th. B.]." Another name she's giving. She's not giving me a proper idea of the beginning. Marrad [Barrard. Th. B.]. No, I'll wait a minute and see if she does it better.

[4.] Mr Bill, she know that you know the place, you see, and she showing me a room. Mr Bill, I think there arc two or threc lots of books in this room, not just like a few books. You see there are books in more than one part, position, in the room. I dunno what you mean, Dora ? In two parts ? Dora say in two parts of the room the books are put in rather systematic position, systematic position. There are

very closely connected with the name Ballard for several months up to and beyond the time of the sitting. It will be seen that this name corresponds very closely with the forms Mallard and Barrard, as shown in the next paragraph. Ballard, as stated in the record, has seven letters in it.

[3.] The " connection with some books there " is probably an allusion to the fact that about ten days before the sitting Mrs Ballard brought to Mr Stansfield's house three volumes of a school magazine formerly edited by Mr Ballard. These volumes were in the house until the day before the sitting.

[4.] It is not correct that Mr Irving knows the place ; but the statement may reasonably be taken to mean, as it would in ordinary conversation, " You know of the place," or " You know what place I'm talking about." This is not, of course, a separate point, but part of [1] above.

It is clear from what follows that the dining-room is intended, but it is not correct that there

some others that are placed different, different form, different position altogether.

[5.] Mr Bill, this feel like a comfortable room, quite comfortable, as if someone had put rather nice comfortable chairs in it. Not a lot, Mr Bill, the chairs, but just a few like comfortable ones.

[6.] There's a, I think it's a table in the room; the one she showing me not very big, heavy, lumpy for its size, as if it would weigh as much as a much bigger table, really much bigger.

[7.] You know, Mr Bill, most people in a room tries to get all the wood the same like the furniture, like Gladys [Mrs Leonard]. She like oak. You got some oak too, Mr Bill. She like everything all the same. In this room, the one room, they hasn't matched the wood like that; they'se got two different kinds of wood altogether in this room. "Three kinds," Dora says, "to be correct." Yes, you got to be correct! Three kinds, three kinds. (Yes.) Two very much alike, but not the same wood; the third very unlike, very different. Two browns and a black, two browns and a black. Mr Bill, I don't think people would notice it if they just enter the room, perhaps even sat in it. Have you got that? (Yes.) "But of course I try to notice something," she says, "I *try to*, something special."

are books in two (or more than two) places, except that there are a few on a table in addition to those in the bookcase. Mr Stansfield states that the books are systematically arranged.

[5.] Mr Stansfield states that his favourite armchair is in this room, but that there are no other specially comfortable chairs in it.

[6.] There is a gate-legged table in the room, which Mr Stansfield states to be heavy for its size.

[7.] There are two kinds of wood in the room, from the point of view of colour, black oak and brown woods of different kinds. But "to be correct" these two kinds are really three, since the brown furniture consists of oak and bentwood ("two browns"). It must be added, however, to be absolutely correct, that there are really four kinds of wood, for the "oak" itself is of two kinds, genuine oak and deal stained to match it.

[8.] There's a picture of a dog in this room, a dog with rather a long, fairly long face, long nose, long nose. Not a what? I know what you mean. Not a Pamalanean [Pomeranian]. No. She say, "I got the feeling of more what you call a sporting dog. A man's dog, you might call it. Intelligent head, very intelligent head. Long nose." (Right [This expression is used by Mr Irving simply as an encouraging way of saying, "I've got that, go on."]).

[9.] "Rollers? Something has been said in this room lately about, I think, rollers, rollers. Something ought to run on rollers. I can't understand what there could be in this room that could run on rollers, but I got the thought, and I know I am right." (Good [See the note at the end of the previous paragraph.]).

[10.] "Now I walked to the left again, from the door to the left. I took the first section let us call it, the first section that I came to on the left. You will see

[8.] There is an engraving on the wall of "Nearing Home," by Herbert Dicksee, in which a shepherd and his collie are the prominent figures. The description of course applies to a collie.

[9.] On 20 September 1931, four days before the sitting, a friend was telling Mr Stansfield about the transportation of the monument to the Duke of Wellington by road through Reading on its way to Strathfieldsaye. Mr Stansfield remarked, "However was it brought in one piece; it must have been brought on rollers." This conversation took place on the lawn just outside the dining-room, and, according to a statement signed by Mrs Stansfield and Miss Mary Stansfield, the remarks about the moving of the monument on rollers were repeated in the dining-room. Mr Stansfield has no recollection of this repetition. The relevant details of the conversation on the lawn have been corroborated in a signed statement made by the friend above referred to, who prefers to remain anonymous.

[10.] It is clear from points 5, 6, 7, 8, 17, that the room from which the tests are taken is the dining-room. Unfortunately, the booktests are not clear.

why I put it like that," she says. (Yes.) "I took the lowest shelf I could find. I didn't attempt to go higher. I just took, counting from the floor, the first shelf with books on going upwards. 5th volume, 5th. And I took the 5th book from the left, the 5th." Wait a minute, Dora, 4. I've got 4. Now wait a minute, what's the other one? 4, is that all? No, oh, I see, Mr Bill! I was a bit puzzled! She kept building up a 4, and then she done it again. She mean 4, 4, forty-four. "On the 44th page I feel there is a reference to pictures, pictures, portraits, and should remind you of some pictures, portraits, you have at home, an allusion to one, a special one that you have at home, you think a great deal of." (Right.)

[11.] "On the same page as the reference to pictures, will you see if there are some words lower on the page, lower, referring to foreign titles, foreign royalties, foreign titles, have you got that?" (Yes.)

There is no difficulty about the shelf intended, as there is only one set of shelves in the room. But this is not divided into sections.

Another difficulty occurs in connection with the volume on the shelf, for at its extreme left is a pile of notebooks. In accordance with the usual practice this pile must be counted as one volume, especially as the adjoining books are big ones. On this plan the fifth volume from the left is an album of family photographs. The thick cardboard "pages" are not numbered, and the portrait in p. [44] is of no special interest to Mr Irving. On the other hand, in the back of this page, that is, in p. [43] is a photograph of Mr Irving's grandfather. Now another portrait of this grandfather hangs in the dining-room of Mr Irving's sister, with whom he had been staying from 7-16 September, that is, a few days before the sitting. These particulars are corroborated in a signed statement by Miss Irving. However, this does not fully bear out the statement in the record, which refers to Mr Irving's own home, not to Miss Irving's.

[11.] When the picture in page [44] of the album is withdrawn, the back of the portrait in page [43] becomes visible. On it are printed the words "Under the patronage of Her Majesty the Queen, H.R.H. The Prince of Wales," followed by their respective Coats of Arms (with the mottoes in French and German),

[12.] Now will you take the next book but one, going along towards the right. That will be the 7th book from the left side of shelf, 7th. At the beginning, the very beginning, the opening page, I mean the opening page refers to matters that the scribe —him—[Feda points to Th.B.] would be very interested in, has been very much interested just now, will be interested in immediately just now, matters affecting him just now at the moment; a kind of description of conditions and things round him at the moment. Have you got that, Mr Bill? (Yes.)

[13.] Wait a minute. "Violet, violet. Will you see if there is a mention of violet on this page, the same page?" Dora says "while I was getting this, I kept getting the idea of the word violet, violet, violet. Didn't see it, felt it. May be a name," she says, "but got it so strongly." (Did you say, got it so strongly?) "Yes."

and the photographer's name. This is the nearest approach to the statement in the record.

[12.] This is Mr Stansfield's family Bible (London, Eyre and Strahan, 1813). In the Translators's Address to the King (which apart from the titlepage, is on the opening page) occurs the well-known passage about the "censures of ill-meaning and discontented persons," the "calumniations and hard interpretations of other men," and the "bitter censures and uncharitable imputations," against which the Translators felt themselves to be "supported within by the truth and innocency of a good conscience." These words appear to me not inappropriate to recent foreign attacks on me in connection with my work. See, for instance, Count Perovsky's quotation in the *Journal* (xxvii. 175) of an article in which I am accused of being an emissary of the "atheistic International", and cp. *Journal*, xxvii. 124.

[13.] There is nothing about violets on this page, but it is clear from the record that this word is not necessarily a book-test. The only sense in which it would appear to apply to Mr and Mrs Stansfield's house would be a prophetic one. At about 12.30 on the day of the sitting, that is, actually during the sitting, but about an hour after the relevant words were spoken, Mrs Stansfield brought Mr Stansfield a bunch of violets to smell, and they had some conversation

[14.] “ Within a span of this book, it seems to me there’s a book that deals with theology, theology ; something to do with a modern view, modern view ; description given, the title given on the outside would lead you to believe it was a new light, a new light on religion, yet the book itself didn’t appear to be very recent or new to me.” (Right.)

[15.] Moving a little back towards the left on the same shelf—there are not many, she says, to look at—between the 1st book she gave you on the left, the first book was the 5th, you know ; between this and beginning of shelf on outside there’s an allusion to a joke, something that would remind you of a great joke that you and Dora used to have together, a joke, a joke, a joke that you and Dora used to have together. A joke, a joke, a joke. The joke, of course, is an old one now, but it is one you have been thinking of recently, so she thinks you will be reminded of it at once.

[16.] Now, Mr Bill, ask if there is a light in this room. She mean an artificial light that can’t be used ; she felt there is a light here that should affect those books ; it must be near them ; it can’t be used [repeated four times]. And it can’t be used, Mr Bill.

about them, as it seemed unusual and unexpected to gather violets in September.

[14.] This just misses being a good hit. On the second shelf up is a copy of Dr James Moffatt’s translation of the Bible (first published in 1913), of which it is very true to say that it is not a new book, but that it throws “ a new light ” on religion. The words “ a new translation ” appear on the covers of the three volumes. Unfortunately these volumes are more than a span from the Bible, 2 ft. 7 inches, to be precise.

[15.] Counting on the method described in [9] above, the 2nd and 3rd volumes on the shelf, that is, between the beginning of the shelf and the 5th volume, are two volumes of *Pictures from Punch*. These volumes did remind Mr Irving of a joke of which the Communicator was very fond (though he cannot say when he thought of it last), especially as Mrs Irving had been very fond of *Punch*.

[16.] This does not appear to apply to anything in the room.

[17.] Mr Bill, when you look out of this window I get a feeling—Dora is making me feel this—there is something if you look one way, something is blocking the view, you can only see a short distance ; by turning your head and looking the other way you can see a long way.

[18.] Is it that house, Dora, or one near it ? Mr Bill, right up close to this house, is there something to be sold, do you know ? Dora says, for sale, for sale. And it feels something close, right up where I am, close.

[19.] What you talking about, Dora, slissiter ? What's a solicitor to do with this house just now ? Dora wonders if they have been talking a great deal about a solicitor in this house just now. Seem very strong there indeed.

[20.] Will you ask if the name—it's a common name—but will you ask if the name Evans has been mentioned there, talked of there at all ? Evans, Evans. Have you got that, Mr Bill ? (Yes.)

Now, Mr Bill, that's all from that place. It's all she could be sure of getting. (A nice lot.)

All the above statements referring to Mr and Mrs Stanfield's house are based on signed statements by Mr Stansfield, corroborated, so far as they are concerned, by Mrs Stansfield and Mrs Ballard. The books (except for the album) were verified in the presence of a medical man whose name is known to me.

[17.] In this room a person standing with his back to the stove would have on his left a small window, the view through which is blocked by a tree, facing him a large window, the view from which is blocked partly by a garage and partly by a fence with trees beyond, and on his right two windows with a glazed door between, through which there is a fine distant view extending to ten miles.

[18.] The house next door but one and at least two nearly opposite are for sale and have boards up to that effect.

[19.] There had been occasional conversation about solicitors in connection with the Ballard fund and in connection with the affairs of Mr Stansfield's sister, whose husband had died during the summer. Letters referring to solicitors in both cases were lying on the desk.

[20.] The wedding of Mr and Mrs Stansfield's friend M. Evans, which took place three days after the sitting, had been mentioned several times during the weeks before the sitting.

It will be seen, to sum up, that of the above 20 statements, ten are correct (nos. 1, 2, 3, 6, 8, 9, 17, 18, 19, 20), six were partly correct (nos. 4, 5, 7, 10, 14, 15), three are doubtful (nos. 11, 12, 13), and only one appears to be wrong (no. 16). Not all the hits are of equal value, of course, but several are decidedly striking, particularly the approximation to the name Ballard, the name Evans, and the reference to rollers. On the whole, taking the circumstances into consideration, this series of 20 impressions provides good evidence that knowledge of Mr and Mrs Stansfield's house was obtained in some supernormal manner. The important point in this connection is the fact that there is no direct link between the medium and the Stansfields' house, since the house is unknown to medium, sitter and recorder, and nobody in the Stansfield family has sat with Mrs Leonard. If the result be due to telepathy, it is in part telepathy of a very unusual, if not unique kind, since the medium would on this hypothesis have received an impression of conversations in a house unknown to her and not even having any connection with that house.

REVIEW.

OLIVIER LEROY, *Les hommes salamandres. Recherches et réflexions sur l'incombustibilité du corps humain.* 8vo, pp. 93. Paris : Desclée de Brouwer et Cie., 1931. Price 7 fr.

To M. Olivier Leroy we are already indebted for a book on levitation which may well, I think, be regarded as a standard work on the subject ; in the present little book we have a valuable contribution to the study of another also much disputed, though perhaps less disputed phenomenon : human "incombustibility" or "fire-proofness" in exceptional circumstances.

M. Leroy is a devout Roman Catholic ; no wonder therefore that among the evidence he ably marshals lives of saints figure conspicuously. Now I am far from denying that in this domain as in that of levitation hagiography may—perhaps does—supply us with evidence which must not always be lightly set aside. But why refer to "martyrs' lives" as to which the writer himself admits that in them "everything occurs in an epic atmosphere where history suffocates" (p. 16) ? The author's thesis, favourable to occasional human "incombustibility", gains nothing by such testimony—if we may call it "testimony"—but rather the reverse.

In the next chapter, on medieval fire-ordeals, we meet with the extraordinary case of Emma, daughter of Richard II., duke of Normandy, and mother of St Edward, who undertook to refute rumours current as to the character of her relations with the Bishop of Winchester by walking barefooted over nine (possibly fourteen) red-hot coulters. The experiment succeeded. What is the evidential value of this "life" I do not know, but it is perhaps significant that, as pointed out by M. Leroy, the very sceptical Bayle seems, in his *Dictionary*, to be ready to believe in such facts.

In chapter 3 we meet with D. D. Home, an Englishman called Richardson (end of 17th century), whose performances at Lady Sunderland's are described by John Evelyn, Bruno Kiöng, a Chinese, and others.

Marie Sonnet, nicknamed the Salamander, is the subject of the next chapter. This lady flourished in the second quarter of the 18th century, was connected with the Saint Médard "convulsionists"

in Paris, if not one of them, and figures in a protocol, dated 1 May 1731 and signed by eleven persons, which M. Leroy quotes. An English peer ("milord Edouard de Rumond Perth"), two priests, Carré de Montgeron, and other persons of position are among the signatories. Marie Sonnet is alleged to have remained lying for thirty-six minutes (with intervals) over a very fierce chimney-fire, her head resting on one footstool and her feet on the other, without any harm being done either to her body or to the sheet in which she was wrapped (she had no clothes on). "Sometimes the flames rose over her, which seemed to us quite supernatural". How, I wonder, can we explain in a "normal" way such an account, unless we impugn the authenticity of the protocol?

In chapter 5 we are brought in touch with the fire-walk, Polynesian and Indian. Here we have before us an eye-witness's testimony whose value can hardly be over-estimated. Mgr Despatures, (now) Roman Catholic bishop of Mysore, narrates in detail an extraordinary performance of the kind witnessed by him in 1921 in the Park of the Royal palace of Mysore. The performer was a Turk who did not enter the flames himself, but many people present did. As the Royal musicians were passing through them the Bishop noticed that the flames seemed to avoid the instruments they were carrying "et effleuraient les feuilles de musique sans les enflammer" (p. 42). M. Leroy has obtained valuable corroborative evidence from four other eye-witnesses. Their statements confirm in a general way Mgr Despatures's account, and the fact that they are not free from discrepancies, though unfortunate, is after all of secondary importance.

The list of references to cases of "fire-walking" given in various publications which the reader will find on pp. 72-3 of M. Leroy's little book is not quite complete. A recent and very striking case described in our *Journal* (xxiv. 278-84) has remained unknown to him. However, it is satisfactory to note that he refers more than once to the S.P.R. publications.

After a chapter on "theories" and some fifteen pages of "notes and documents", the book closes with a letter of Abbé Journet's to the writer. Both the latter and the Abbé are chiefly interested, so far as the theoretic aspect of the problem is concerned, in the examination of the question whether human incombustibility is of a "natural" or a "supernatural" origin. And if "supernatural", of what character: whether angelic, diabolical or divine. Into this side of the question I will not enter.

I cannot however refrain from quoting a significant passage. "Everywhere and always," M. Leroy says, "the supernatural is characterised by a certain shyness. Man's incombustibility is undeniable; it remains however relative both in time and as to

the violence of the fire. . . . *Wounds close themselves at Lourdes, but new limbs do not grow* [my italics]. The body of those levitated does not rise high nor go far” (p. 75).

To me this is *prima facie* evidence (I do not say absolute evidence) that the so-called religious supernatural—supposing it to exist—is not supernatural in the strict sense of the word, but that we have here to deal with facts at best supernormal and subject to laws which we may hope to fathom—if not to master—some day. The simplest explanation is not always the right one, it is true, but surely there is a good deal to be said in support of such a suggestion. For otherwise such a “shyness”—a shyness much to be regretted—would be much harder to explain.

PEROVSKY-PETROVO-SOLOVOVO.

EXPERIMENTS IN SUPERNORMAL PERCEPTION AT A DISTANCE ¹

BY S. G. SOAL

PART I

PRELIMINARY EXPERIMENTS

Introduction. Experiments in telepathy in which the agent and percipient are separated by a distance of many miles possess one indisputable advantage over those where agent and percipient work in the same room or in adjoining rooms. In the latter type of experiment it is extremely difficult to rule out entirely the possibility that the agent or transmitter may unwittingly and unintentionally convey information to the percipient or guesser by means of slight movements, changes of tone, facial expression and the like. In a word, the guesser may be getting clues through his ordinary channels of sense though neither he nor the agent may be aware of it.

Such accidental conveyance of knowledge is hardly to be assumed in cases where the agent and percipient are miles apart at the time of the experiment provided always that reasonable precautions have been taken in selecting and guarding the objects intended for transmission. Deliberate collusion between the experimenters and percipients is still, of course, a contingency to be reckoned with, but for reasons which will be apparent later I feel perfectly certain will not be suspected in the present experiments.

In spite of their indubitable advantage in excluding a direct transfer of ideas by normal means experiments at a distance are relatively rare in comparison with those in which the parties concerned are in close proximity. Nor can it be claimed, I think, that such experiments as are on record have been remarkably successful or for the most part conclusive in any way. There are, of course, scattered throughout the annals of the society numerous cases of apparent spontaneous perception at a distance and in certain of these the wealth and convergence of detail are so circumstantial as to make chance coincidence an unlikely explanation.

¹[As in the case of the recently published report on experiments in clairvoyance (*Proceedings*, xxxix. 375-414), the reader must be warned that the results of the experiments have been entirely negative.—HON. ED.]

Next to the spontaneous cases we have a type of experimentation which is best illustrated by the Miles-Ramsden¹ and Wales-Samuels² records. In the latter example the agent, here represented by Mr Hubert Wales, did not as a rule deliberately choose an object or event to be transmitted at a definite time, but allowed the percipient, Miss Samuels, to post him details of her dreams which were then compared with *any* appropriate events that had happened in Mr Wales's environment during the preceding day. A similar procedure was adopted in many of the Miles-Ramsden experiments. The scope for chance coincidence under such conditions is of course extremely large and practically incalculable, and moreover in cases where the percipient can picture the type of scenery in which the agent is situated, he or she has a tolerable chance of scoring hits by imagining events natural to that scenery. *A propos* of Mr Wales's experiments I must mention that during the months of August-September 1926, at Miss Samuels's suggestion, I assumed the rôle of Mr Wales and received every day from Miss Samuels a copy of her dreams and impressions. During the whole of this experiment I was staying near Bettws-y-Coed in North Wales, while Miss Samuels, whom at that period I had corresponded with but never met in the flesh, remained in London. The result was practically a complete failure. I must add, however, in fairness to Miss Samuels, that while she might easily have seen me climbing mountains and peering down precipices, she in fact did nothing of the kind, and the type of dream she described would I believe have had an equal chance of being realised in the flats of Essex or on the hills of Wales.

So far as my own experiments with Miss Samuels are concerned, I should declare unhesitatingly that there was no supernormal perception on her part, but I confess that when I came to read Mr Wales's long report, I felt curiously unable to make up my mind whether the most striking coincidences there recorded were genuine cases of telepathy or only very lucky hits. But in such cases as the "Hannah Blodgett" case of Mrs Piper and in many of my own experiences with Mrs Cooper, I have never entertained any serious doubt that the coincidences were due to something more than the blind play of chance.

My recent experience with the guessing capabilities of over 600 people for a period of over a year has only confirmed me in the view that the success of such mediums as Mrs Piper, Mrs Leonard, and Mrs Cooper, cannot, whatever else their explanation, be ascribed totally to chance.

I have found that the average guesser experimenting over many

¹ *Proceedings* (1907), xxi. 60-93 ; (1914), xxvii. 279-317.

² *Proceedings* (1920), xxxi. 124-217.

weeks under conditions which I shall presently describe, wins indeed a partial success at long intervals, but does not succeed in piling up one sharply defined success upon another.

But in the Wales-Samuels records, as in so much of the work in experimental telepathy with objects ill-adapted to statistical computation, there is a vague intangible quality about even the best hits. Many of the remarks of the percipient can indeed be made to apply to circumstances in the environment of the specified agent if a too rigid time limit is not imposed, but one feels that one could fit these same remarks to the day's experience of many another individual in the world. In short, one feels that the coincidences are not sufficiently detailed to produce a conviction that they are uniquely applicable to one set of circumstances and to no other. The same observation, of course, would apply to a fair amount of the material obtained at Mrs Leonard's sittings at which the time limit is often so wide as to be practically non-existent, but I feel certain that in a series of sittings like the Troubridge-Radcliffe-Hall series, the ensemble of statements furnished over the entire period would not be applicable to any other persons than the actual sitters or their immediate circle.

Experiments in telepathy at a distance in which the conditions are more rigid and sharply defined than those described in the Miles-Ramsden or Wales-Samuels reports have been recorded from time to time during the past twenty years. We have, for instance, the experiments of Usher and Burt¹ in 1907, in which an agent in Bristol attempted to transmit drawings and playing cards telepathically to a percipient in London at pre-arranged times. In a second series by the same authors the agent was in Prague and the percipient in London. The resemblance between the drawings of percipient and agent claimed by Messrs Usher and Burt as "successes" appears in my judgment to have been so occasional and so slight as to be practically non-existent. Thirty attempts were made to transmit the image of a playing card, and here the experimenters seem to have been more successful. I have scored the first 25 of these guesses on Fisher's system, and the mean score is 16·11, which gives a deviation from the theoretical mean (11·18) corresponding to $2\cdot46 \times$ standard deviation. Such a result might be expected to occur by chance about once in 33 such sets of 25 guesses. The result is suggestive, but of course inconclusive.

Of recent years various experiments of a similar kind have been carried out by individual members of M. René Warcollier's group for experimental telepathy, the agents and percipients being in

¹ *Annales des Sciences Psychiques* (1910), xx. 14-21, 40-53. One saving virtue of the work of Usher and Burt is the detailed description of every experiment. We are not given *snippets*.

different parts of France. A number of attempts at transmission of ideas and drawings from New York to Paris and *vice versa* were made in 1924 between an American group under the direction of Professor Gardner Murphy, and a French group under M. René Warcollier.

To form a critical estimate of either Warcollier's home experiments (carried out in Paris at the Institut International Métapsychique or elsewhere) or of his trans-Atlantic attempts, is extremely difficult for several reasons. M. Warcollier is an indefatigable experimenter, extremely ingenious in planning new experiments, and his enthusiasm has given a great stimulus to the study of telepathy on the Continent and in America. Moreover, he has brought considerable powers of introspection and psychological insight to bear on the interpretation of his results. But as M. Warcollier's methods and conclusions diverge very considerably from those of the present investigation, a few suggestions and friendly criticisms will not, I hope, be out of place.¹

In the first place it does not seem to me that M. Warcollier has paid quite sufficient attention to the work of demonstrating beyond cavil the basic fact of telepathy. He has perhaps been a little too occupied with the psychological mechanism of the process. His various reports consist largely of collections of favourable examples which seem to be expressly chosen to illustrate various aspects of the mechanism of transmission and reception. Some of these examples of telepathy are certainly striking, but I do not think their individual quality is sufficiently high to compel belief in their supernormal character. Although the subject matter chosen for transmission—consisting as it does of complicated sketches, grotesque combinations of objects, gestures, etc.—precludes a strict application of the laws of probability, yet I do not think this need prevent M. Warcollier from instituting a series of control experiments to test his fundamental hypothesis of telepathy.

A large number of drawings executed by his various agents and percipients might be copied on to similar slips of cardboard and these mixed in a bag. A committee could then draw out a considerable number of pairs or trios of sketches from the bag and adjudicate marks according to the amount of resemblance shown by each pair or group of sketches. Corresponding pairs or groups could then be chosen from Warcollier's actual experiments and scored in a similar way. This is, of course, merely intended as a very rough suggestion of the way in which a control might be organised.

Another suggestion I would make is that M. Warcollier should, in his reports, give us more information as to the exact conditions

¹ See also my letter in the *Journal S.P.R.* (1931), xxvii. 130-5.

under which each evening's work is carried out. I can perhaps best illustrate my meaning by an example. On p. 42 (Plate 1) of his *Conférence sur la Télépathie Expérimentale* (1926) M. Warcollier records that on 24 October 1925 M. De. drew a sketch resembling part of a flight of stairs, while on the same evening Mme M. drew an outline which bears a certain resemblance to the drawing of M. De. One would like to be told (*a*) whether the drawings were executed at the same time and, if not, what was the interval of time between them, (*b*) how many sketches were made by M. De. and Mme M. in the course of the evening, (*c*) if several sketches were made by one or both, what was the guiding principle of selection? It is, of course, certain that if vast numbers of experiments are made week after week and year after year, chance alone will produce coincidences of varying degrees of complexity, and a judicious selection of suitable cases could doubtless be made which would appear to illustrate a theory of telepathy previously held by the experimenter or even suggest to his mind a novel theory. But if these cases are not really cases of telepathy, what becomes of the theory?

Moreover, it appears to me that many of the psychological phenomena noted by M. Warcollier are quite consistent with other hypotheses than that of telepathy. When, for instance, two members of M. Warcollier's group draw sketches on the same evening which show a considerable degree of resemblance, this may be due to supernormal contagion it is true, but it may also be due to a variety of normal causes. It may be that these two persons had, in the morning, been both impressed by some striking advertisement in the same newspaper or on a hoarding. They would perhaps be entirely unable to recognise the common source of their inspiration when they came to make their drawings.

Speaking of his experiments carried out at the Institut Métapsychique, in which the agents and percipients were in different rooms, M. Warcollier states:¹ "At the beginning of our experiments we obtained only 6 per cent. of successes, then we passed to 25 per cent. and to 35 per cent., not absolute successes but relative ones supplying evidence sufficient to maintain scientific curiosity in us." We have, of course, no exact definition of the term "success" here, and we can only form a rough judgment from the specimens cited by the author in his various reports.

For instance, it is not clear whether M. Warcollier claims as a success a coincidence *not predetermined* by the experimenter. He certainly quotes many cases in which the percipient's impression does not correspond with the object selected by the agent but with some incident which happened in the agent's environment previous

¹Institut Métapsychique International, *Les Conférences en 1926*, p. 41.

to the experiment. Are these coincidences counted in the 35 per cent. of successes?

It would appear, in the large majority of cases, that the material for transmission is chosen by personal preference and not on a chance basis. That is, the objects are not chosen at random from a large collection of varied types but by individual caprice or as being suitable for testing a certain psychological theory. Now, may not the increase from 6 per cent. to 35 per cent. in the number of successes be due to the fact that the members of the little group are becoming familiar with one another's mental preferences? If *A* knows that *B* has a passion for drawing cats, he has more chance of making successful hits than *C* who is a stranger to *B*. Of course, if coincidences are admitted with events not predetermined by the experimenter, the scope of chance is indefinitely enlarged. It is as if a man, aiming at a target, missed, and then claimed that at least he had hit a neighbouring tree.

M. Warcollier tells us that his percipients are seldom very successful in guessing numbers, letters of the alphabet and playing cards. Now this is very disconcerting when we remember that many of the earlier experiments of the S.P.R. showed a good deal of apparent success with just such material. It may be, of course, as M. Warcollier suggests, that when the percipient is asked to guess a number, the conscious action of his mind and his predilections for particular numbers, inhibit the telepathic impression from emerging; but another explanation appears to be equally probable. Letters and numbers are perfectly clear cut and, as a rule, the alternative to success is absolute failure. But with concrete objects, pictures, etc., it is not so. Even when the percipient has not guessed the object chosen by the agent, it is often possible for the experimenter to claim a partial success on the grounds that there is some associative connection between the percipient's impression and the actual object. In cases where the association is obvious to everyone as, for instance (Agent: Australia—Percipient: Kangaroo) no one could object to the scoring of a success, but the association may be of a much vaguer sort, as for example (Agent: Cobra—Percipient: a Tropical Scene). If we admit such coincidences as the last, the scope of chance is, of course, much widened. And when we consider cases in which the associative link is obvious only to the percipient himself, we are on very precarious ground, as it is so easy to discover associations in one's own mind even between, apparently, incongruous ideas. If, as M. Warcollier seems to believe, telepathy often works by very obscure associations apparent only to the percipient himself, then it is difficult to see how science is going to deal with it objectively at all.

It is hoped that M. Warcollier will in the near future, while still

retaining the material which appears to yield him the most success, organise such a series of control experiments as will confirm or confute his fundamental hypothesis of telepathy.

The origin of the present experiments. The first use of wireless as an aid to the organisation of mass experiments in telepathy was made by Professor Gardner Murphy of Columbia University. Professor Murphy carried out on 3 March 1924 an experiment in which a group of forty agents operated from Chicago. The experiment appears to have been highly inconclusive, owing perhaps to the lack of control tests and statistical standards of comparison.

On 16 February 1927 the British Broadcasting Corporation kindly allowed the use of their organisation for the carrying out of an experiment in long-distance telepathy by the Society under the direction of Dr Woolley, Sir Oliver Lodge acting as announcer. In this experiment a small group of agents, one of whom was the writer, attempted to broadcast telepathic impressions of objects shown to them by Dr Woolley for a period of three minutes each. Replies from 24,659 listeners were received and examined by the Society. The impossibility of securing a second evening for the purpose of a control experiment caused the subsequent evaluation of the results to be somewhat inconclusive.

When, therefore, Dr Woolley suggested in July 1927 that I should carry out a series of further experiments with a batch of the apparently successful of the B.B.C. percipients, I readily agreed. In the second week of September 1927 a notice was drafted and sent out to some 150 persons who had scored partial successes¹ in the February experiment, asking them if they would be willing to devote half-an-hour each Wednesday evening in their own homes for at least three months to recording their impressions of objects which would be shown to a group of agents meeting each week at the Rooms of the Society. Each person who expressed willingness to co-operate, was on 30 September sent a copy of the general instructions which follow.

GENERAL INSTRUCTIONS

1. The experiments will take place each week on *Wednesday evening between 8.30 and 9 p.m.*, beginning on Wednesday, October 5th, 1927, this time suiting the majority of those who have consented to take part.

2. The attempts at transmission will in general be made from the Society's headquarters at 31 Tavistock Square, London, W.C. 1, but on certain evenings the agents may attempt to transmit from their own homes.

3. Three experiments will, as a rule, be attempted during the half-hour, ten minutes being devoted to each experiment.

¹For examples of these see Dr Woolley's paper in *Proceedings* (1928), xxxviii. 1-9.

4. On the day of the experiment, please see that your watch or timepiece is adjusted to Greenwich Mean Time. Whenever possible, this adjustment should be made by means of the wireless time-signal of the same day as the experiment.

5. You will probably find it advantageous to work in a darkened room, reclining comfortably on a couch or easy chair. In the past the best results would appear to have been obtained by using this method. Try to shut out all sense impressions from outside. This is best done by working in a quiet dark room. Having made yourself comfortable, endeavour to compose your mind to a state which resembles that immediately preceding sleep. Do not let your mind dwell on the events of the day, but try to keep it as passive as possible while holding fast to the simple idea that you are going to visualise something, or if you work by mental hearing, you will keep your mind awake only to the idea that you are going to hear something.

6. When you receive impressions that you feel to be telepathic, in order *not to disturb and break up your passive state*, you will find it best to call out your impressions *aloud to a friend who, sitting at a table with a torch and a watch, will note down each impression together with the exact time at which it occurs.*

7. All impressions whether of sight, hearing, smell, taste, touch, emotion, or mental pictures, should be noted together with the corresponding times.

8. At the end of the experiments copy your notes *on to a postcard if there is room for them.* Otherwise use a letter. *Underline those impressions which seem to you to be most telepathic.* *The postcard or letter should contain your full name and address, and should be witnessed by the friend who assisted you by making the notes.*

9. In general you will not be told what is the nature of the object or idea the agents are trying to transmit, *i.e.* whether it is a playing card, picture, etc. The reason for this is that it is not advisable for your imagination to be switched off on to any definite track.

In certain experiments, however, detailed instructions may have to be given, and you will be duly notified of these before the experiment.

10. If on the morning following the experiment you remember any striking or curious dream which you think may have a telepathic origin (a deferred or latent impression), the Society will be very grateful if you can kindly send them an account of it.

11. Please post your cards or letters (witnessed and bearing full name and address) to :

The Society for Psychical Research,
31 Tavistock Square,
London, W.C. 1.

Please mark the envelope or postcard—"Telepathy."

All letters and postcards should be posted if possible on the same evening as the experiment, or at latest should leave by the first post on the following morning.

We hope that you will not be discouraged by not hearing immediately the results of each experiment. By withholding the results until the end of a series it is hoped not to interfere with the experiment as a whole. Although it will not be advisable to post to you details of successes week by week, you will be furnished with a complete account of your impressions at the end of the series.

Statistics of percipients, October 1927-July 1928. Leaving aside 8 members of M. René Warcollier's group for experimental telepathy who joined the present experiment in February 1928, there were 127 persons who acted as percipients during the first year's work. Of these 127, 118 resided in England and Wales and the remaining nine were distributed as follows: five in Scotland and the Shetland Isles, three in Ireland, and one in Budapest (no. 45A). Only two of the 127 percipients (nos. 75 and 37) were personally acquainted with me in October 1927, but two others (nos. 13 and 36A) made my acquaintance during the year.

The first year's work extended over 36 weekly sessions, and the percipients may be classified as follows: four percipients took part in 30 or more weeks' work, 16 in 20 or more, 39 in 12 or more, 90 in four or more, and 37 in less than four weeks' work.

The personnel of the agents, 1927-1928. The first 22 sittings (5 October 1927-14 March 1928) were held at the Society's Rooms at 31 Tavistock Square. In addition to myself, the agents during the first 12 weeks (5 October-21 December 1927) were Mr and Mrs Fernald, Miss Hood, and Mr Odell, the last of whom joined the group on 2 November. All these ladies and gentlemen, with the exception of Mr Odell, had acted as agents on the occasion of the B.B.C. experiment of February 1927, and the best thanks of the Society are due to them for the large amount of time they gave up to the present experiment.

After December 1927 Mr and Mrs Fernald and Miss Hood were unfortunately unable to continue their valuable assistance owing to pressure of other work. Between 11 January and 1 February Miss Newton, Miss Carruthers, Col. Hayward, Mr Robertson, and a friend, very kindly stepped in to fill the gap, and the Society wishes to thank these for their kind interest in the experiment. Between 8 February and 4 July 1928 the work of transmission was carried out in the main by a new group consisting of Prof. and Mrs J. Mackenzie, Mr and Mrs Hughes, Mr Odell, and myself. On 21 March the place of transmission was, mainly for the convenience of Prof. and Mrs Mackenzie, transferred from 31 Tavistock Square to their house at 2 Adelaide Road, Chalk Farm, N.W. To

Prof. and Mrs Mackenzie the warmest thanks of the Society are due for their kindness in providing a home for the experiment for upwards of two years. Not only have Prof. and Mrs Maekenzie taken part regularly in the weekly transmissions; they have also on several occasions taken charge of the experiment on evenings when I was unavoidably absent. To Mr Odell, a Member of the Society, we owe a special debt of gratitude. This gentleman not only attended a large number of the 1927-1928 sittings but also assisted at the majority of the 1928-1929 meetings, from which he had to travel to his residence at Kingston-on-Thames at the late hour of 11 p.m.

In addition to the above-mentioned names, we would thank Mr Theodore Besterman for taking an active part in the sitting on 19 October 1927; Miss Wallae for attending a sitting on 18 January 1928; Miss Boueher James for attending sittings on 22 February 1928 and 7 March 1928; Miss B. J. King for attending a sitting on 4 July 1928; Mrs Lewis and Mrs Hall-Haines and her sister, who were present on 30 January 1929.

Psychic qualifications of the principal agents. In the opinion of many investigators it is not everyone who can act successfully as the agent in telepathic experiments. From the records of sittings with good mental percipients like Mrs Leonard it would certainly appear that the minds of some individuals are more easily "penetrated" by the medium than those of others. Certain persons seem to be given a very considerable amount of supernormal information at sittings while others come away from every sitting totally unconvinced that the medium has made any real contact with their present or past environments. In the opinion of Dr T. W. Mitchell it is those persons who possess a slight degree of mental dissociation that will be most accessible to penetration by a good percipient. Such persons are often those whose minds possess strong undercurrents of activity which are never consciously brought to bear upon the pressing needs of everyday life. People of this type often possess stores of useful mental goods which they are unable to bring at a moment's notice into the mental shop-window of consciousness. We all of course possess a vast number of mental impressions which at any given moment lie far beneath the threshold of consciousness. But in certain individuals this hidden material would appear to be more organised and active than in others. Not infrequently these mental streams cut off from the main river of conscious life find an outlet by means of automatic writing. Poems, literary compositions, answers to questions upon topics of interest, passages from books read in childhood, are written without hesitation by the subject whose conscious mind is only vaguely aware of the movements his hand is making.

It is most probably these mental undercurrents that are perceived by the trance consciousness of a psychic medium. If this theory is correct the people who are capable of producing automatisms ought to make the best agents in telepathic experiments.

It must be remembered, however, that mediums seldom seem to divine the thoughts that are in one's mind at the moment. They give us rather details of incidents which have impressed us in the past—most often in the recent past—but which are not occupying our thoughts at the precise hour when we visit the medium. I personally have found that it was difficult for a medium to give me a name when I was holding that name in my mind. A little later in the sitting when I was thinking of something else the name was given correctly. We ought therefore in telepathic experiments always to make allowance for the possibility that ideas may be capable of being transferred to a percipient only when they have ceased to occupy the conscious mind of the agent. In the present experiments, in cases where two or more objects were concentrated on during the same evening opportunity was given for the percipients to record impressions relating to object no. 1 in the interval when object no. 2 was being thought of by the agents.

We must now enquire whether or not there was any *a priori* reason to believe that the persons who acted as agents in the present series of experiments possessed any special qualifications for this rôle. The agents who took part regularly in the main experiment (1928-1929) were Prof. J. S. Mackenzie, Mrs Mackenzie, Mr Odell and myself. Prof. Mackenzie has informed me in writing that in the year 1925 he carried out ten or more experiments with a friend, Miss Fox, Prof. Mackenzie acting as agent. In all these experiments Miss Fox was the percipient and remained at Clifton (near Bristol). For approximately the first two-thirds of this series of ten experiments Prof. Mackenzie was at Brockweir near Tintern, and for the remaining experiments he was at Cambridge. As to the results of these experiments I will quote Prof. Mackenzie's own words from his letter to me (13 September 1931): "Undoubtedly the successes were much too detailed to be due to chance." Prof. Mackenzie, I should mention, is Emeritus Professor of Logic and Moral Philosophy in the University of South Wales. He was a Fellow of Trinity College, Cambridge, and is a distinguished writer on ethics and philosophy. In a book published within the last few months on *Cosmic Problems* he makes some reference to his psychic experiences. Prof. Mackenzie has only once consulted a (well-known) medium. Two intimate friends who have both been dead several years purported to communicate. "Their communications," says Prof. Mackenzie, "were very characteristic but comparatively trivial."

Mrs Mackenzie "considers that she has had some success with mediums, but thinks it best not to give names or particulars. She may be writing on the subject herself." As regards experiments in telepathy Mrs Mackenzie "has nothing to report." Mrs Mackenzie, I should add, is a distinguished educationalist and very well known. Though I am not at liberty to give any details of Mrs Mackenzie's experiences with mediums I may venture to say that a year or two ago she mentioned some incidents which impressed me very favourably.

I need hardly say that Prof. Mackenzie's judgment upon his experiments with Miss Fox, coming as it does from so cautious and critical a thinker, must be accorded great weight.

Miss Fox (Percipient no. 31A=622) took part in both the 1927-1928 experiments and in the 1928-1929 series. It will be seen by reference to Table I that no. 31A=622 did thirteen weeks' work in the session 1927-1928, scoring two successes—one on 8 February 1928 and the other on 16 May 1928. One of these successes is of the "previsional" type (16 May), and on this occasion Prof. Mackenzie was present as agent. On the other occasion (8 February) only Mrs Mackenzie was present. In the 1928-1929 series the percipient did only three weeks' work and did not score any success (score=0/180). She was at Bristol during these experiments and possibly her psychic powers were temporarily in abeyance.

I have known Mr Odell for several years. A man of scientific attainments and cautious critical habits of mind, he is keenly interested in psychical research. He informs me that he has never sat with a medium but that he has acted as agent sometimes in telepathic experiments. He has had one or two successes as agent but he does not consider these to be beyond what chance could have produced. He considers that he has no special psychic powers. Of this I am not able to judge, but I can say that his genial and sympathetic personality made him a most valuable asset at our weekly meetings. If Mr Odell was absent things never seemed quite the same.

Lastly there remains myself to account for. I am, I believe, the only one of the little group that has ever been afflicted with the mental distemper of automatism. I first discovered in the summer of 1923 that if I closed my eyes and concentrated hard upon some trivial formula of mathematics and then abandoned conscious control of my hand to a nervous impulse, I could produce coherent writing. This writing sometimes differed in character from my normal handwriting. It could only be produced, I found, while my mind was intensely distracted by hard conscious effort, and when I brought my mind back to what my hand was doing the writing would cease abruptly. There was never any real com-

pulsion to write, for I was able to stop whenever I wished. Moreover, I often found a very great difficulty in getting started. Almost invariably the writing took the form of literary composition, and essays, verses, etc., were produced. Many of these purported to emanate from deceased authors. I need only mention the "Oscar Wilde" scripts. I consider it in the highest degree probable that many of the facts contained in these writings could never have been normally known to me even after allowing for the omnivorous quality of my reading. Since December 1928 I have abandoned this strange form of amusement, especially as I became increasingly conscious that it was followed by lassitude and nervous irritation. I mention it here for the sole purpose of recording that to some slight extent at any rate I might be supposed to possess some of the characteristics of an "agent."

But in point of fact I may claim to have had a considerable amount of success with certain mediums, especially with Mrs Blanche Cooper and Mrs Leonard. Many readers will be familiar with the case of "John Ferguson" contained in my report on Mrs Cooper.¹ The most rational interpretation of this case is to be found in the hypothesis that the medium had during the sittings intermittent access to the subconscious levels of my mind. It is true that throughout my sittings with Mrs Cooper my right hand held one of the medium's hands; that is to say, there was contact. Nevertheless it would be a far-fetched explanation to suppose that complicated messages such as are recorded in my report could have been communicated to the medium involuntarily by the mere pressure of fingers and without any pre-arranged code.

Unconscious whispering on my part seems also a far-fetched assumption, and I doubt if the case of "Gordon Davis" could be satisfactorily accounted for without the hypothesis of clairvoyance. In the case of "John Ferguson" at least some form of telepathy from the subconscious levels of my own mind to those of Mrs Cooper seems the most rational supposition. Whether discarnate human beings played any part in the mechanism of this transfer I do not know. Nor do I feel competent to express an opinion on questions so vast and difficult. I will merely say that on occasions it certainly seemed as if I were an "agent" and Mrs Cooper had partial access to my memories. But it was hardly ever those thoughts that were in clear conscious focus at the moment which were picked up by the medium.

In sittings with Mrs Leonard, where there was no contact, I noted one or two cases in which telepathy from my mind to that of Mrs Leonard seemed on the whole the most probable explanation. One

¹ See my "A Report on some communications received through Mrs Blanche Cooper," *Proceedings* (1925), xxxv. 471-594.

such instance I have given in my Report on Mrs Cooper (p. 483). A name of a village which I had been discussing with Mr Davis in the train on the way to the sitting was given with approximate accuracy by Feda half-an-hour later. There was another incident of a similar nature given at my second Leonard sitting which would take too long to detail here.

Turning now to the principal agents in the preliminary (1927-1928) series, these were Mr C. B. Fernald, the dramatist, Mrs Fernald, Miss P. Hood, and myself. In a letter dated 18 September 1931, Mrs Fernald states that in her sittings with Mrs Leonard and Mrs Warren Elliott she was definitely given information that was supernormal and beyond chance. A case of apparent precognition obtained by Mrs Fernald at a Leonard sitting was published in *Proceedings* (xxxvi. 327-32). Mrs Fernald also states that both Mr Fernald and Miss Hood have had supernormal information given them at sittings with mediums. Mr and Mrs Fernald have practised a form of automatism in their own home, using a kind of ouija board with pointer and alphabet. At many of these sittings Miss Hood was present. Mrs Fernald found that with her hand resting on the slider she was able to cause the pointer to move by herself without assistance from the others. Mrs Fernald and Miss Hood with their hands on the slider were able to obtain messages. In the earlier attempts with the board it was thought that Mr Fernald was the prime agent in causing the pointer to move, but this view was modified when Mrs Fernald and Miss Hood obtained messages without his assistance. Mrs Fernald does not think that Miss Hood ever tried to work the pointer alone. I gather that the communications received through the board purported to be messages from deceased persons who were known to the sitters in life.

The additional agents. Besides the regular group a certain number of the 579 percipients were asked to play the part of transmitters each week in the 1928-1929 series of experiments. Between 5 December 1928 and 6 March 1929, between 20 and 30 such additional agents were employed each week for one ten-minute interval. On 20 March and 27 March the numbers of these additional agents were 43 and 68 respectively. As a rule the same 20-30 agents acted for three or four consecutive weeks, after which period a fresh batch of persons were asked to co-operate. Exceptions arose, however, through people unexpectedly dropping out or being unable to take part on account of other engagements. During the whole period 105 persons acted as additional agents. Of these 37 claimed to have had psychic experiences through their own faculties of perception. One or two claimed to have had successes in previous telepathic experiments in which

they had acted as agents, but in the vast majority of cases the experiences described were experiences of psychic perception.

The object on which these additional agents were asked to concentrate in their own homes was of course the same as that shown to the principal group at Adelaide Road. In all cases it consisted of a postcard inscribed with a picture, number, letter or playing card, which was enclosed in a sealed envelope. Whenever possible this envelope was despatched to reach the agent on the day of the experiment in which it was to be used.

Accompanying the sealed envelope were instructions to the effect that the envelope was to be kept in a safe place unopened till 10 p.m., when it was to be opened in the presence of a witness. (For a copy of these instructions see below, p. 289.) The envelope bearing the signature of the witness was to be returned to the Society.

The choice of the batch of additional agents each week was made by Miss Carruthers, subject to certain instructions from me. Our 579 percipients appeared to belong to very varied cultural types, and we had of course absolutely no reason to suppose that any individuals or class of individuals would prove untrustworthy. We knew practically nothing about the occupations, etc., of the majority of the percipients except what had been given us in their letters. But broadly speaking, with the very limited information at our disposal we were able to recognise two classes: (*a*) private individuals, and (*b*) persons known to be in positions of public trust. Class (*b*) consisted of medical men, clergymen, army officers, naval officers, J.P.'s, university professors and graduates, barristers, etc. Without intending the slightest reflection on any members of class (*a*) it will be admitted by all that there are no more trustworthy people in the world than our English public men of whom class (*b*) is a sample. I asked Miss Carruthers to make her first selection of agents as far as possible from class (*b*). But so far as our records went class (*b*) was a small one and comprised only some 30-40 persons at most. Moreover, all the people asked were unable to take part on certain evenings. It was therefore found necessary to ask a good many private individuals to assist us by acting as agents.

To any one individual percipient the vast majority of the remainder must have been utter strangers, the names and addresses of whom he or she could not know. But it not infrequently happened that even in the provinces two or more percipients lived within a few miles of one another. To avoid therefore any suspicion of accidental leakage Miss Carruthers was careful to choose the agents from districts in which they were well isolated from other people taking part in the experiment.

But actually there are not the slightest grounds for believing that any leakage resulted from the use of these additional agents. The object tables, etc., show no statistical superiority in the experiments where additional agents were used. Further, there are no cases of individuals producing brilliant successes in such experiments.

General Scope of the Experiments, 1927-1928

The main object of the 1927-1928 experiments was to make a preliminary survey of the ground before attempting a statistical investigation of the subject on a larger scale. The objects of experiment were seldom adapted to statistical computation but consisted largely of picturesque toys, working models, animals, flowers. Playing cards, numbers, geometrical drawings, were hardly ever used, since the small numbers of percipients (19-62) who took part each evening precluded any serious statistical analysis. It was hoped, moreover, that a greater degree of success might attend the employment of material that was amusing and exciting to the agents. Common everyday objects which could be named by a single word, such as cup, plate, fork, were as a rule avoided, and the objects chosen were for the most part familiar objects in unfamiliar associations that were not likely to be guessed by chance. An example is (XXVII, 2 May [C]) when a toy bear pushed a ball between its forepaws. There was, in fact, nearly always plenty of scope for complex attempts at delineation on the part of the percipients.

Three such objects, referred to as (A), (B) and (C), were as a rule gazed at by the agents for ten minutes each, between 8.30 and 9 p.m.

The percipients were generally given no indication whatever of the nature of the three objects to be guessed, but they each received by post (on the day of the experiment if possible) a copy of the following notice.

Wednesday [Date] 1928

Three different objects will be shown, one each from

8.30—8.40 p.m.

8.40—8.50 p.m.

8.50—9.0 p.m.

Please record all impressions.

(Sgd.) [V. J. WOOLLEY or S. G. SOAL].

On two occasions, 2 November 1927 and 26 October 1927, the whole half-hour was devoted by the agents to reading aloud an exciting or gruesome story. On these two occasions, the usual notice to percipients was varied to read: "Please record all impressions between 8.30 and 9 p.m."

There were also attempts to transmit the ideas of exciting modern poems on 30 November 1927 (C); 7 December 1927 (B); 25 January 1928 (C); 14 December 1927 (C).

Two attempts, 14 December 1927 (B); 7 December 1927 (A), were made to transmit the tingling sensation of a high-frequency current. These seem to have failed entirely.

Two attempts to transmit a strong odour, on 21 December 1927 (C) and 20 June 1928 (B), also failed.

In all these variations of the usual routine, the wording of the warning notice to percipients differed in no way from the usual wording when three ordinary objects were the subject of experiment. The objects used in the 1927-1928 experiments were purchased by myself at the most irregular times and in the most diverse parts of London and Southend. On some occasions the objects were bought on the afternoon of the day of experiment, in which case they remained in a locked attaché case which never left my sight till the hour of the experiment. But on several other occasions the objects were purchased by me three or four days previous to the day of the experiment, and after purchase they were carried home in my attaché case and there kept under lock and key till the following Wednesday, on which day they were carefully wrapped in paper, tied up with string and taken to town in my case. During the whole of the morning these parcels remained in the locked case, which was left on the staff-room table of East London College. For large objects a suit-case was used. Once having left East London College, the attaché or suit-case was never out of my observation, and the parcels remained unopened till the time of experiment.

In selecting the objects for experiment, I sought after variety, distinctness of detail, humorous or striking combinations that mere guess-work would seldom hit upon. In this, I certainly succeeded, as the list of objects will show. We have now to examine how far the percipients succeeded in divining the ideas I had chosen.

Summary of Results of Experiments, 1927-1928

Except in the case of perhaps half-a-dozen percipients in all, there was no link of acquaintance between the regular groups of agents and the 127 guessers living in all parts of the United Kingdom. The percipients were not even provided with a photograph of the agents and could be expected to know nothing at the commencement of the experiment except that a group of persons, of whom I was one, would try to transmit ideas from a definite place at a definite time.

At the end of the first twelve weeks' work, a typewritten copy of a report of the first term's work was sent to each percipient. In this report appeared the initials of the agents for each week, together

with a full description of the objects of experiment and the results obtained. A second and similar report on the next twelve weeks' work was sent to each percipient shortly after Easter 1928. No further reports were issued till this paper was read before the Society in October 1930.

The recording of the results. The letters from percipients which arrived at 31 Tavistock Square, were opened personally by me every Friday afternoon, and the impressions recorded by each percipient were copied on to a large card bearing his or her name, address and identification number. On these cards special columns were allotted to the recording of the date and, wherever possible, exact time of each impression. As a rule, whenever a percipient scored any measure of success, I addressed to him a personal letter asking for further details, without of course, giving him any clue to the actual subject chosen by the agents. I also made a point of enquiring whether or not anything had happened during the past day or two in the percipient's environment to suggest such and such an idea to him, or whether he was able to account in any normal way for getting the impression.

Statistics of Successful Hits, 1927-1928. It has been possible to list all the successful hits in Table I. A few words of explanation regarding this table are necessary. In the first column we have the percipient's identity number, and where this particular percipient took part in the second series (1928-1929) his new number (always between 600 and 700) is added thus: 3=604, for convenience of reference. In the second column is a fraction the numerator of which gives the number of successful hits and the denominator the number of weeks' work carried out by the percipient. Thus the fraction $\frac{3}{18}$ means that the percipient recorded impressions for 18 weeks and scored three successful hits. In the third column is given the date of the successful hit, and the object A, B or C to which it would appear to be relevant.

The last column shows the percipient's impression, and where possible, the interval A, B, C, in which the impression was recorded. Thus, if the two letters in the third and fourth columns are the same, A A or B B or C C, this implies that the percipient noted his impression during the same ten minutes as the object to which it relates was exhibited to the agents. C in the third column and B in the fourth column would imply that the successful hit was apparently of the nature of a "previsional" impression, while the order A-B indicates a deferred impression.

The letter N after an impression means that the percipient was able to account in a normal way for the emergence of the impression in his mind, while the letters N N indicate that he failed to find any obvious normal explanation.

Table I is of course to be read in conjunction with the list of objects (1927-1928) to which the corresponding references are attached. Percipients who did not score a single successful hit are omitted entirely from Table I.

Excluding for the moment the few percipients of M. René Warcollier's group who joined the experiment in February 1928, we have 127 percipients in all. Of these: (a) 75 failed to obtain a single successful hit; (b) 26 obtained one successful hit only; (c) 20 obtained two successful hits; (d) four obtained three successful hits; (e) two obtained four successful hits.

Of group (a) 10 had taken part in 12 or more weeks' work; 43 had taken part in four or more weeks' work, and 32 had taken part in less than four weeks' work. Of group (b) three had taken part in 20 or more weeks' work and eight had taken part in 12 or more weeks' work. Only one had taken part in less than four weeks' work. Of group (c) five had taken part in 20 or more weeks' work and eight in 12 or more weeks' work. The four percipients in group (d) had all done 18 or more weeks' work. The two percipients in group (e) had done 24 and 30 weeks' work respectively.

The quality of the impressions. About the vast majority of these impressions there is seldom anything so detailed as forcibly to convince the reader that the percipient has really "seen" the object on which the agents were concentrating. A simple object is sometimes named correctly, but the really important details are almost invariably lacking. Perhaps the most interesting case is that of no. 72. He wins only two successes, but he scores these two hits in only four weeks' work, and both are rather remarkable coincidences. The detailed description of the saucer and pipe (23 November 1927 [C]) used for blowing bubbles and the mention of the "Claw-like hands" on 2 November 1927, if mere guesses, are very extraordinary ones. It is unfortunate that this percipient (from Barnsley) was unable to continue with the experiments.

The impressions of no. 3=604 are also rather striking. This percipient, who obtained three interesting hits in 18 weeks' work, did not, however, justify his promise in the second year's work, in which his percentage score was 7.1 per cent., this being quite an average one.

Coincidence in time. Among the successful hits given in Table I there are 65 cases in which the coincidence or non-coincidence in time between the exposure of the object to the agents and the percipient's guess, is more or less definitely ascertainable—that is, cases in which we are able to say with fair certainty whether or not the percipient recorded his impression in the ten minutes A, B or C during which the object was being concentrated on. Of these 65 cases, there are 33 cases of coincidence (*i.e.* AA, BB or CC). By

chance we might expect about $\frac{1}{3} \times 65 = 22$ such coincidences. This result is slightly favourable to the existence of an extra chance influence, but it is scarcely to be stressed.¹

M. René Warcollier's group. At my invitation, M. René Warcollier in February 1928 very kindly arranged for his group for the study of experimental telepathy to take part in the Wednesday experiments, commencing on 15 February 1928. The same weekly notice was sent to M. Warcollier as to the British percipients; eight members of his group acted as percipients in the Wednesday experiments, sometimes meeting at the Institut Métapsychique in Paris to record their impressions. Unfortunately, with the exception of one member, Mme de Z., Wednesday proved to be an inconvenient evening for the members of the group, and a special experiment had to be arranged for Saturday afternoons, in place of the Wednesday experiment. I do not propose in this paper to give any account of these Saturday experiments. Possibly a separate report may be written on these experiments. In the present report I shall confine myself to the few experiments which the members were able to undertake on Wednesday evenings. I shall refer to M. Warcollier's percipients only by their initials.

These follow, with the number of weeks' work done by them in the session of 1927-1928 shown in brackets: Mlle L. (3), Mme C. (2), Mlle T. (1), M. R. W. (4), M. B. (1), M. J. B. (6), M. de S. (4), Mme de Z. (12). The only remarkable series of successful hits in the Wednesday experiments was obtained by Mme de Z., an automatic writer, who in 12 weekly experiments scored five hits, which were fairly interesting (see Table I).

During the second session (1928-1929) the Warcollier percipients continued with the Saturday afternoon experiments, but were generally unable to take part in the Wednesday evening work. It is, therefore, impossible to make any serious comparison between the results obtained by this group, and those of the English percipients.

Coincidences between percipients' impressions. It frequently happened that two percipients living widely apart recorded similar impressions at approximately the same time, though these impressions appeared to be in no way related to the object chosen by the agents. I give a few of the more interesting examples from the 1927-1928 experiments.

(a) 1 February 1928.

No. 88 (8.40-8.50): "A Japanese woman reclining and holding up an umbrella."

¹ See, however, p. 238 below, where the same problem is discussed on a larger scale.

No. 89 (8.50) : " Japanese umbrella."

(This is the kind of case which can possibly be disregarded, since no. 88 and no. 89 were in the same room.)

(b) 8 February 1928.

No. 45A (Budapest) : " Bunch of beautiful Red flowers."

No. 48 (England) : " Bunch of Red flowers."

(Here the percipients are remotely separated, but the common impression is, after all, a very ordinary one.)

In the following instances, the correspondences, though not particularly complex, are much more out of the way.

(c) 25 January 1928.

No. 34 (8.40 p.m., Sevenoaks, Kent) : " Messenger with wand, perhaps *Hermes*."

No. 92 (8.54 p.m., Basingstoke, Hants.) : " Shoulder of sculpture bust, male head. Idea of *Hermes* of Praxiteles."

No. 34 in a letter (13 February) said that shortly before 25 January he was revising the proofs of an article for a new dictionary, in which proof there was a short notice of the word Caduceus, and it was the wand or Caduceus that suggested *Hermes*. No. 92 in a letter (18 February) said that it was the visual idea of an antique piece of sculpture that caused him to get the *literary* idea of *Hermes* as being most in keeping. He is familiar with many of the antique torsos, having drawn them a lot thirty years ago.

(d) 15 February 1928.

No. 76 (8.53-9.0 p.m., Northwich, Cheshire) : " A gipsy woman."

No. 65 (8.30 p.m., Birmingham) : " Impression of Gipsy."

(e) 9 May 1928.

No. 52 (8.30-8.40 p.m., London, S.E.) : " Impressions connected with being at a great height ; probably on a mountain or in a plane."

No. 71 (8.55 p.m., Coventry) : " Champagne, country field view as from an aeroplane and sense of great height."

(f) 25 April 1928.

No. 20 (8.30-8.40 p.m., London, W. 13) : " *Thinking of Moses in the burning bush ; perhaps bush fire intended.*"

No. 14B (8.30-8.40 p.m., London, W. 8) : " A burning torch—which afterwards changed into something *writhing round a stick, perhaps remembrance of some Biblical picture.*" [See *Exodus*, iii, v.]

(g) 8 February 1928.

No. 32 (8.30-8.45, Southsea, Hants.) : " Impression of English Kings being mentioned, particularly Henry VIII."

No. 89 (8.50-9.0 p.m., London, N. 8): "Picture of King Henry VIII."

(h) 28 March 1928.

No. 20 (8.52 p.m., London, W. 13): "Very large *sunflower* with usual black centre."

No. 53 (8.50-9.0 p.m., London, N.W. 5): "Spidery thing like a *sunflower* of the single variety."

(i) 11 January 1928.

No. 14A (No time, Leamington Spa): "A straight road on a moor."

No. 28 (No time, Nuneaton): "Sensation of rushing along a perfectly straight road."

(j) 7 December 1927.

No. 57 (8.50-9.0 p.m., Chelsea, London): "Smallish house in country with two trees and a high brick wall."

No. 93 (8.50-9.0 p.m., London, S.W. 1): "Walled garden of an old red brick house."

(k) 9 November 1927.

No. 4 (Weston-super-Mare, 8.40 p.m.): "Felt restless. Could only think of a woman. She seemed to be moving silently, dressed in white, somewhat ghastly."

No. 39 (8.43 p.m., Catterick, Yorks.): "Woman dressed in white flowing robe. Walking against a dark background."

A few other similar examples could be cited, but these will suffice. It will be noticed that the coincidence in time is not always even approximately exact. If we found the same pairs of percipients recording week after week, impressions of the degree of similitude represented by say, examples (e), (i), (j), (k), we might reasonably conclude that such a pair of percipients were subject to some common influence (e.g. reading the same weekly story magazine on the day of the experiment) or that they were in some sort of mental communication, either normal or supernormal. But while we find that two or three pairs of such coincidences occurred almost every week, they did not occur between the same pairs of percipients. But even if the same pair of percipients were found to record similar impressions at about the same time, we should find it almost impossible to prove that the cause of the coincidence was not some common influence which operated at about the same time on both percipients. In a civilised modern community thousands read the same newspapers evening after evening, listen to the same programme on the radio, take in the same magazine, etc. M. René Warcollier claims to have established the phenomenon of "mental

contagion" between percipients. In my opinion, he has not sufficiently taken into account the influences of common environment, common mental habits, and the universal power of suggestion of the modern newspaper and the modern advertisement. In Part II of my report, I shall return to this possibility of "mental contagion" among percipients, treating it from rather a different standpoint.

The Dictionary control. Noting the tendency of pairs of percipients to record similar impressions, such as "sunflower," "caterpillar," etc., I was curious to try an experiment with the dictionary, in which the percipients should be asked to pick out a concrete word at random. To this effect, I issued to percipients in February 1928 the following notice:

Long-Distance Telepathy

Each week *after* you have recorded your usual impressions, will you kindly carry out the following little experiment. Take an English Dictionary and, closing your eyes, open it at random, striking the page anywhere with a pencil. Note the *name* of an *object* nearest to the word on which your pencil falls. DO THIS AS MANY TIMES AS THE NUMBER OF IMPRESSIONS YOU HAVE RECORDED. Add these names at the end of your list of impressions each week, noting them thus:

Control: Squirrel, river, building, table.

Ignore abstract names such as "kindness," "intelligence," etc., choosing each time the nearest *concrete* object.

On no account perform this test until the telepathy experiment is finished, i.e. until after 9 p.m.

S. G. SOAL.

It was a fortnight later (29 February) explained to percipients that an impression such as "white elephant" would require two control words instead of one, as it comprised two distinct ideas.

A list of the "control" words obtained from all the percipients was made each week, and the pairs of percipients who selected the same word or synonymous or closely associated words, were noted and the number of such coincidences counted each week. Using an Ogilvie and Annandale's English Dictionary it was found that if the dictionary is divided into three equal parts, about 50 per cent. of the words chosen each week were taken from the middle third (beginning of E to PO) of the book, while the remaining 50 per cent. were about equally divided between the other two-thirds of the dictionary. As the number of concrete names in any ordinary dictionary must considerably exceed the number of concrete words used in ordinary life by the average person, one might expect that chance coincidences between pairs of percipients during the actual telepathy experiment would be far more frequent than the coincidences obtained by means of the dictionary.

It was found as a matter of fact, that the coincidences due to the dictionary were usually far in excess of those noted during the actual experiment, but it must be remembered that the two experiments are not precisely comparable. Two percipients giving the word "white" in the dictionary control, would register a coincidence, whereas, in the actual experiment two percipients who obtained the respective impressions "white sea" and "white paper" could hardly be considered to score a coincidence. The Dictionary Control, therefore, is clearly of very limited application, but the following examples will show that simple "single word" coincidences such as "gypsy," "sunflower," occur quite as frequently in the case of the dictionary as in the actual experiment.

29 February 1928. Number of percipients, 34. Number of words chosen from dictionary, 153.

Coincidences among control words. No. 4, Romaneer; no. 88, Romance. No. 53, Lord; no. 53A, God. No. 10, Polygraph; no. 57, Pantograph. No. 62, Pot; no. 33, Jar; no. 50, Pitcher. No. 52, Paeker; no. 88, Unpacker. No. 45, Mediator; no. 19, Christ.

Coincidences among percipients' impressions. Nil.

7 March 1928. Number of percipients, 30. Number of words chosen from dictionary, 129.

Coincidences among control words. No. 14A, Encinte; no. 60, Pregnancy. No. 31A, Jib; no. 50, Jib-boom. No. 33, Ulcer; no. 50, Carbunelle. No. 51, Wretch; no. 57, Wretch.

Coincidences between percipients' impressions. No. 64 (8.40), A Rainbow; no. 14A (8.35), Rainbow Colours.

A remarkable success by the dictionary. On one occasion (22 February, Expt. XIX) a curious "double" success was scored by the dictionary. We recall that on this particular evening, the objects of experiment were (A) Artificial Dragon Fly, (B) Toy Snake, and (C) Firework Lights in the darkness. There were 42 percipients, including seven of M. Warcollier's group, and the total number of control words was 170.

The results of the "Control" were: (A) No word applicable; (B) Adder (M. J. B.); (B) Serpent (M. de S.); (C) Lights (M. de S.). The two words "Serpent" and "Lights" followed each other in order. On this evening, the dictionary more than equalled the joint efforts of the 42 percipients, there being only one snake mentioned altogether (cp. Table I: 30 = 189, 65 = 601, 76 = 666).

Impressions relating to the environment of the agents, but not to the actual objects of experiment. It very occasionally happened that a percipient recorded an impression which, though not applicable to the subject of experiment, was yet related to something which occurred in the *séance*-room during the experiments. As I have explained in the Introduction to this paper, little importance can

be attached to such incidents, unless the coincidence shows an almost photographic accuracy of detail.

The following is the *best* incident of this kind, but I am not convinced by it. On 2 November 1927, percipient no. 20, noted (no exact time), "Something being lighted that would give a bad smell. A dazzling light. A bad smell again; perhaps an explosion. A hissing or gas-escaping sound." Mrs Fernald, one of the agents, wrote the following note two days after the experiment: "Between 7 and 8 p.m. J. H. F. [*i.e.* Mrs Fernald] twice let the gas escape while making coffee. The second time the tap was turned on for several minutes before the gas was discovered to be unlighted, and filling the room. We all exclaimed, 'there might have been an explosion.'"

During the same evening (2 November 1927) percipient no. 87 records, "A bunch of violets—a bowl of water." Mrs Fernald again adds the following note: "Miss Hood had put a bunch of violets in water in the bowl of the wash-hand stand, where they remained from 7-9 p.m. The wash-hand stand was just outside the door of the room in which we were sitting for the experiment." I can corroborate seeing the bunch of violets, which struck me as a fine bunch.

Case of apparent anticipation of the experimenter's intentions. The following curious coincidence is worthy of note.

On 5 October 1927, the first evening of the experiments, a toy rabbit was shown to the agents during the third interval (8.50-9.0 p.m.). On Tuesday, 4 October, I had bought some concentrated sulphuric acid and potassium chlorate from the chemist in Prittlewell, Essex. My intention was to make preparations for a little chemical experiment to startle the agents during the last ten minutes of the half-hour. On the morning of 5 October, I carried to town in my attaché case, a small bottle of sulphuric acid, a glass rod and a packet containing a mixture of sugar and potassium chlorate. I was intending to make a small white pyramid of this mixture and to place it on a tray in the *séance*-room. While the agents were watching, I would suddenly let fall a single drop of the concentrated acid on to the mixture from the end of the glass rod. There would have been a spluttering, crackling conflagration, rising almost to the ceiling, and acrid fumes of chlorine peroxide would fill the room as well as smoke. About midday on the day of the experiment, 5 October, however, I decided that the smoke might damage the ceiling, and that the project must be abandoned. I therefore purchased the toy rabbit, which ultimately formed the subject of experiment in the third interval.

No. 28 noted on 5 October (8.50-9.0 p.m.): "Something crackling or spluttering as water dropped on to acid. Irritating fumes. Idea

of Ammonia." In a letter dated 27 November no. 28 wrote: "I can safely say that I had been engaged in no experiments of a chemical nature for at least four years—that is, since I left school. As it happens I have absolutely nothing to do with chemistry either in my daily occupation or in my hobby—wireless. . . . The impression was the most sudden and unexpected of any I have as yet received. I can distinctly remember it occurring. Nothing was further from my thoughts at the commencement of the test." No. 28 continued with the experiments for eleven weeks, but obtained only one other success. He did not take part in the 1928-1929 series.

*List of Objects used in the Experiment, 1927-1928*¹

I. 5 October 1927; 58 percipients took part; agents: Mr and Mrs Fernald, Miss P. Hood and S. G. S.

A. 8.30-8.40 p.m.: The agents looked at a large quantity of the scarlet berries and foliage of the wild guelder rose (*Viburnum opulus*). See Table I, no. 19.

B. 8.40-8.50 p.m.: A bright horseshoe. See Table I, nos. 65=661, 76=666.

C. 8.50-9.0 p.m.: A large toy rabbit with long ears, brilliant scarlet back and white woolly breast. See Table I, nos. 13, 23, 71=664.

II. 12 October 1927; 62 percipients; agents: same as in I.

A notice had been sent to the percipients to the effect that for all three objects the agents would attempt to transmit the name of a town or village.

A. 8.30-8.40 p.m.: Attempt to transmit the name Hornchurch, a village in Essex. I produced a tasselled horn and blew blasts on it, and then drew a church on a sheet of paper.² See Table I, no. 26=165.

B. 8.40-8.50 p.m.: Attempt to transmit the word Dartmouth. I used a small feather dart like a little arrow and sketched a mouth. See Table I, no. 54.

C. 8.50-9.0 p.m.: I showed in rapid succession the names

¹ Except when stated otherwise experiments I-XXII were conducted from 31 Tavistock Square, XXIII-XXXVI from 2 Adelaide Road.

² Although no percipient obtained an impression of a horn on 12 October when the word Hornchurch was visualised, it is curious that on the following week, 19 October (control) three percipients out of the total 57 obtained impressions of a horn. These impressions are as follows: no. 65 (8.30), "A horn and sounds and sights of hunting"; no. 61 (8.54), "A small horn . . . with fancy cord"; no. 50 (8.50), "A voice kept saying . . . Horne or Haurne." None of the three were able to account normally for their impressions.

Ramsgate, Brackenburg, Bath, Saltash, Maidstone, Barmouth, Barrow, Thornbury, Manningtree, Hatfield, each name being written on a strip of cardboard. Each name was exposed to view for about fifteen seconds and the agents were asked to visualise the objects suggested by the names but to make no attempt to hold the names in their minds longer than the fifteen seconds. See Table I, no. 52 = 650.

III. 19 October 1927 (control experiment); 57 percipients.

This was the only control experiment in the present series. The usual notice had been sent out to the percipients. The agents, however, did not meet, but I was present at an S.P.R. *Conversazione* on this evening held at 31 Tavistock Square. At 9.30 p.m. I asked Miss Ina Jephson in the presence of Miss Newton to think of three objects and to label them A, B, C. The three objects chosen were: (A) An open book, (B) A globe of the world, (C) A red lacquered Box.

Fifty-seven percipients sent in records of their impressions. If we apply the percipients' impressions to the three objects suggested by Miss Jephson we have to note the following partial successes:

(A) No. 79 (8.50-9.0 p.m.): "An open book." Five other percipients mentioned books of various kinds.

(B) No. 53 (8.40) saw "a small globe, greeny blue, on ring or stand." No. 92 also mentioned a globe.

(C) No. 83 (No time) saw "a black and gold *lacquered* box." Eight other percipients mentioned or described boxes of various kinds, but unlacquered.

At 9.28 a.m. on the following morning Mr F. T. Cooper of East London College in the presence of Mr W. F. S. Churchill and myself at my request suggested three objects.

He thought of in order: (A) A waste-paper basket, drawing special attention to the wickerwork, (B) A *red* triangle (as a red motor sign), (C) A motor lamp.

Applying this control to the percipient's impressions obtained on the previous evening we may note the following successes:

(A) No. 28 (8.30 p.m.): "A needlework basket. Could smell the wickerwork."

(B) No. 45 (8.40-8.50): "Triangle."

(C) Nil.

I have recorded this experiment but it is of no real importance. Probably a sounder procedure would be to choose the three "control" objects at random from a dictionary. This was actually done two days later at the S.P.R. rooms. Miss Newton and I took an English dictionary and closing our eyes chose a word by opening the dictionary at random and striking a page with a pencil. The

nearest *concrete* word to the spot struck by the pencil point was chosen. This was repeated three times by Miss Newton and myself taking turns with the pencil. The three words chosen were: (A) Glove, (B) Lizard, (C) Barometer. Applied to the percipients' impressions for 19 October there would be no success with these three objects. Applied to the results sent in on 9 November there would have been one success, since no. 5 records (8.40-8.50) "Lizard or similar reptile."

IV. 26 October 1927; 51 percipients; agents: Mrs F., Miss H., Mr B., S. G. S.

The following notice had previously been sent to each percipient: "Please record all impressions between 8.30 and 9.0 p.m."

8.30-9.4 p.m.: Mr B. read aloud a story by Wilkie Collins entitled "A terribly strange Bed." It is a story of a young man who narrowly escapes death from suffocation by a mattress which, worked by a press in the room above, descends from the ceiling on to his bed. The scene is a Paris gaming house. The thrilling moments of the story were reached between 8.50 and 8.55 p.m. See Table I, nos. 3=604, 9, 10=610, 40=634, 53=652, 55.

V. 2 November 1927; 46 percipients; agents: Mr and Mrs F., Miss H., Mr O., S. G. S.

The following notice had previously been sent to each percipient: "Please record all impressions between 8.30 and 9 p.m."

8.30-9.10 p.m.: Mr O. read H. G. Wells's "The strange Story of Mr Evesham." This is a rather weird story in which a decrepit old man gains possession of the body of a young man and transfers his own memories to it. On p. 37 occur the words, "Gripping my hand with his long bony claw that was disengaged."¹ On p. 40, "I gripped his shrivelled claw." See Table I, nos. 7=607, 13, 50, 72, 92=686.

VI. 9 November 1927; 46 percipients.

As two of the agents had stated on 2 November that they would be prevented from coming to Tavistock Square on 9 November, I suggested that all should remain at home and think of the Moon and its associations in literature, between 8.30 and 9.0 p.m. During this time on 9 November, I was in a train and called to mind various quotations from Chesterton, Wilde, Lindsay Vachell, J. C. Squire, and others, in which the Moon was the object of simile. See Table I, no. 9.²

¹ See Table I, percipient no. 72, 2 November 1927.

² This percipient wrote: "The first and firmest impression was that the agents were either transmitting from their own homes [true, see above], or very indifferent or not up to the usual standard of concentration. For ten

VII. 16 November 1927; 35 percipients; agents: Miss N. and Mr O.

Percipients had been asked, "Please record all impressions between 8.30 and 9.0 p.m."

A. 8.30-8.40 p.m.: The agents looked at a photograph of the Venus de Milo. The agents spoke of the outline of the figure and were impressed by the effect of white statuary on a dark background. They also mentioned Paris. See Table I, no. 35.¹

B. 8.40-8.50 p.m.: The agents tried to transmit the idea of a jungle, which they thought of as thick, hot, stifling, dark, silent till sunset when it awoke into life. Columns of trees meeting overhead, shutting out the light. A tiger, silent with glowing eyes. See Table I, no. 35.¹

C. 8.50-9.0 p.m.: The figures 26 written in white chalk on a blackboard. *No success.*

VIII. 23 November 1927; 45 percipients; agents: Mrs F., Mr O., and S. G. S.

A. 8.30-8.40 p.m.: A toy jumping frog, worked by an air bulb at the end of a tube let into the frog's back. The frog was painted a bright green, with yellow stripes, and black spots and brilliant golden eyes. I made it hop along the floor. *No success.*²

B. 8.40-8.50 p.m.: A small toy brown camel, with a blue nose. I mentioned that the camel was "Ship of the desert" and an ugly-tempered beast. See Table I, nos. 33=625, 89.

C. 8.50-9.15 p.m.: At about 7.30 in the evening, I had made some soap solution in a basin from a special preparation bought at Gamage's, for bubble blowing. With two small trumpet-shaped tubes of white wood I blew large soap bubbles from 8.50-9.15 p.m., letting the bubbles sink gently to the floor and bounce on the carpet. The company remarked on the beautiful iridescence of the bubbles and also on the reflections of the electric lights in them. See Table I, nos. 72, 87=676.

minutes I was unable to gather any definite impression at all. I felt that the object of concentration was no common or material object. If I gathered rightly it was *something stupendous, subtle, vast in extent*. Perhaps an invisible element. Something *astronomical*, universal, international or a phase of history. I was led step by step to Rome or Greece, the object being something pertaining to Art and Literature—too difficult or subtle for me to express."

¹ This is one of the very rare cases (almost the only one in the 1927-1928 series) in which a percipient obtains impressions which apply to two of the three objects shown to the agents.

² Curiously enough, a fortnight later, on 7 December, no. 23 (a medical man) records, "... toys including a jumping frog." No. 23 was unable to account normally for the impression, but suggested that about a month ago (his letter is dated 21 December) he might have seen a jumping frog in one of Gamage's Christmas catalogues. There is no mention of any kind of frog in the 1927-1928 series by any other sitter.

IX. 30 November 1927 ; 44 percipients ; agents : Mrs F., Miss H., Mr O., and S. G. S.

A. 8.30-8.40 p.m. : An artificial rose-coloured starfish with frosted spines and a small picture of a woman's head at its gilded centre. *No success.*

B. 8.40-8.50 p.m. : A toy " skipping girl " with yellow metal hair and yellow feet, dressed in flowered muslin. When wound up with a small key the girl skipped rapidly on the floor with a rope, and turned slowly round, often falling over. *No success.*¹

C. 8.50-8.55 p.m. : I read aloud Ralph Hodgson's poem " The Bull," which tells the story of an old bull, abandoned by the herd he led, and left to die in the forest. *No success.*

X. 7 December 1927 ; 46 percipients ; agents : Mr and Mrs F., Miss H., Mr O., and S. G. S.

A. 8.30-8.37 p.m. : I connected up with a dry battery a small green shocking coil and let the agents hold hands and experience the sensation of the high frequency current. *No success.*

B. 8.37-8.52 p.m. : I read aloud to the company Martin Armstrong's poem " Miss Thompson goes shopping," from the red volume of Georgian poetry. *No success.*

C. At 8.52 p.m., having no other object to show, I asked the agents to suggest something. Miss H. suggested that we should each take off a boot and lay it on the hearth. This we did in imagination only. *No success.*

XI. 14 December 1927 ; 40 percipients ; agents : Mrs F. and S. G. S.

A. 8.30-8.40 p.m. : A mechanical toy windmill with red sails on a green pillar. A little toy miller climbed the pillar while working his arms and legs, and on reaching the door of the mill, promptly descended with a sack of flour on his head. I made him climb up and down several times. *No success.*

B. 8.40-8.45 p.m. : Mrs F. and S. G. S. experienced the high frequency current in hands and wrists. *No success.*

C. 8.45-8.48 p.m. : I read aloud J. C. Squire's poem " Meditation in Lamplight," describing the varieties of horrible deaths a man may die. There are mentions of lions, sharks, strychnine, the rack, falling over cliff, etc., in the poem. *No success.*

XII. 21 December 1927 ; 35 percipients ; agent : S. G. S.

A. 8.30-8.40 p.m. : I wore a conical Pierrot's cap with yellow

¹ Although no success was obtained by any percipient for object B on this date it is curious that a fortnight later, 14 December, no. 6 recorded the impression " A child skipping with a rope in brilliant light." No. 6 was unable to account normally for this impression.

fringe and dotted all over with red, white and blue diamond patterns. See Table I, nos. 75=665, 95.

B. 8.40-8.50 p.m. : A small toy railway signal complete with lever and real toy lamp. See Table I, no. 59=656.

C. 8.50-9.0 p.m. : I put out the lights in the room and smelled two square pieces of camphor for ten minutes.

Immediately after the experiment had concluded at 9 p.m., I wrote a description of the objects of transmission and placed it in an envelope which was addressed to Miss Newton and placed in the Society's letter box. *No success.*

XIII. 11 January, 1928 ; 43 percipients ; agents : Mr R., Mr S., and S. G. S.

A. 8.30-8.40 p.m. : I asked the agents to visualise from memory a mushroom. The pink gills, the satin skin, and the white stalk were recalled. Horse-mushrooms "as large as dinner plates" and young "button" mushrooms were mentioned. *No success.*

B. 8.40-8.50 p.m. : The agents were asked to visualise the figure of Father Time as an old bearded man, mowing down ranks of men with his scythe. The drawings of Father Time in Eno's Fruit Salts advertisements were also mentioned. See Table I, nos. 51=649A, 64=660.

C. 8.50-9.0 p.m. : I read aloud from *Georgian Poetry*, Edmund Blunden's poem, "The Giant Puffball," in which is told the story of an ambitious puffball that wanted to go on growing till it touched the sky, but which was uprooted and left to perish. *No success.*¹

XIV. 18 January 1928 ; 40 percipients ; agents : Mr R., Mr S., Miss W., Miss N., and S. G. S.

A. 8.30-8.40 p.m. : I asked the agents to visualise the Bible story of David slaying the giant Goliath. I also read aloud Robert Graves's poem, "Goliath and David." *No success.*

B. 8.40-8.50 p.m. : Mr S. read aloud the Norwegian story of "The Smith who could not get into Hell." In this story, a smith made a certain pact with the Devil, who used to come to visit him in his smithy with the object of taking him back with him to Hell. The smith, however, outwits the Devil every time and gives him so much trouble that in the end the Devil bolts and bars Hell against the smith in case he should get in and create a disturbance. *No success.*

C. 8.50-9.0 p.m. I asked the agents to visualise a mason's trowel, a sketch of which was drawn roughly on a piece of paper. There was some conversation on the subject of bricklaying. *No success.*

¹ No. 61 (8.40½ p.m.) saw "A metal coffee pot which had a wooden handle and a white knob on the lid." This description very accurately fitted the coffee pot that was in the room during the experiment.

XV. 25 January 1928; 43 percipients; agents: Mr R., Mr S., Miss N., and S. G. S.

A. 8.30-8.40 p.m.: I showed a model of an icosahedron in amber-coloured glass. The icosahedron, it will be remembered, is a regular solid figure, each of whose 20 faces is an equilateral triangle. It has 12 corners, the space at each corner being filled up with the angles of five equilateral triangles whose bases form a regular *pentagon*. There are 12 such *pentagons*, and I pointed out these 12 pentagons and 20 equilateral triangles as the predominant geometrical figures associated with the icosahedron. See Table I, nos. 34, 95.

B. 8.40-8.50 p.m.: I supplied each agent with a picture postcard photograph of the statue of a nude Amazon woman seated on horseback with an axe in her hand. The statuary was white on a black background. The agents remarked that the horse's neck seemed too straight and long—too much like that of a giraffe. See Table I, no. 45A.

C. 8.50-9.0 p.m.: Mr S. read aloud the first three-quarters of Wilfrid Gibson's poem, "Bloodybush Edge," which depicts a chance meeting between a tramp and a local poacher on a wild and desolate moor in the borderland between England and Scotland. The poem contains a good deal about ghosts. See Table I, nos. 28, 37.

XVI. 1 February 1928; 33 percipients; agents: Miss C., Col. H., Miss N., and S. G. S.

A. 8.26-8.40 p.m.: The lights were switched off, and at Miss N.'s suggestion we told creepy stories in turn. Miss N. began by imagining banshees and their wailings outside, trying to get in at the window. I described an imaginary experience of being shut up all night in a tiger's cage. I also described imaginary experiences of being lost in the catacombs. Col. H. described dreams of being pursued through passages by enemies. See Table I, nos. 5=605, 50, 53A, 92=686.

B, C. 8.40-9.0 p.m.: The agents watched Miss Newton make coffee in an apparatus like a glass retort, surmounted by a receptacle that contained the coffee. They watched the water boil above the flame of a small glass spirit lamp and rise up the tube into the coffee container. See Table I, no. 24.

XVII. 8 February 1928; 35 percipients; agents: Mrs M. and S. G. S.

A. 8.30-8.40 p.m.: I exhibited a dark blue toy policeman with ginger hair and enormous white-gloved hand in the attitude of holding up the traffic. This large white right hand could be made to move up and down. Mrs M. and I pictured ourselves in a bus

waiting impatiently for the policeman's signal to release the traffic. See Table I, nos. 24, 31A=622, 55A.¹

B. 8.40-8.50 p.m. : I showed a postcard of a golden eagle (Zoo series). We remarked that the eagle was the symbol of the West. We also mentioned the Roman eagle and the eagle in the heavens as well as the Austrian and German eagles. Allusion was made to the exploits of the eagle as a bird of prey. See Table I, no. 30=189.

C. 8.50-9.0 p.m. : I showed a postcard of two tortoises (Zoo series) with their necks protruding from their shells. The fable of the hare and tortoise was mentioned and remarks were made on the long lives of tortoises and on the tortoise as a useful garden pet. *No success.*

XVIII. 15 February 1928; 34 percipients; and in addition 5 members of M. Warcollier's group; agents: Mrs M. and S. G. S.

On this date the improved dictionary control first came into operation.

A. 8.30-8.40 p.m. : I showed a small "weather bird" whose body was made out of a fir cone. It was painted a slatey blue and had a whitish breast, black yellow-rimmed eyes and a small red top-knot. The two feet, which stood very close together were large and webbed. See Table I, M. J. B.

B. 8.40-8.50 p.m. : A small toy sign-post painted white and standing on a patch of green sward. Its two arms bore the directions Norwich to Yarmouth, and Norwich to Ipswich. We mentioned the "open road" and George Borrow's feats as a pedestrian. *No success.*

C. 8.50-9.0 p.m. : A toy acrobat who performed on a wire trapeze, describing somersaults and swinging his legs and body in the most realistic manner. The model was provided with a piece of elastic, which, when twisted up and released, provided the energy of motion. Some time before the experiment and earlier in the evening, I broke the elastic by winding it up too tight, and had to procure a fresh strip. See Table I, nos. 50, 52=650, 53=652.²

¹ In a letter (14 February 1928) no. 24 writes, "The hand I saw was rather small and delicately made and this made me think it might be a woman's hand." These additional details somewhat diminish the value of the coincidence. No. 55A wrote (17 February), "I felt the waiting was for some kind of race or competition." This information again diminishes the value of the coincidence. We may note that on three succeeding weeks, 7, 14, 21 March, there are solitary references to a moving hand.

² It is interesting to note that in the following week, 22 February, M. J. B. (Paris) notes, "A semicircle of metal turning very quickly, which appears as a sphere on account of its rapid movement. An impression of dancing in the air, lifting in turn my left leg and my right leg." On the same evening Mlle L. (Paris) records, "Looping the loop." Both the impressions of M. J. B. and Mlle L. would apply very well to the experiment of 15 February (C).

XIX. 22 February 1928; 35 percipients, and in addition 7 members of M. Warcollier's group; agents: Prof. and Mrs M., Mr and Mrs H., Miss B. J., S. G. S.

A. 8.30-8.40 p.m.: An artificial dragon fly poised on outspread wings on a copper wire above a bunch of imitation green leaves. We noted the brilliant rainbow colours and veins on the wings and also the long slender iridescent body. I mentioned that the dragon fly was first a caddis worm, living in a house of sticks. *No success.*

B. 8.40-8.50 p.m.: A toy snake made from pieces of wood jointed together with a tape running through them. The snake was painted green and black and yellow, and could be made to wriggle in a realistic manner by holding its tail and working its joints. It had a red open mouth, no fangs, and small white glass eyes. Sensations of horror were induced in one or two of the ladies present by the life-like movements of the snake. *See Table I, nos. 30=189, 65=661.*

C. 8.50-9.0 p.m.: I switched off the lights and applied a match to some firework sticks which, held in the hand, emitted showers of silver stars and sparks. *See Table I, no. 76=666.*

XX. 29 February 1928; 34 percipients, and in addition five members of M. Warcollier's group; agents: Prof. and Mrs M., Mrs H., and myself.

A notice had been sent out to the percipients reading as follows: "Please record all impressions between 8.30 and 9 p.m."

The agents met at 8.15 p.m. at 31 Tavistock Square, and then took a taxi to the Royalty Theatre, where we saw a play "The Crooked Billet," from seats in the upper circle. The play began at 8.45 p.m. and as soon as the curtain was up, a well-dressed man crept down some stairs into the common room of an inn, where a rough-looking man stood in his shirt-sleeves. The first man closed with the ruffian and knocked him down with a candlestick, but the fallen man whipped out a pistol and fired on the first man, who fell apparently dead. Another man entered the room from the door leading to the stairs and with the assistance of the assassin, carried away the shot man's body through the door. It turned out later that the man shot was a retired Scotland Yard official who was engaged in tracking a gang of criminals. I left the theatre at 9.15 p.m., but the other agents remained. The shot was fired at 8.46 p.m. *See Table I, nos. 4, 48A=647.*¹

¹ The impression of 48A is an interesting revelation of the way in which a pseudo-success may result through the agents choosing a subject which happens to coincide with a mental hobby of some particular percipient. We find that no. 48A has a penchant for impressions relating to crime. Thus: 14 March, "Munsden Mystery quickly solved in an unusual manner"; 28 March, "Scotland Yard official overcoming an attack by a lunatic"; 2 May, "Attempt to burn down a large public building. Reds at work but prevented"; 16 May, "Mr Lloyd George having to struggle out of danger."

XXI. 7 March 1928 ; 30 percipients, including 1 member of M. Warcollier's group ; agents : Prof. and Mrs M., Mr O., Mr and Mrs H., Miss B. J., and S. G. S.

A. 8.30-8.40 p.m. : A postcard of a zebra (Zoo series). *No success.*

B. 8.40-8.50 p.m. : A grey rubber elephant with tusks and a red cloth on its back. The elephant could be inflated by blowing down its trunk. Mr H. made a sketch of it. *See Table I, no. 63.*

C. 8.50-9.0 p.m. : A small toy clockwork car on three wheels. In the car was seated a Japanese lady holding a fan, while behind her stood a man with a large umbrella, on the top of which was painted a map of the arctic regions. When wound up the car described circles on the floor, the top of the sunshade or umbrella revolving at the same time. *No success.*

XXII. 14 March 1928 ; 32 percipients, and in addition 3 members of M. Warcollier's group ; agents: Mrs M., Miss B. J., Mr O., and S. G. S.

A photo of the Warcollier group was shown for the first time to the agents.

A. 8.30-8.40 p.m. : A postcard of a peacock with spread tail. This was drawn by all the agents. *See Table I, nos. 26=165, 57, 52A, 71=664.*

B. 8.40-8.50 p.m. : Each agent smelled a ball of naphthaline. There was mention of naphtha soap and moths. *See Table I, no. 50.¹*

C. 8.50-9.0 p.m. : I exhibited a small toy man with a clown's face. When wound up, the figure drew his bow across the strings of a large fiddle or 'cello, producing a phrase of six or seven notes. At each motion of the bow across the fiddle, the man jerked out his tongue and drew it in again. *No success.²*

¹ We must note that no. 50 obtained impressions of odours on ten other occasions and that none of these impressions had any relation to any odour arising in the *séance*-room. Moreover on the one other occasion (21 December 1927) when the odour of camphor was the object of experiment, no. 50 failed to get any impression of odour. The percipient did not take part on 20 June (Ammonia).

² Although no success was obtained with this object on this date a remarkable success was obtained in a Saturday experiment with the same object by M. R. Warcollier. I quote this success because although strictly outside the scope of the present report it is perhaps the most curious success in the whole of the experiments. The object described in C above was the subject of an experiment with the Warcollier group on 10 March 1928, 3.30-3.40 p.m. Full details of the object were posted to Miss Newton immediately after the conclusion of the concentration from my own home, the sole agent being myself, though other members of the family were present. There were only two percipients. M. Warcollier (Paris) records 3.30-3.40 p.m., 10 March : "Face with mobile grinning features, winking eyes, mouth open, putting out its tongue from moment to moment. Movement in jerks." The impression is correct in three important particulars : (1) The grinning features (suggesting a clown's face) ; (2) The putting out of the tongue ; (3) The movement of the tongue by jerks.

XXIII. 21 March 1928; 28 percipients, and in addition five members of M. Wareollier's group; agents: Prof. and Mrs M., Mr O. (after 8.40 p.m.), and S. G. S.

A. 8.30-8.40 p.m.: A large coloured tortoiseshell butterfly poised on a wire with wings outspread above a group of artificial leaves. There were five spear-head leaves and three water-lily leaves, together with a wax yellow water-lily and bud. The wings of the butterfly had dark green tips, and the insect had two glinting gold eyes. *See Table I, Mme de Z.*

B. 8.40-8.50 p.m.: A eemie cloth "Judy" with a rubber face and wearing black spectacles. By inserting one's thumb and little finger inside the hands of the figure she could be made to move her arms, nod her head and make grimacing faces. *See Table I, no. 60=657.*

C. 8.50-9.0 p.m.: A small toy porter who, when wound up, walked along the floor pushing before him a barrow on which was a yellow trunk. The porter wore a red cap. The natural walking motion of the legs was very striking. *No success.*

XXIV. 28 March 1928; 27 percipients, and in addition two members of M. Wareollier's group; agents: Prof. and Mrs M., Mr O., and S. G. S.

A. 8.30-8.40 p.m.: A small tennis racket with paper-covered handle to represent oak grain. A small ball, half orange, half green with a belt of red. Attention was concentrated on the meshwork of the tennis racket. *See Table I, Mme de Z.*

B. 8.40-8.50 p.m.: A toy man with a chicken's head and wide gaping tawny bill. The figure wore a yellow coat and blue trousers and carried a drum on which it played a tattoo with two green drum-sticks when wound up. On its back it carried a kind of fish-basket. The figure had broad black iron feet. *No success.*

C. 8.50-9.0 p.m.: A toy man with a red peaked hat, green coat and yellow trousers, driving a pair of dogs. When wound up the team ran across the floor on four wheels and the dogs' bodies plunged backwards and forwards in a realistic manner, the toy man holding the reins. *No success.*

XXV. 18 April 1928; 21 percipients; agents: Prof. and Mrs M.

The subjects of experiment were chosen on the spot by Prof. and Mrs M. The Wareollier group photograph was looked at by the agents.

A. 8.30-8.40 p.m.: A black and white kitten played with a cotton reel at the end of a string. *See Table I, no. 86=675.¹*

¹This example of a "double" success is somewhat discounted by the percipient's statement that on the morning of 18 April she had received a circular relating to the East.

B. 8.40-8.50 p.m. : A West Indian fan made from a palm leaf and about four feet high. *See* Table I, no. 86=675.¹

C. 8.50-9.0 p.m. : An Indian temple bell which was rung at intervals. *No success.*

XXVI. 25 April 1928 ; 16 percipients ; agents : Prof. and Mrs M., and S. G. S.

A. 8.30-8.40 p.m. : I showed sprays of artificial oak-leaves coloured green, red, brown, yellow and splashed with autumn tints. *See* Table I, no. 32=624.

B. 8.40-8.50 p.m. : A small pair of toy scales, each scale pan being carried by three small chains. There was a drawer for weights. *See* Table I, no. 53=652.

C. 8.50-9.0 p.m. : I made a buff-coloured clockwork hen run across the floor. As it ran on wheels it flapped its wings, sometimes falling over. *No success.*

XXVII. 2 May 1928 ; 24 percipients ; agents : Prof. and Mrs M. and S. G. S.

A. 8.30-8.40 p.m. : I exhibited a grey plaster ass scated. Part of its neck consisted of a spiral spring so that the head could be made to twist and waggle. The ass showed the whites of its eyes and looked very ugly. Mrs M.'s cat smelled it and played with it. *See* Table I, no. 89.

B. 8.40-8.50 p.m. : A toy figure with only one leg, which was a wooden one. The figure had two heads, one a clown's head with chalky white face and red spots and red cap on it, the other a coffee-coloured negro's head. By pulling a string which passed up the wooden leg, the two heads could be made to alternate, one head being hidden under a blue cloth, while the other was in view. *See* Table I, no. 86=675.²

C. 8.50-9.0 p.m. : A toy brown bear with soft fur. The bear held a pink ball meshed in white worsted thread between its front paws. By means of an airball attached to a tube let into the bear's back, the creature could be made to hop along the table pushing the ball before it. Mrs M.'s cat got very excited, and having decided the animal was not to be feared, struck it repeatedly with her paws, trying to grab its fur in her teeth. A stick of incense was burned by Prof. M. *See* Table I, Mme de Z.

XXVIII. 9 May 1928 ; 16 percipients ; agents : Prof. and Mrs M., Mr O., and S. G. S.

A. 8.30-8.40 p.m. : A small Union Jack about 1' by 1' 6". Men-

¹ See footnote, p. 200.

² During the sitting (B) Mrs M. had compared the figure with two heads to a "Jack in the Box."

tion of American children having lessons on "the flag." *No success.*

B. 8.40-8.50 p.m. : A small windmill on a stick ; the sails were dyed feathers, yellow, blue, and scarlet. The windmill was fixed on a pin and was made to revolve by blowing edgeways on the feathers. *See Table I, no. 60=657.*

C. 8.50-9.0 p.m. : A rose-scarlet and cream-coloured paper Joekey's Cap, the flap being half red and half cream ; the divisions being separated by thin gilt borders. A gilt paper badge on the front showed a horse's head inside a horseshoe. There was a small cream button on the cap. *See Table I, no. 79=669.*

XXIX. 16 May 1928 ; 20 percipients ; agents : Prof. and Mrs M., Mr O., and S. G. S.

A. 8.30-8.40 p.m. : I wore a mortar board hat. Mention of academie costumes, colour of hoods, etc. *See Table I, no. 5=605.*

B. 8.40-8.50 p.m. : A small toy roundabout with three small aeroplane boats which swung outwards from the vertical when a little lever was pressed. The boats revolved at a great speed. There was a central red pillar and each boat was supported by a copper wire from a sky-blue revolving roof. *See Table I, Mme de Z.*

C. 8.50-9.0 p.m. : A toy contortionist with a Roman helmet and two chocolate-coloured clubs in his hands and dressed in blue and white muslin and yellow trousers. When wound up the man turned somersaults and wriggled his body on the floor. *See Table I, no. 31A=622.*

XXX. 23 May 1928 ; 36 percipients ; agents : Prof. and Mrs M., Mr O.

A. 8.30-8.40 p.m. : A peacock and small peahen embroidered on a large greyish square of silk. The peacock had a blue neck and in its tail were yellow eyes dotted with blue. *See Table I, nos. 48A=634, 92=686.*

B. 8.40-8.50 p.m. : A pack of Tarot cards. Agents played at gypsy fortune telling. Mr O. drew the King of Wands. *See Table I, nos. 3=604, 7, 59, 96.*

C. 8.50-9.0 p.m. : A seamless unpainted wooden boat from Japan (a cochin boat for running through the surf). *See Table I, no. 51=649A.*

XXXI. 30 May 1928 ; 21 percipients ; agents : Prof. and Mrs M., Mr O., and S. G. S.

A. 8.30-8.40 p.m. : A cardboard disc of $5\frac{1}{2}$ " radius, divided into eight equal sectors by radii from the centre. The sectors were coloured red, white and green. *No success.*

B. 8.40-8.50 p.m. : A square piece of white cardboard 9" side

with a blue circle in the centre $2\frac{1}{4}$ " radius. At each corner of the square a triangle was marked off and coloured red so that the white portion was a regular octagon with a blue circle in the centre. *No success.*

C. 8.50-9.0 p.m. : A circular disc of cardboard of $5\frac{1}{2}$ " radius divided into concentric rings coloured violet, black and red starting from the innermost annulus ; an orange spot was left in the centre. *See Table I, nos. 1B, Mme de Z.*

XXXII. 6 June 1928 ; 19 percipients ; agents : Prof. and Mrs M., Mr O., and S. G. S.

A. 8.30-8.40 p.m. : A small kidney-shaped Ceylonese fan made of palm fibre. *See Table I, nos. 3=604, 5=605, 34c=628.*

B. 8.40-8.50 p.m. : A red wire model of a cone. *See Table I, Mme de Z.*

C. 8.50-9.0 p.m. : A black wooden cylinder with a square prism penetrating it, the axes of the two solids being at right angles. *No success.*

XXXIII. 13 June 1928 ; 20 percipients ; agents : Prof. and Mrs M., and sister, Mr O., and S. G. S.

A. 8.30-8.40 p.m. : A rectangular strip of white cardboard coloured and notched at the end to represent the arm of a railway signal. *No success.*¹

B. 8.40-8.50 p.m. : A postcard of the "Alpha" Novelty series showing two white mice with red pieces of coloured glass for eyes and white tails of spiral wire, which quivered when the card was held in the end. I showed also a grey-black rubber mouse. *No success.*

C. 8.50-9.0 p.m. : Each agent looked at a postcard of a group of statuary representing Laocoon and his two sons wrestling with the serpent. The statuary was white on a black background. It was remarked that the boys were disproportionately small, compared with the giant Laocoon, and that the serpent was a very involved and complicated creature. *No success.*

XXXIV. 20 June 1928 ; 19 percipients ; agents : Prof. and Mrs M., Mr O., and S. G. S.

A. 8.30-8.40 p.m. : A postcard of the statue of Peter Pan in Kensington Gardens ; mention that Peter Pan would never need to pass examinations as he did not grow up. *No success.*

B. 8.40-8.50 p.m. : The agents sniffed some strong ammonia solution poured into a saucer. *No success.*

C. 8.50-9.0 p.m. : A large yellow wax candle was lighted. The

¹ Percipient no. 13 performed the experiments this evening while under the influence of the drug mescal, but obtained no success.

stem of the candle had ornamental helical grooves cut in it. Mention of black interference phenomena in experiment with candle flame. *No success.*

XXXV. 27 June 1928; 12 percipients; agents: Prof. and Mrs M. The objects were chosen by Prof. and Mrs M. on the spur of the moment.

A. 8.30-8.40 p.m.: A bowl of roses. *See* Table I, no. 5=605.

B. 8.40-8.50 p.m.: A tiny black kitten placed in a basket. *See* Table I, No. 33=625.

C. 8.50-9.0 p.m.: A letter weight. Various objects were weighed, including the kitten. *No success.*

XXXVI. 4 July 1928; 11 percipients; agents: Prof. and Mrs M., Miss K. and S. G. S.

A. 8.30-8.40 p.m.: A small toy windmill with four red sails striped with black. *No success.*

B. 8.40-8.50 p.m.: A small mechanical pecking bird with green breast, black head and orange back. When wound up with a key the bird moved about and pecked. *No success.*

C. 8.50-9.0 p.m.: A wooden model of a Swiss chalet. Stones on the roof. Mention of the snow being eight feet deep in winter round the chalet. *See* Table I, no. 62.

TABLE I

To be read in conjunction with the references in List of Objects,
1927-1928 (see above, pp. 190-204).

| Identity Number of Per- cipient. | Number of Successes over Number of weeks' work. | Date and Order of Expt. (A, B, C). | Perceptants' impression and the period (A, B, C) in which it was noted. |
|-------------------------------------|---|---|---|
| 1B | $\frac{2}{2}$ | 2 May (A) | (A) "An animal's head of a dirty greyish cream colour. Should say a ram with curled horns ringed round with alternate light and dark rings, deeply corrugated in fact." |
| | | 30 May (C) | (No time) "A large round thing very deep orange or flame colour." |
| 3=604 | $\frac{3}{18}$ | 26 Oct. (A) | "Possessed sensation of someone choking and gasping for breath." |
| | | 23 May (B) | 8.50 (B) "Gipsy rang in my ears. Drawn to their column in daily paper. The 'Vagabond King.'" |
| | | 6 June (A) | 8.41 (B) "Felt drawn to mystic east and felt beneficial effects of palm heat." |
| 4 | $\frac{1}{18}$ | 29 Feb. | 8.45. "A sensation of something about to happen. I thought of a noise as an <i>explosion</i> ." |
| 5=605 | $\frac{4}{36}$ | 1 Feb. (A) | (No time) "Scene of man on rack in dungeon." |
| | | 16 May (A) | (post) "A large black clerical hat." |
| | | 6 June (A) | (A) "Black and blue colours merging into shape of fans." |
| | | 27 June (A) | (A) "A bunch of yellow flowers in large black jar." |
| 7=607 | $\frac{2}{9}$ | 2 Nov. | (A) "Someone reading a story." |
| | | 23 May (C) | (A) "Possibly the sail of a boat." |
| 9 | $\frac{2}{12}$ | 26 Oct. | (No time) "Emotion of impending tragedy as of something terrible going to happen." |
| | | 9 Nov. | Impression that agents were transmitting from their own house—Impression of Astronomy—of Art and literature. (See p. 192 above, footnote.) |
| 10=610 | $\frac{1}{18}$ | 26 Oct. | (A) General idea of sudden terror. |
| 13 | $\frac{2}{12}$ | 5 Oct. (C) | (B, C) "Amusement. Something connected with a rabbit. Possibly a rabbit glove." |

(See p. 203
above, footnote.)

TABLE I (continued)

| Identity Number of Per- cipient. | Number of Successes over Number of weeks' work. | Date and Order of Expt. (A, B, C). | Percipient's impression and the period (A, B, C) in which it was noted. |
|-------------------------------------|---|---|--|
| | | 2 Nov. | (B) "Continuous droning noise as of reading aloud." |
| 19 | $\frac{1}{2}$ | 5 Oct. (A) | (A) "Large bouquet of foliage." |
| 23 | $\frac{1}{11}$ | 5 Oct. (C) | (C) "A rabbit sitting on the grass by its burrow." |
| 24 | $\frac{2}{16}$ | 1 Feb. (B, C) | (A) "A spirit lamp with small flickering flame." [NN] |
| | | 8 Feb. (A) | (A) "A right hand that keeps moving backwards and forwards and from side to side." (See page 197 above, footnote.) |
| 26 = 165 | | 12 Oct. (A) | (A) "A church on a hill." |
| | $\frac{2}{25}$ | 14 Mar. (A) | (B, C) "A bird. Peacock." |
| 28 | $\frac{1}{11}$ | 25 Jan. (C) | (C) Suggestion of a "Ghost." |
| 30 = 189 | $\frac{2}{11}$ | 8 Feb. (B) | (C) Little grotesque figure with long beak. |
| | | 22 Feb. (B) | (No time) "Sense of Fear." |
| 31A = 622 | $\frac{2}{13}$ | 8 Feb. (A) | (C) "Someone has turned quickly to face me and is holding up one hand with thumb out of sight." |
| | | 16 May (C) | (A) "See people sitting round a table watching with amusement a man winding up something." |
| 32 = 624 | $\frac{1}{34}$ | 25 April (A) | (B) "Artificial flowers placed in centre of room." |
| 33 = 625 | $\frac{2}{6}$ | 23 Nov. (B) | (C) "A sandy desert." |
| | | 27 June (B) | (C) "Teddy Bear—lying down as a cat." |
| 34 | $\frac{1}{8}$ | 25 Jan. (A) | (No time) "A golden ball with projections." Also a drawing of a star-shaped figure with five triangles and regular pentagon in centre with circle inscribed. |
| 34C = 628 | $\frac{1}{6}$ | 6 June (A) | (B) "A large fern or young palms." |
| 35 | $\frac{2}{4}$ | 16 Nov. (A) | (A) "A slight impression of a bust of a man wearing a laurel crown in the Roman fashion. I shut my eyes and the statue was gone.—Then came a jumbled impression of savages but I had been reading Beebe's Pleasant Jungles." (See p. 193 above, footnote.) |
| | | 16 Nov. (B) | |

TABLE I (continued)

| Identity Number of Percipient. | Number of Successes over Number of weeks' work. | Date and Order of Expt. (A, B, C). | Percipients' impression and the period (A, B, C) in which it was noted. |
|--------------------------------|---|------------------------------------|--|
| 37 | $\frac{1}{7}$ | 25 Jan. (C) | (No time) "No impression except <i>moors</i> and by association <i>Othello</i> . But it was <i>Moorland</i> I got and not the <i>Othello</i> sort. It is a <i>Wuthering Heights</i> sort of night here." |
| 40 = 634 | $\frac{1}{12}$ | 26 Oct. | (A) "Idea of sudden terror." |
| 45A | $\frac{1}{10}$ | 25 Jan. (B) | (B) "A beautiful horse galloping." |
| 48A = 647 | | 29 Feb. | (B) "Scotland Yard officers great discovery near Cheapside." (<i>See p. 198 above, footnote.</i>) |
| | $\frac{2}{12}$ | 23 May (A) | (A) "A gentleman seemed to be holding up what looked like a peacock." |
| 50 | $\frac{4}{24}$ | 1 Feb. (A) | (B) "A strong suggestion of threatened danger." (C) "Revolver; fear amounting to terror grips me." |
| | | 15 Feb. (C) | (C) "Something in the hand of a man being hurled round. Elastic or some object made of rubber." |
| | | 2 Nov. | (A) "Thought of a book being read." |
| | | 14 Mar. (B) | (B) "A very good impression of soap bringing with it most peculiar chemical smells." (<i>See p. 199 above, footnote.</i>) |
| 51 = 649A | $\frac{2}{12}$ | 11 Jan. (B) | (A) "The words <i>Time and Tide</i> ." |
| | | 23 May (C) | (A) "A wooden <i>Norwegian Boat</i> ." |
| 52 = 650 | $\frac{2}{21}$ | 12 Oct. (C) | (C) Word " <i>Nutfield</i> ." |
| | | 15 Feb. (C) | (B) "Impressions connected with a <i>Circus</i> ." |
| 52A | $\frac{1}{19}$ | 14 Mar. (A) | 8.40-8.50 (B) "Impression of a bird beautifully coloured and with rich plumage." |
| 53 = 652 | $\frac{3}{20}$ | 26 Oct. | (No time) "Someone (a man ?) reading aloud." |
| | | 15 Feb. (C) | (B) "The word <i>Rubber</i> ." Drawing <i>like</i> piece of twisted elastic. |
| | | 25 April (B) | (B) "Balances swinging." |
| 53A | $\frac{1}{9}$ | 1 Feb. (A) | (B) "Several people being entertained by man telling an amusing story." |

TABLE I (continued)

| Identity Number of Per- cipient. | Number of Successes over Number of weeks' work. | Date and Order of Expt. (A, B, C). | Perceipient's impression and the period (A, B, C) in which it was noted. |
|-------------------------------------|---|---|---|
| 54 | $\frac{1}{11}$ | 12 Oct. (B) | (B) "An arrow." |
| 55 | $\frac{1}{7}$ | 26 Oct. | (No time) "I heard a slight noise of machinery moving over me high up." |
| 55A | $\frac{1}{10}$ | 8 Feb. (A) | (A) "A sense of <i>waiting, expectation</i> and then <i>release</i> at a <i>given signal</i> —Sense of <i>smartness Red Coat?</i> — <i>Black busby.</i> " (See p. 197 above, footnote.) |
| 57 | $\frac{1}{30}$ | 14 Mar. (A) | (C) "Something like a <i>peacock's tail</i> or a bouquet of coloured rock-ets." |
| 59 = 656 | $\frac{2}{8}$ | 21 Dec. (B) | (No time) "A <i>warning</i> : Look out." |
| | | 23 May (B) | (A) Mention of a steamer. |
| 60 = 657 | $\frac{2}{4}$ | 21 Mar. (B) | 8.50 (B) "Grotesque female figure similar to those in a pantomime or the carnival at Nice." |
| | | 9 May (B) | (C) "A moorland road—In far distance a hazy mass resembling a <i>windmill.</i> " |
| 62 | $\frac{1}{18}$ | 4 July (C) | (C) "Steep incline; snow or sand." |
| 63 | $\frac{1}{18}$ | 7 Mar. (B) | (A) "A vague visual impression of an <i>elephant.</i> " |
| 64 = 660 | $\frac{1}{3}$ | 11 Jan. (B) | (B) "Someone tapping or beating <i>time.</i> " |
| 65 = 661 | $\frac{2}{4}$ | 5 Oct. (B) | (B, C) "A galloping horse." |
| | | 22 Feb. (B) | (B) "A <i>serpent</i> and feeling of fear." |
| 71 = 664 | $\frac{2}{4}$ | 5 Oct. (C) | (C) "A <i>rabbit</i> brownish in colour and appearance—came quite close." |
| | | 14 Mar. (A) | 8.40 (B) Impression of a bird with gay colours and grotesque appearance. |
| 72 ¹ | $\frac{2}{4}$ | 2 Nov. | (C) "Person seated reaching out with <i>elaw-like</i> hands and drawing something towards him." |

¹The two impressions (2, 23 November) obtained by this percipient (Barnsley, Yorks) are perhaps the most remarkable of the whole of the present series. With regard to 23 November (C) the description is extremely suggestive of my gestures in blowing the bubbles (cf. p. 193). The pipe was certainly "held like a pen" and my head was constantly being turned to the right in order to disengage the bubble. The soap solution used, however, was in a white basin and not a coloured saucer. The impression of the percipient clearly preceded the actual experiment by several minutes. I had, however, rehearsed the performance at 7.30 in the evening when alone in the Tavistock Square *séance*-room with locked doors (the room has no windows). No. 72, perhaps the most successful of all the percipients, did only four weeks' work and did not take part in the 1928-1929 series.

TABLE I (continued)

| Identity Number of Per- cipient. | Number of Successes over Number of weeks' work. | Date and Order of Expt. (A, B, C). | Per- cipient's impression and the period (A, B, C) in which it was noted. |
|-------------------------------------|---|---|---|
| | $\frac{2}{4}$ | 23 Nov. (C) | (A) "A coloured saucer with liquid in it and a man standing by with pipe in right hand, held like a pen; bowl nearest body and he keeps turning his head to the right as if he were talking about the saucer and its contents." |
| 75 = 665 | $\frac{1}{10}$ | 21 Dec. (A) | (B) "A dunce's cap. A fool's cap. Figure of a jester." |
| 76 = 666 | $\frac{2}{20}$ | 5 Oct. (B) | (C) " <i>A horseshoe.</i> " [N, N] |
| | | 22 Feb. (C) | (C) "Silver star, black ground." |
| 79 = 699 | $\frac{1}{15}$ | 9 May (C) | (C) "Horses running in a race." |
| 86 = 675 | $\frac{3}{25}$ | 18 April (A) | (C) "Scenes of cats' faces." |
| | | (B) | (C) "Either a talk or thoughts of an Eastern scene." (<i>See p. 200 above, footnote.</i>) [N] |
| | | 2 May (B) | (B) "Something amusing with red in it; keeps coming and going like a Jack in the Box." (<i>See p. 201 above, footnote.</i>) |
| 87 = 676 | $\frac{1}{22}$ | 23 Nov. (C) | (C) "Glass balls coloured various colours." |
| 89 | $\frac{1}{11}$ | 23 Nov. (B) | (A) "Zoo, giraffe, leopard, etc., as though taken from a book of Zoology." |
| 92 = 686 | $\frac{5}{25}$ | 2 Nov. | (C) "Someone reading from a book." |
| | | 1 Feb. (A) | (A) "A skull; ideas macabrous." |
| | | | (B) "Some story being read in such subject matter to give the creeps." |
| | | 23 May (A) | (B) "Fabrics or cloths held up at the corners to display colours, carpets perhaps oriental silks." |
| 95 | $\frac{2}{15}$ | 21 Dec. (A) | (A) Drawing of diamond patterns resembling that on the dunce cap shown. Also drawing of two cones vertex to vertex. |

TABLE I (continued)

| Identity Number of Percipient. | Number of Successes over Number of weeks' work. | Date and Order of Expt. (A, B, C). | Percipient's impression and the period (A, B, C) in which it was noted. |
|--------------------------------|---|------------------------------------|--|
| | | 25 Jan. (A) | (A) A drawing showing two triangles apparently equilateral, one inside the other (sides parallel). |
| 96 | $\frac{1}{9}$ | 23 May (B) | (C) "Object in water gliding or floating as a boat or gondola." |
| 98A = 694 | $\frac{1}{10}$ | 25 Jan. (A) | (A) "An <i>equilateral triangle</i> , very distinct. A right angled triangle. An irregular <i>pentagon</i> ." ¹ |
| M. J. B. | $\frac{1}{6}$ | 15 Feb. (A) | (A) "A white bird with a red eye." |
| Mme de Z. ² | $\frac{5}{12}$ | 21 Mar. (A) | (A) A drawing of a pair of leaves like water-lily leaves and resembling those of the ornament. |
| | | 28 Mar. (A) | (B) A drawing of a circle covered with a network of lines somewhat resembling a tennis racket. The words "Une gallette." |
| | | 2 May (C) | (C) "Un <i>ours assis</i> vu de 3 quarts-stylisé à la manière héraldique." |
| | | 16 May (B) | (B) "Une personne qui se balance. Un jouet." |
| | | 30 May (C) | (B) "Cercles concentriques horizontals comme un chapeau plat." |

¹ In a letter dated 14 February this percipient writes: "The triangle came—the bounding line that is—in a lightish golden yellow on a dark background. So did the other things—I cannot account normally for the emergency of the impression. Years ago I taught elementary mathematics." It will be seen (p. 196, above) that the icosahedron shown was of *golden* glass. This percipient continued in the 1928-1929 series, but achieved no outstanding success, his score being $18/440 = 4.1$ per cent.

² This percipient actually obtained the greatest number of successes (5) in the 1927-1928 series. Moreover it should be noted that whereas Mme de Z. did only 12 weeks' work the two English percipients who secured four successes each did 24 and 30 weeks respectively. Mme de Z. recorded an average of 2.6 visualisations per 10-minute interval, which is not at all exceptionally high.

PART II

STATISTICAL EXPERIMENTS 1928-1929

By the end of July 1928 it became clear to me that little definite progress was to be made on the preceding lines of experiment. While there was a small residuum of material that was suggestive of supernormality, the coincidences obtained were not sufficiently striking or detailed to compel belief in the operation of a supernormal faculty. One of the most disappointing features of the work was the failure of the percipients to repeat their successes with any degree of frequency or regularity.

I determined, therefore, to work each week with a much larger number of percipients than had been hitherto possible and to use material that would be adapted to statistical computation. To this end I approached the Council, and it was arranged that Prof. Julian Huxley should, on 19 September 1928, give a talk on the wireless, based on some notes furnished by me. Prof. Huxley gave some account of the results of the 1927-1928 experiments and asked for volunteers who would be willing to devote half an hour each Wednesday evening for at least four months. He appealed specially to all who had had personal experience of telepathy or clairvoyance and to those who possessed the faculty of automatic writing or planchette writing, and he invited them to communicate with the Society and relate their experiences. Any blind people willing to co-operate were also asked to write.

As a result of this appeal by Prof. Huxley, upwards of 600 letters were received from interested persons; 470 of the writers actually took part in the new series of experiments. In addition 55 of the 1927-1928 percipients (including five psychics) continued with the second series. During the succeeding six months the total number of percipients was increased by the addition of friends, etc., to 579 (including six further psychics). No such body of percipients has ever in the history of psychical research taken part in experiments extending over such a prolonged period as six months, and the best thanks of the Society is due to all these persons who gave of their time and service so willingly.

Geographical distribution of the percipients. The 579 percipients were distributed as follows: 143 lived in the London Postal Area; 66 in the Home Counties of Kent, Essex, Surrey, Herts., and

Middlesex ; 305 in the remainder of England ; 21 in Wales ; 22 in Scotland ; 15 in Ireland ; two in the Channel Islands ; and one each in India, New Zealand, Holland, France (not in M. Warcollier's group) and California.

Analysis of letters from prospective percipients. Of the 470 letters received from persons who afterwards took part in the experiment, 353 of the writers claimed to have had psychic experiences¹ of one kind or another, through the exercise of their own supposed supernormal faculties. The remaining 117 letters make no mention of personal experiences or faculties and of these 117 there are 30 that definitely disclaim the possession of any supernormal experiences or psychic powers.

Of the 364 psychics 59 stated that at one period or other of their lives they had been able to produce automatic writing or to obtain messages by means of a planchette or ouija or by "glass and letters" (19 of these 59 automatists apparently used some form of automatic writing to divine the objects shown in the present experiment) ; 138 of them claimed to have had successful experiences in telepathy of either the spontaneous or experimental variety, some acting as agents and others as percipients ; 53 claimed to have had premonitions of future events or premonitory dreams which were realised ; four claimed to have seen visions in a crystal ; two claimed to be dowers ; one claimed the power of making her astral form visible at a distance ; four claimed to be influenced by "spirit" controls and to be spirit mediums ; 16 of the 470 percipients were totally blind and two others nearly blind, and of these blind percipients six claimed to have had psychic experiences.

It is noteworthy that none of the well-known professional mediums could be induced to take part in the experiment. I personally wrote to four of these who were known to me. Two urged lack of time, one of them stating that "her form of telepathy was telepathy from the spirit world and that she could not hope to succeed with mine." The two other mediums did not answer my letters.

To some extent the above psychic classes overlap. That is to say, certain of the telepathic class were also automatic writers, and so on.

Many of the experiences related by the 364 psychics were extremely curious, and while there is no reason for doubting the authenticity of the majority of them, I am convinced that none of them would repay a close investigation with a view to publication. Adequate records of strange happenings seem seldom to have been made at the time of their occurrence, and corroborative evidence of any value would have been extremely difficult to obtain.

¹ Many of these experiences would appear to have been very slight. The most interesting are to be found in the groups of "telepathists" and "automatists."

The following extracts from letters written by percipients show a considerable variety in the reasons they give for believing themselves to have telepathic powers :

“ During my army service when I have been asleep on guard I could always rely on being awakened by a voice calling my name whenever any officer or N.C.O. was visiting my post.”

“ I find people can't lie to me. I read their thoughts and they bungle the lie.”

“ Sir, having proved telepathy to be positive in a small room and having found that my dog can read my thoughts I would be favoured, etc.”

“ Astrologically I should be sensitive to any such experiments. I was born with the sun posited in the fourth house under the sign Pisces ; Scorpio was in the ascendant ; the moon was posited in the 9th house under the sign Cancer.”

“ Between my husband and me there was an intense communication without words. During the last months of his life I was afraid to think when near him.”

“ I possess some psychic powers and a pair of eyes that flash fire when they please.”

“ I never dream silly dreams or have nightmares but I dream whole histories at long intervals.”

General instructions to percipients. It was found necessary to change the time of the weekly transmission to suit the majority of the percipients. The half-hour was now fixed for Wednesday evening 10.0 p.m.-10.30 p.m., and it was arranged that the sittings should be regularly held at 2 Adelaide Road, the home of Prof. and Mrs Mackenzie. Except for the necessary changes affecting time and place and a suggestion with regard to the use of a photograph of the agents, the *General Instructions* sent out to prospective percipients were practically identical with the 1927-1928 instructions (see p. 171, above).

The agents. The agents who regularly carried out the transmission from 2 Adelaide Road, N.W., were Prof. and Mrs Mackenzie, Mr Odell and S. G. S. Each intending percipient was supplied with a copy of a photograph of the agents taken at a studio in Camden Town. (Owing to the poorness of the lighting facilities at Adelaide Road, it was found impracticable to secure a good photograph of the group standing in the actual room where the meetings were to be held.) The percipients were instructed to look at this photograph for a few minutes before 10.0 p.m., and then to lay it aside. Mrs Hughes appears in the group, as it was hoped that she would have been able to assist at the meetings, but unhappily a serious illness intervened and Mrs Hughes was unable to attend a single sitting.

The percipients were left unenlightened on the absence of Mrs Hughes, and it is a curious fact that among their impressions there are more statements referring to Mrs Hughes than to any other agent of the group.

The recording of results. Owing to the large number of percipients who sent in their impressions each week it was impossible for me to open all the letters personally or to undertake the large amount of clerical work involved in copying the contents of the letters on to the record cards, the preparation of notices, and the answering of correspondence. Miss Helen Carruthers, a member of the Society, was therefore engaged to do this work, and I should like to pay here a tribute to the efficiency and business-like manner in which she carried out her considerable task. Not only did Miss Carruthers copy every letter on to its appropriate card, supervise the sending out of notices, address letters of enquiry to large numbers of individuals, but she also made a tolerably complete and detailed classification of the impressions of the percipients relating to the 27 material objects shown to the agents. This was an extensive and most useful piece of work by which the percipients' guesses were exhaustively grouped under numerous heads each week.

The general method of procedure was as follows. By Friday morning of each week the great bulk of the postcards and letters had reached the S.P.R. office. A large card bearing his identity number, name and address, was allotted to each of the 579 percipients. Miss Carruthers opened each letter and copied the contents on to the appropriate card, inserting the date and the times of each impression. A separate record was kept of the "Control Words." I spent the afternoons of Thursday, Friday and Wednesday reading through the cards and classifying on separate cards the percipients' impressions under suitable headings, this classification having reference not only to the objects of experiment of the current week but also to those of all the preceding weeks. After the completion of the experiment in April 1929 many weeks were spent by Miss Carruthers in making independent detailed lists connected with each object of experiment. In the year 1929-1930 the whole of the 579 record cards and supplementary cards were gone through personally by myself and entirely new lists compiled which were compared with and checked by the original lists made by Miss Carruthers. These supplemented and corrected lists were used as a basis for the construction of the Object Table XXXIII. Very considerable labour and hundreds of hours have been expended on these Tables alone, and it is hoped and believed that they are now practically free from error.¹

¹ Table XXXIII is printed at the end of the report (pp. 303-349, below).

General scheme of experiments. The general plan of the experiments is set out in the chart in which are given the numbers of percipients and of additional agents, and a brief description of each object shown to the agents. A more detailed description of each evening's meeting is contained in the lists at pp. 280-302, below. In these lists are to be found also the exact forms of the notices sent out each week to the percipients and to the additional agents.

It will be seen from the chart that the experiments may be classified as follows :

A. Twenty-seven attempts to transmit impressions of material objects. In two of these, 7 November (i) and 28 November (i), the main design was to attempt to convey impressions of the colours *Red* and *Yellow* respectively.

B. Six attempts to convey impressions of simple geometrical figures, together with five control experiments designed to provide a statistical standard of comparison. In the five control experiments no actual attempt was made to transmit any geometrical figure, but the percipients received the same notice as in the six *bona fide* attempts at transmission. This notice invariably read : "The third object will be a geometrical sketch. Please draw your impressions."

C. Eight attempts to convey impressions of a three figure number, together with six control experiments serving as statistical standards of comparison. In each of these 14 experiments the following notice was issued to percipients : "The [first, etc.] object will be a number of three figures. Please record only your strongest impression."

D. Four attempts to convey impressions of a capital letter of the alphabet, together with five control experiments. In each of these nine experiments the notice issued to percipients was the following : "The [first, etc.] object will be a capital letter of the alphabet."

E. Five attempts to convey impressions of a playing card together with three control experiments. In each of these eight experiments the notice to percipients read : "The [first, etc.] object will be a playing card."

In addition to these 69 experiments there was also an attempt on 6 March (i) to transmit the first verse of William Blake's poem "Tiger."

It will be seen from the chart that three distinct transmissions were attempted on each evening. There is an exception on 20 March when four transmissions were attempted. The period devoted to each object, etc., was therefore as a rule 10 minutes, and throughout the following work the three intervals 10.0-10.10 p.m., 10.10-10.20 p.m., and 10.20-10.30 p.m., are referred to in order as I, II, and III, instead of A, B, C, as in the 1927-1928 experiments.

THE CHART

GENERAL SCHEME OF EXPERIMENTS, OCTOBER 1928-MARCH 1929.

| Date. | Total Number of Per- cipients. | I. | | | II. | | | III. | | | | | |
|---------|---|---|-----|--|------------------|--|--|------------------|--|--|---|---|----------------|
| | | 10.0-10.10 p.m. | | | 10.10-10.20 p.m. | | | 10.20-10.30 p.m. | | | | | |
| | | Red poppies (artificial). | | | | | | | | | Toy tomahawk. | Egyptian head with tape measure from mouth. | 414 |
| 10 Oct. | 414 | <i>Nil</i> | 414 | | 414 | | | | | | | | |
| | | Yacht with white sails and native in prow. | | | | | | | | | Firework bomb and ig- nited paper balloon. | Silver firework stars in darkness. | 386 |
| 17 Oct. | 386 | <i>Nil</i> | 386 | | 386 | | | | | | | | |
| | | Toy mandolin. | | | | | | | | | Cardboard nose and pincenez clips. | Maltese cross. | 385 - 60 = 325 |
| 24 Oct. | 385 | <i>Nil</i> | 385 | | 385 | | | | | | | | |
| | | Yellow duck in top hat and spectacles. | | | | | | | | | Blue bell-shaped paper ornament. | Three sets of two con- centric circles in tri- angular formation. | 355 - 59 = 296 |
| 31 Oct. | 355 | <i>Nil</i> | 355 | | 355 | | | | | | | | |
| | | Red dunce cap and rolls of red paper. | | | | | | | | | Toy blacksmith with hammer and anvil. | Control (geometrical). | 327 - 66 = 261 |
| 7 Nov. | 327 | <i>Nil</i> | 327 | | 327 | | | | | | | | |
| | | White artificial mistletoe berries and green leaves. | | | | | | | | | Chocolate tin bear with pole (mechanical). | Pentagon (regular). | 311 - 95 = 216 |
| 14 Nov. | 311 | <i>Nil</i> | 311 | | 311 | | | | | | | | |
| | | Toy Scissors Grinder and grindstone (mechanical). | | | | | | | | | Number 424. | Equilateral triangle. | 342 - 84 = 258 |
| 21 Nov. | 342 | <i>Nil</i> | 342 | | 342 | | | | | | | | |

THE CHART (continued)

| Date. | Total Number of Per- eipients. | Additional Agents. | Object Concentrated on by the Additional Agents. | | | Period of Concentration for Additional Agents. |
|---------|-----------------------------------|--------------------|---|--|--|--|
| | | | I. | II. | III. | |
| | | | 10.0-10.10 p.m. | 10.10-10.20 p.m. | 10.20-10.30 p.m. | |
| 28 Nov. | 313 | <i>Nil</i> | Three yellow chrysanthe- mums and sheets of yellow paper. 313 | Number 444. 313 - 30 = 283 | Three concentric circles. 313 - 98 = 215 | |
| 5 Dec. | 356 | 23 | Postcard photo of kangaroo. 333 | Number 888. 356 - 94 = 262 | Letter F. 356 - 8 = 348 | I. 10.0- 10.10 p.m. |
| 12 Dec. | 301 | 23 | Postcard photo of alligator. 278 | Letter S. 301 - 14 = 287 | Control (geometrical). 301 - 89 = 212 | I. 10.0- 10.10 p.m. |
| 19 Dec. | 288 | 20 | Toy organ-grinder and dane- ing monkey. 288 | Postcard photo of dog, pipe in mouth and cap on head. 268 | Control (geometrical). 288 - 50 = 238 | II. 10.10- 10.20 p.m. |
| 9 Jan. | 298 | 29 | Red apple. 269 | Number 581. 269 - 33 = 236 | Control (geometrical). 298 - 55 = 243 | II. 10.0- 10.5 p.m. |
| 16 Jan. | 284 | 23 | Chinese cup and saucer. 261 | Number 555. 261 - 26 = 235 | Black equilateral tri- angle within circle. 284 - 50 = 234 | II. 10.0- 10.5 p.m. |
| 23 Jan. | 275 | 25 | Postcard showing red rose and green leaves. 250 | Number 491. 275 - 40 = 235 | 2 of Diamonds. 275 - 1 = 274 | I. 10.0- 10.5 p.m. |
| 30 Jan. | 294 | 29 | Brown furry bear pushing pink ball. 294 | Number 222. 265 - 34 = 231 | Letter H. 294 - 7 = 287 | II. 10.10- 10.15 p.m. |
| 6 Feb. | 277 | 25 | 4 of Spades. 252 - 38 = 214 | Number 777. 277 - 19 = 258 | Control (geometrical). 277 - 70 = 207 | I. 10.0- 10.5 p.m. |

THE CHART (continued)

| Date. | Total Number of Participants. | I. | | | II. | | | III. | | |
|---------|-------------------------------|-----------------|--|------------------|-------------------|-------------------|--|-------------------|-------------------|-------------------|
| | | 10.0-10.10 p.m. | 10.10-10.20 p.m. | 10.20-10.30 p.m. | Control (number). | Control (number). | Control (number). | Control (number). | Control (number). | Control (number). |
| 13 Feb. | 276 | 28 | 248 - 13 = 235 | | 276 - 26 = 250 | | Calendar with picture of Alsatian dog with lolling tongue. | 276 | I. | 10.0-10.5 p.m. |
| 20 Feb. | 284 | 29 | 255 - 21 = 234 | | 284 - 52 = 232 | | Control (letter). | 284 - 7 = 277 | I. | 10.0-10.10 p.m. |
| 27 Feb. | 266 | 27 | 239 - 44 = 195 | | 266 - 38 = 228 | | Control (letter). | 266 - 14 = 252 | I. | 10.0-10.10 p.m. |
| 6 Mar. | 253 | 23 | 230 | | 253 - 18 = 235 | | Control (playing card). | 253 | I. | 10.0-10.5 p.m. |
| 13 Mar. | 252 | <i>Nil</i> | Yellow plaster duck and mechanical pecking bird. | 252 | 252 | | Control (letter). | 252 - 7 = 245 | <i>Nil</i> | <i>Nil</i> |
| 20 Mar. | 247 | 43 | Picture of bird on skull. | 247 | 247 | | Control (letter). | 247 | I. | 10.0-10.10 p.m. |
| 27 Mar. | 262 | 68 | 3 of Hearts. | 194 - 28 = 166 | 262 - 31 = 231 | | Control (letter). | 262 - 6 = 256 | I. | 10.0-10.10 p.m. |

Each percipient was allotted an identity number, and the 55 percipients who had previously taken part in the 1927-1928 tests were given numbers all lying between 600 and 700, to distinguish them from the newcomers.

A reference such as 19 December (ii) 355 "A butterfly on a skull," must be read to mean that percipient no. 355 obtained the above impression on 19 December 1928 in the *second* interval, *i.e.* between 10.10 p.m. and 10.20 p.m. In the cases where a percipient recorded his impression at the exact end of an interval, *e.g.* at 10.10 or 10.20 p.m., the interval to which the impression was to be considered to belong was settled by tossing a coin.

Methods of transmission. The object, playing card, geometrical sketch, number, etc., was placed in a position in which it could be clearly seen by all the agents. If a working model it was set in motion. As a rule, silence was observed during the 10 minutes of transmission but, when remarks were made bearing on the object looked at, their gist was carefully noted by me. While one object was being shown the other objects remained in my attached case or suitcase till the time came for using them. Each object was replaced in the attached case as soon as the period of transmission was over.

In certain experiments, *e.g.* 12 December (i) alligator, the object was exposed to the agents for one minute only and was then removed and the agents were asked to forget about it entirely for the remaining nine minutes. The object of this was to test the theory that telepathic transmission of ideas takes place only when they have ceased to occupy the field of consciousness of the agent but are still active in his subconscious mind.

In cases when additional agents were employed a similar method was sometimes used (*e.g.* on 16 January, when 23 additional agents concentrated on the number 555 between 10.0 and 10.5 p.m., whereas the percipients did not begin to "listen in" for a three figure number till 10.10 p.m.).

Group A. The twenty-seven material objects

Material objects such as toys, pictures, flowers, etc., when used as subjects for telepathic experiments are less amenable to statistical treatment than, say, numbers or letters of the alphabet. Certain experimenters, however, including Wareollier, affirm that when a person is asked to guess a number or a playing card that person is apt to conjure up a mental image of his lucky number or favourite suit, and that this conscious activity inhibits the emergence of genuine telepathic impressions. According to Wareollier the best results are obtained when the percipient is given no hint of the nature of the impression he is expected to receive. Bearing in

mind these objections of Wareollier, I judged it wise not to eliminate entirely the "free" type of material from my experiments. At least one experiment, therefore, was as a rule arranged each week, in which the listeners-in were given no inkling of what the agents intended to transmit. In such cases the percipients were advised, e.g. : "10.0-10.10 p.m., please record all impressions."

The selection of the objects. The first six objects (10, 17 October) were purchased on 4 October at three different London shops. They were wrapped up and carried home and then put under lock and key. On the evening of the 9th the six objects were labelled 1, 2, 3, 4, 5, 6. Three dice were thrown together and the three objects corresponding to the numbers thrown were used in the experiment of the 10th, the numbers chosen for the intervals i, ii, iii, being in ascending order of magnitude. As explained in my description of the 1927-1928 experiments the three objects selected were wrapped in paper sealed up and carried to town in my attaché case, which was locked and left in the staff room of East London College during the morning. After 1.30 p.m. the case was continuously under my observation till the time of the experiment.

A similar procedure was adopted with most of the remaining objects, which were purchased in batches of four or six. An exception is the purchase of the postcards for 5 and 12 December and 23 January. These were usually purchased in the week preceding that in which they were required. They were handed by me to Miss Carruthers, who kept them under lock and key till the time arrived to post them to the "additional" agents. A similar exception occurred in the case of the "Skull and Bird" reprints, which were obtained by Miss Carruthers from Robert MacLehose and Co., Ltd., Glasgow, the Society's printers.

Not all the objects were purchased in London. The Calendar, for instance, of 13 February (iii) was bought by me in Kingston-on-Thames. In short, the locality was varied as much as possible as well as the day and hour of purchase.

*Explanations of Table XXXIII.*¹ The principle on which these "Object" Tables are devised is as follows. Each of the 27 objects has a Table devoted to it. The object is analysed into its essential components and any obvious associations with it are noted. Guesses of different degrees of approximation to the object are also given a place in the Table. It will be seen by reference to any of the Tables that each approximation or associated idea or partial component has three lines devoted to it, and that at the end of the

¹The enumeration of the items connected with each of the twenty-seven objects given in Table XXXIII differs somewhat from that given in Appendix III for the Individual Scoring system. In the latter the analysis is generally carried to greater detail. It is believed, however, that the classification in Table XXXIII is quite sufficient for all practical purposes.

second and third lines are the words PREV.(=Previsional) and POST respectively.

Now all objects employed in the experiments were shown to the agents in either the first, second, or third ten minutes of the half-hour. An object shown in interval (i) (*i.e.* 10.0-10.10 p.m.) will be called a "first place" object, one shown in interval (ii) (*i.e.* 10.10-10.20 p.m.) a "second place" object, and so on. The chief aim of the Tables is to compare the number of impressions of a particular type obtained during the ten minutes of the evening on which a certain object was exhibited with numbers of the same type obtained during the ten minutes intervals of other evenings when a quite different object was being shown. To illustrate the procedure adopted we may take Table XXXIII, 19 December (ii). Here the object shown (a dog, etc.) was a "second place" object. While the agents were looking at the postcard of the "dog and pipe" from 10.10-10.20 p.m. on this date, there was one impression of a dog recorded by percipients between 10.10 and 10.20 p.m. This one is therefore recorded under 19 December in the *first* or *principal* line of the first item ("Mention of *any kind of dog*"). But there was also one impression recorded between 10.0 and 10.10 p.m., and this is recorded in the second or "previsional" line. One dog also was recorded between 10.20 and 10.30 p.m., and this is noted in the third or "post" line.

Now on the evenings of 21, 28 November, 5, 12 December, 9, 16, 23, 30 January, 13, 20 March, one *object* only was shown, and this object was a "first place" object. Hence to form as wide a basis of comparison as possible the numbers of dogs recorded on these evenings are brought into the principal or *first* line even though the impressions were all noted in interval (i), *i.e.* 10.0-10.10 p.m.

On 10, 17 October, there were three objects shown. On each of these dates the first or principal line gives the numbers of dogs recorded in interval (ii) (10.10-10.20). Those in interval (i) occur in the previsional or second line, and those impressions of dogs recorded in interval (iii) (10.20-10.30 p.m.) are to be found in the "Post" or third line. On 13 February there was only one object, and this was a "third place" object. Hence for comparison, the number of dogs obtained between 10.20 and 10.30 is brought into the first or principal place.

Again on 7, 14 November, 24, 31 October respectively, two objects only were shown, these being first place and second place objects. On each of these dates, therefore, it is the number of dogs recorded in interval (ii) (10.10-10.20 p.m.) which is put in the principal or first place, while the numbers recorded in the first interval (10.0-10.10 p.m.) are to be found in the previsional or second line. On these dates there are no impressions of dogs in the third or "Post"

line since the third interval was devoted to a geometrical or number or capital letter test.

Table XXXIII, 13 February (iii), illustrates the case of a "third place object." On dates when there were first and second place objects but no third place objects, the number of impressions obtained while the "second place object" was being shown are brought up into the principal or first line, while those obtained while the first place object was being shown occupy the "previsional" or second line. On 10, 17 October, when there is a third place object the numbers of impressions occurring in the third interval (10.20-10.30) are recorded in the first or principal line. In this case the numbers which occur in the first and second intervals are added together and the sum is placed in the second or "previsional" line. On 10, 17 October there will be no impressions in the "post" line.

On dates like 9, 16 January, etc., where only one object (a "first place" object) is shown, the impressions recorded in the first interval (10.0-10.10 p.m.) are brought up into the principal line, while the "post" and previsional lines will be empty.¹

We have then these facts to bear in mind in studying these Tables. In all Tables where the object of experiment is a "first place" object all the "previsional" or second lines will be empty, while on 10, 17 October, and on these dates only, the numbers occupying the *third* or "post place" will represent the numbers of impressions obtained in the *twenty* minutes (10.10-10.30) instead of in the usual ten minutes. These twenty minute intervals are distinguished in the Tables by being printed in heavy type. On dates like 7 November, where a first and second place object were shown the impressions recorded in interval (i) will of course occupy the principal line.

In all Tables where the object shown is a "*third place*" object, the *third* or *post* lines will be empty on all dates while on 10, 17 October and these dates only the number in the second or "previsional" line will represent numbers of impression obtained in the first twenty minutes instead of in the usual ten minutes. These twenty minute intervals are distinguished in the Tables by being printed in heavy type.

It will be noted that the dates 6, 20, 27 February, 6, 27 March, are omitted from the Tables. On these evenings no material object was exhibited.

Deductions from Table XXXIII. Making where necessary a slight allowance for the variations in the weekly numbers of perci-

¹ Occasionally solitary impressions occur in a line or position that should normally be empty. These stray impressions arise through a percipient recording a successful impression relating to a material object in a geometrical or number test.

pients it will be apparent from an inspection of these Tables that very rarely indeed is there a superiority in the numbers of impressions for the different items on the evening on which a certain object was exhibited over the other evenings when the object was not shown. There is perhaps only one notable exception. On 10 October (i) there appears to be a definite superiority in the numbers of flowers and even of red flowers. This is the only really marked case that could be construed as being favourable to the supernormal. There are also very slight superiorities on 17 October (i) (Explosion of Bomb), and on 21 November (i) (Wheels and Rotation). Perhaps also on 13 February (iii) (Dogs) there is a very slight superiority, and on 13 March (i) (Ducks).

So far as can be judged from these Tables the introduction of the 25 or so additional agents seems to have produced no perceptible effect upon the number of successes.

The special experiments, 19 December (i), 9 January (i), 16 January (i), in which the percipients were asked to imagine the object concealed under a black cloth, and also the similar experiment 13 March (i) with the attaché case, were for the purpose of testing a theory of M. René Warcollier. According to this investigator when a number of persons fix their minds on the same or similar objects they may be put into telepathic communication among themselves. It was hoped that to provide the percipients with a common starting point for their thoughts might either conduce to successful guessing of the object beneath the cloth, etc., or failing this cause a considerable number of percipients to think of similar objects or even of the same three figure numbers in the succeeding intervals (ii) or (iii), that is produce "mental contagion" among the listeners-in of a supernormal and not merely suggestive variety.

Neither of these hopes has been realised. The chief effect of using the black cloth on 19 December was to produce, obviously by contrast, an exceptional crop of impressions of white objects such as eggs, skulls, ivory models of famous buildings, white statuary and also be it noted of canaries and bird-cages. These effects were not so marked on 9 January, when the black cloth was used for the second time, but they were still appreciable.

If the reader will turn to the "number coincidence" Table (Table XXIV) he will see that there was no sudden increase on 9 and 16 January in experiment (ii) in the three figure numbers which were guessed two or more times. Thus we find that the only kind of "mental contagion" noted on these occasions was that of simple ideas naturally associated with a black cloth.

In a similar way the focussing of attention on the attaché case (13 March (i)) appears to have caused an unusual number of percipients to think of books, parcels and articles of toilet or dress.

Special experiment on 19 December 1928. I am greatly indebted to M. René Warcollier for arranging a novel experiment on 19 December. On that evening M. Pascal Forthuny was giving a public demonstration of clairvoyance to an audience of 300 people in Paris. Shortly before 10 p.m. M. Warcollier read aloud the weekly instructions to percipients for 19 December, and explained that experiments (i) and (iii) only would be attempted. The audience wrote their impressions on scraps of paper and signed them. I received, however, from M. J. Buraud only 58 papers; apparently the remainder of the audience had not thought it worth while to hand in their impressions.

Only experiment (i) need concern us since it happened that (iii) was a geometrical "control." The object shown in (i) was the organ-grinder and monkey revealed by raising the black cloth. The impressions sent in by the 58 Paris percipients were for the most part names of common objects such as "bird-cage," "violin," "teaspoon," "book," "crystal ball," "skull," "bottle," etc. The experiment was a complete failure. The impression of M. Pascal Forthuny, one of the percipients, read "Objet métallique pointu d'un bout. Brilliant."¹

Influence of seasons, etc. As might be expected the numbers in Table XXXIII are to some extent subject to seasonal and occasional influence. Thus Table XXXIII, 28 November (i), we note that the popularity of chrysanthemums is greatest in October and November, but tends to diminish after Christmas, while during February and March the impressions of yellow flowers increase owing to the blooming of the jonquils and daffodils. In the same way there is a little cluster of "poppy" impressions (Table XXXIII, 10 October (i) between 7 and 21 November) due doubtless to the proximity of Armistice Day.

Suggested use of Table XXXIII. It is hoped that these Tables will be useful in future telepathic experiments, since from them may be derived the approximate probabilities that the average person will guess by chance a large variety of objects if he remains passive for about ten minutes and records about 1.85 distinct impressions,² this being about the *average* number of separate impressions recorded by each percipient during the ten minutes in which an *object* was concentrated upon.

Let us take for instance 19 December (i) (dog in cap with pipe). The total records of all the percipients in the 27 object experiments are equivalent to 8784 ten minute intervals. The total number of

¹ The organ-grinder was certainly made of metal, but the description is too vague to have any value.

² For a discussion and investigation of the "average number of impressions" in the ten minute interval please see Appendix IV of this paper.

dogs guessed during the 27 experiments is 111. Hence the chance that a single average percipient under these circumstances should guess a dog of any kind is about $\frac{111}{8784}$, *i.e.* about 1 in 79. Similarly the chance of guessing a cap, hat, turban or helmet is $\frac{117}{8784} = 1$ in 75 about. Hence the chance of an average percipient mentioning both a dog and some sort of head-covering in the same ten minutes is about $\frac{1}{75} \times \frac{1}{79} = \frac{1}{5925}$.

Actually we find on referring to Table XXXIII, 19 December (i), Item 2, that one percipient (no. 451, 20 March (i)) recorded the impression "Postcard of bull dog with sailor cap on head and Union Jack on back." As there are 8784 distinct ten minute trials the mention of dog and head-covering might be expected to occur at least once.¹ Here, of course, they are not only mentioned separately but associated.

The individual scoring system. By the use of Table XXXIII, as explained in the last section, it would be possible to construct for each object an approximate scoring scheme by allocating to each successful guess a score of $-\log p$ where p = the probability of an individual percipient guessing the item correctly in the ten minute interval.

I have not, however, carried out this plan for the reason that I had scored the whole of the individual percipients' records on an arbitrary scoring system before Table XXXIII was completed, and re-scoring would involve very great labour. This arbitrary scheme, of which full details are given at page 280 below, is carefully graded and serves well enough to compare the achievements of one group of percipients with that of another. Sixty marks are allotted for each evening's work, *i.e.* twenty marks for each experiment (i), (ii), and (iii) in which an object, three figure number, capital letter, etc., was actually shown to the agents. Hence omitting the control experiments which were not scored, the greatest possible score any one percipient could obtain would be 1020. To get this score the percipient would have had to do 23 weeks' work and never to have acted as an additional agent. The percentage score of a percipient is obtained by multiplying 100 by the ratio of his actual score to his possible score, which latter represents the full marks the percipient could have obtained on the actual experiments in which he took part, those in which he acted as an additional agent not being scored. As the scoring system is not constructed on any strict statistical principles the distribution of scores among the percipients is not precisely a normal distribution. Moreover, the present system cannot be

¹ In the above argument a simplified view is taken of the question as it is assumed that the guessing of a dog and of a hat are mutually independent events. This may not really be the case.

used to determine whether any particular percipient's achievement is due to chance or not; but it does serve to compare the joint achievement of one large group with that of another.

Distribution of the experiments among the 579 percipients. One to four weeks' work was done by 172 percipients, five to nine weeks' by 100, 10-14 weeks' by 91, 15-19 weeks' by 109, 20 weeks' by 28, 21 weeks' by 22, 22 weeks' by 32, and the full number of 23 weeks' work was done by 25 percipients.

Comparison of Different Groups

In the following analysis I have thought it worth while to consider only the 374 percipients whose *possible* scores equal or exceed 300, which is roughly the equivalent of five weeks' work. The object of this restriction is to allow each percipient time to "settle down" to his average or normal performance.

The distribution of these 374 actual percentage scores is not precisely a normal distribution. Nor had we any reason to expect a quite normal distribution on so arbitrary a system of scoring. If we take as the score of a percipient the percentage ratio of his actual numerical marks to his total possible marks, we find that the mean score of a percipient is 6.48. The mode of the distribution is 5.50 and the standard deviation is 3.07. Employing the notation given in D. Caradog Jones's *A First Course of Statistics* (1927), p. 205, we find for our distribution: $\beta_1 = .225$; $\beta_2 = 2.95$; $\kappa = -.230$. (For a normal distribution β_2 should be about three, which is nearly correct, but β_1 should be about zero.) Perfect normality is, therefore, destroyed by a certain skewness which can be calculated in terms of β_1 and β_2 from Mr Jones's formula (16, p. 205). This skewness works out to be .32 and equals [Mean - Mode] ÷ Standard Deviation. From this result we deduce the value 5.50 for the mode,¹ which agrees fairly with that found from the Graph.

We find that 65 per cent. of the scores lie within the range Mean \pm Standard Deviation, *i.e.* between 3.41 and 9.55, and 95 per cent. lie within the range Mean $\pm 2 \times$ Standard Deviation, *i.e.* between 0.34 and 12.62. These results would agree pretty closely with those expected from a normal distribution.

We may consider that the number of observations (374) is sufficient to determine the type of distribution within the limits, Mean $\pm 2 \times$ Standard Deviation but insufficient to give trustworthy information outside those limits. For the actual tabulation of the distribution see Table II and the graphs.

In order to investigate whether or not any sub-sample of the

¹ By the mode is meant the most fashionable or popular score. In a normal distribution the mode would be identical with the mean or average.

374 percipients is abnormal when compared with the whole we may make use of a formula given in *Biometrika*, v. 182, and the data of the distribution given above are consistent with the use of this formula (see A. L. Bowley, *Elements of Statistics*).

The formula is as follows: If a distribution is known only by a sample n , the mean being x and the standard deviation s , and if for a sub-sample n_1 , the mean is x_1 , and the standard deviation s_1 , then the standard deviation of the difference $x \sim x_1$ denoted by σ is given by the result:

$$\sigma^2 = \frac{s_1^2}{n_1} + \frac{s^2 - 2s_1^2}{n} - \frac{n_1(x - x_1)^2}{n(n - n_1)}.$$

The last term will usually be so small that it can be neglected. In our case

$$n = 374, \quad x = 6.48, \quad s = 3.07.$$

n_1 may be taken, for example, to be the number of percipients who were automatic writers or the number of premonitionists as the case may be.

We are now in a position to compare the performances of the different sub-groups of percipients.

Psychics v. Remainder. Of the 364 persons who mentioned having had psychic experiences there were 160 with possible scores ≥ 300 . The mean score x_1 of this group was found to be 6.45 with a standard deviation $s_1 = 3.00$. Hence $n_1 = 160$, $x_1 = 6.45$, $s_1 = 3.00$, $x = 6.48$, $s = 3.07$, and using the above formulae we find $\sigma = .18$.

$$\text{Hence } \frac{x - x_1}{\sigma} = \frac{.03}{.18} = \frac{1}{6}.$$

On the whole, therefore, the average performance of the "psychics" is neither better nor worse in any significant sense than that of the whole group of 374 percipients.

Automatists v. Remainder. There were 46 automatists (planchette or automatic writers) with possible scores ≥ 300 . The mean score of this group was 5.90 with a standard deviation $s_1 = 2.66$. Hence with $n_1 = 46$, $x_1 = 5.90$, $s_1 = 2.66$, $x = 6.48$, $s = 3.07$, we find $\sigma = .37$. Hence $\frac{x - x_1}{\sigma} = \frac{.58}{.37} = 1.6$. Again the deviation is without significance.

Telepathists v. Remainder. There were 99 percipients who claimed to have had experiences in telepathy and whose possible scores were ≥ 300 . For this group the mean $x_1 = 6.53$, the standard deviation $s_1 = 2.96$. Hence with $n_1 = 99$, $n = 374$, $x = 6.48$, we find $\sigma = .26$.

$$\text{Hence } \frac{x_1 - x}{\sigma} = \frac{.05}{.26} = \frac{1}{5} \text{ (nearly). Hence result is without significance.}^1$$

¹ For significance the ratio $\frac{x_1 - x}{\sigma}$ should exceed 2 at least.

Premonitionists v. Remainder. There were 43 percipients with possible scores ≥ 300 who claimed to have had previsions or premonitory dreams. For this group the mean $x_1 = 6.50$. The standard deviation $s_1 = 3.03$. Hence we find $\sigma = .43$. Hence $\frac{x - x_1}{\sigma} = \frac{.02}{.43} = \frac{1}{21}$ (nearly). Hence result is without significance.

Effect of practice. Of the 55 percipients who took part in the 1927-1928 experiments and carried on with the new series, only 33 did enough work to obtain possible scores of ≥ 300 . For this group the mean score $x_1 = 6.59$. The standard deviation $s_1 = 3.01$.

Hence with $n_1 = 33$ we find $\sigma = .50$. Hence $\frac{x_1 - x}{\sigma} = \frac{.11}{.50} = \frac{1}{5}$ (approx.).

Hence result is without significance, and practice appears to have had no influence on success.

The blind percipients. Of the 18 blind percipients only nine had possible scores ≥ 300 . For this group the mean score $x_1 = 6.89$, $s_1 = 1.72$. Hence $\sigma = .58$. Hence $\frac{x_1 - x}{\sigma} = \frac{.41}{.58} = \frac{2}{3}$ (nearly). Hence result is without significance.

Men v. Women. Of the 374 persons with possible scores ≥ 300 , 156 were men and 218 women. For the men the mean score $x_1 = 6.36$. Standard deviation $s_1 = 2.97$. Hence with $n_1 = 156$ we find $\sigma = .18$. Hence $\frac{x - x_1}{\sigma} = \frac{.12}{.18} = \frac{2}{3}$.

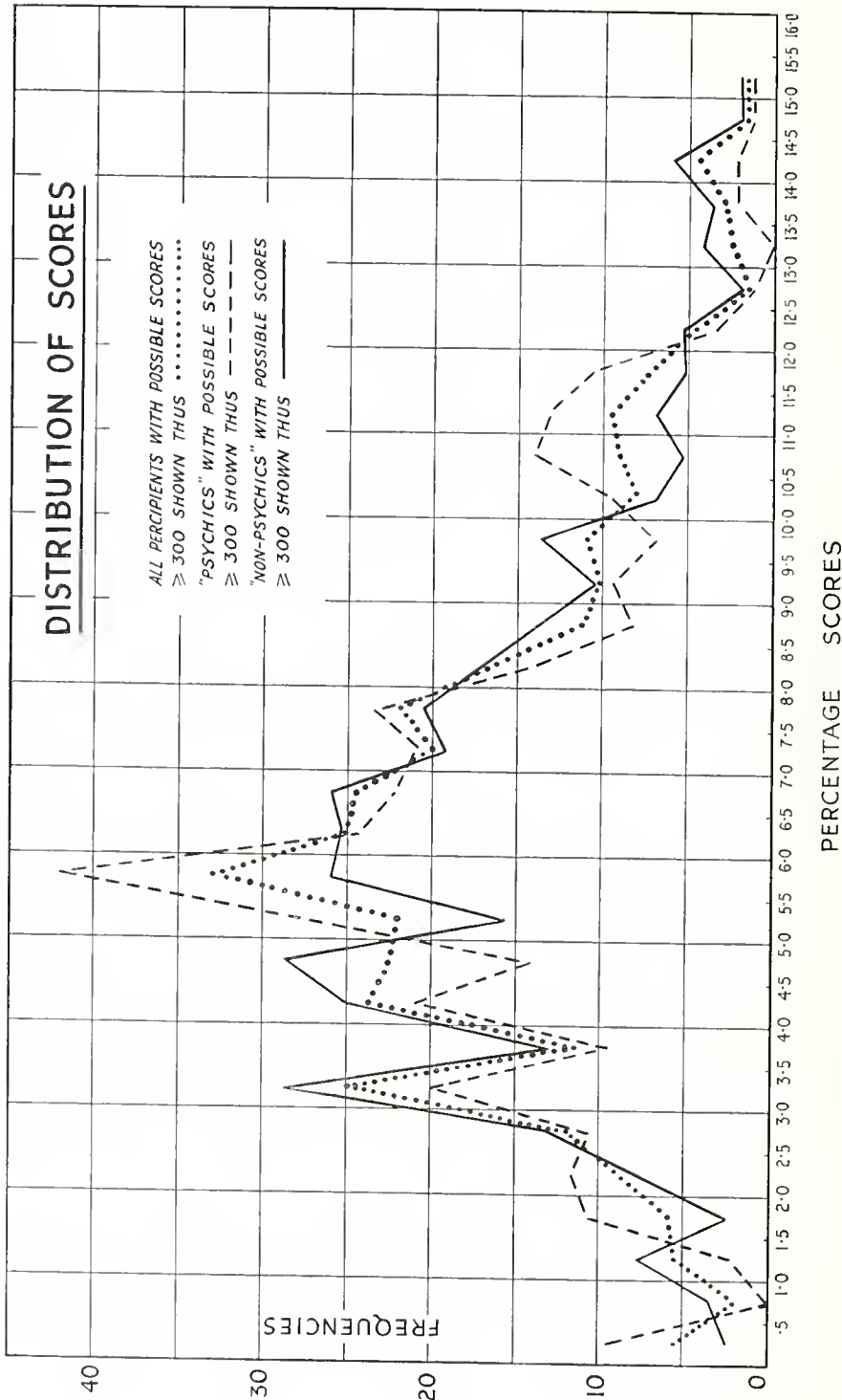
For the 218 women the mean score $x_1 = 6.56$. The standard deviation $s_1 = 3.14$. Hence with $n_1 = 218$ we find $\sigma = .13$. Hence $\frac{x_1 - x}{\sigma} = \frac{.08}{.13} = \frac{8}{13}$. Hence neither the men nor the women have any significant superiority over the general average.

Effect of distance. We may ask: Have the London percipients scored a higher degree of success than the average? We have: Number of people residing in the London Postal District with possible scores ≥ 300 was 93. The mean score of this group was $x_1 = 6.69$. Standard deviation $s_1 = 3.25$. Hence with $n_1 = 93$ we find $\sigma = .28$. Hence $\frac{x_1 - x}{\sigma} = \frac{.21}{.28} = \frac{3}{4}$. Hence result is without significance.

The close approximation of the means of all these sub-groups to the mean of the whole is an argument against the existence of any supernormal perception in the mass. The separate Tables showing the evaluation of s_1 and x_1 for each of the above sub-groups may be inspected at the S.P.R. Rooms by anyone wishing to do so.

DISTRIBUTION OF SCORES

- ALL PERCIPIENTS WITH POSSIBLE SCORES
≥ 300 SHOWN THUS
- "PSYCHICS" WITH POSSIBLE SCORES
≥ 300 SHOWN THUS ---
- "NON-PSYCHICS" WITH POSSIBLE SCORES
≥ 300 SHOWN THUS _____



PERCENTAGE SCORES

TABLE II

SHOWING THE DISTRIBUTION OF SCORES AMONG THE 374 PERCIPIENTS WITH POSSIBLE SCORES ≥ 300 AND THE CONSTANTS OF THE DISTRIBUTION.

| SCORE. | x | F | Fx | Fx^2 | Fx^3 | Fx^4 |
|-----------|-----|-------|--------|---------|----------|------------|
| 0.0-0.5 | -13 | 5.5 | -71.5 | 929.5 | -12083.5 | 157085.5 |
| 0.5-1.0 | -12 | 2.0 | -24.0 | 288.0 | -3456.0 | 41472.0 |
| 1.0-1.5 | -11 | 5.5 | -60.5 | 665.5 | -7320.5 | 80525.5 |
| 1.5-2.0 | -10 | 7.0 | -70.0 | 700.0 | -7000.0 | 70000.0 |
| 2.0-2.5 | -9 | 9.5 | -85.5 | 769.5 | -6925.5 | 62329.5 |
| 2.5-3.0 | -8 | 12.0 | -96.0 | 768.0 | -6144.0 | 49152.0 |
| 3.0-3.5 | -7 | 25.0 | -175.0 | 1225.0 | -8575.0 | 60025.0 |
| 3.5-4.0 | -6 | 11.5 | -69.0 | 414.0 | -2484.0 | 14904.0 |
| 4.0-4.5 | -5 | 23.5 | -117.5 | 587.5 | -2937.5 | 14687.5 |
| 4.5-5.0 | -4 | 23.0 | -92.0 | 368.0 | -1472.0 | 5888.0 |
| 5.0-5.5 | -3 | 22.5 | -67.5 | 202.5 | -607.5 | 1822.5 |
| 5.5-6.0 | -2 | 33.5 | -67.0 | 134.0 | -268.0 | 536.0 |
| 6.0-6.5 | -1 | 25.5 | -25.5 | 25.5 | -25.5 | 25.5 |
| 6.5-7.0 | 0 | 24.5 | — | — | — | — |
| 7.0-7.5 | +1 | 20.5 | +20.5 | 20.5 | +20.5 | 20.5 |
| 7.5-8.0 | +2 | 21.5 | +43.0 | 86.0 | +172.0 | 344.0 |
| 8.0-8.5 | +3 | 16.0 | +48.0 | 144.0 | +432.0 | 1296.0 |
| 8.5-9.0 | +4 | 11.5 | +46.0 | 184.0 | +736.0 | 2944.0 |
| 9.0-9.5 | +5 | 10.0 | +50.0 | 250.0 | +1250.0 | 6250.0 |
| 9.5-10.0 | +6 | 11.0 | +66.0 | 396.0 | +2376.0 | 14256.0 |
| 10.0-10.5 | +7 | 8.0 | +56.0 | 392.0 | +2744.0 | 19208.0 |
| 10.5-11.0 | +8 | 9.0 | +72.0 | 576.0 | +4608.0 | 36864.0 |
| 11.0-11.5 | +9 | 9.5 | +85.5 | 769.5 | +6925.5 | 62329.5 |
| 11.5-12.0 | +10 | 7.5 | +75.0 | 750.0 | +7500.0 | 75000.0 |
| 12.0-12.5 | +11 | 4.5 | +49.5 | 544.5 | +5989.5 | 65884.5 |
| 12.5-13.0 | +12 | 1.5 | +18.0 | 216.0 | +2592.0 | 31104.0 |
| 13.0-13.5 | +13 | 2.5 | +32.5 | 422.5 | +5492.5 | 71402.5 |
| 13.5-14.0 | +14 | 3.0 | +42.0 | 588.0 | +8232.0 | 115248.0 |
| 14.0-14.5 | +15 | 4.5 | +67.5 | 1012.5 | +15187.5 | 227812.5 |
| 14.5-15.0 | +16 | 1.5 | +24.0 | 384.0 | +6144.0 | 98304.0 |
| 15.0-15.5 | +17 | 1.5 | 25.5 | 433.5 | +7369.5 | 125281.5 |
| Totals - | - | 374.0 | -200.0 | 14246.0 | +18478.5 | +1512002.0 |

$$\begin{aligned} \text{We have } \Sigma Fx &= -200.0, & \Sigma Fx^2 &= 14246.0, \\ \Sigma Fx^3 &= +18478.5, & \Sigma Fx^4 &= +1512002.0. \\ \frac{\Sigma Fx}{\Sigma F} &= \frac{-200}{374} = -.5347. & \frac{\Sigma Fx^2}{\Sigma F} &= \frac{14246.0}{374} = 38.091. \\ \left[\frac{\Sigma Fx}{\Sigma F} \right]^2 &= .2859, & \frac{\Sigma Fx^3}{\Sigma F} &= \frac{18478.5}{374} = 49.41. \\ \frac{\Sigma Fx^4}{\Sigma F} &= \frac{1512002.0}{374} = 4042.786. \end{aligned}$$

$$\text{Mean} = 6.75 + \frac{\Sigma Fx}{\Sigma F} \times .5 = 6.75 - 0.27 = 6.48.$$

$$v_2 = \frac{\Sigma Fx^2}{\Sigma F} - \left[\frac{\Sigma Fx}{\Sigma F} \right]^2 = 38.091 - .2859 = 37.805.$$

$$\text{Standard Deviation} = .5 \times \sqrt{v_2} = .5 \times 6.15 = 3.07.$$

$$v_3 = \frac{\Sigma Fx^3}{\Sigma F} - 3v_2 \cdot \frac{\Sigma Fx}{\Sigma F} - \left[\frac{\Sigma Fx}{\Sigma F} \right]^3 = 110.15.$$

$$v_4 = \frac{\Sigma Fx^4}{\Sigma F} - 4v_3 \cdot \frac{\Sigma Fx}{\Sigma F} - 6v_2 \cdot \left[\frac{\Sigma Fx}{\Sigma F} \right]^2 - \left[\frac{\Sigma Fx}{\Sigma F} \right]^4 = 4213.46.$$

$$\text{The constant } \beta_1 = \frac{v_3^2}{v_2^3} = \frac{[110.15]^2}{[37.805]^3} = .225.$$

$$\text{The constant } \beta_2 = \frac{v_4}{v_2^2} = \frac{4213.46}{[37.805]^2} = 2.95.$$

$$\text{Skewness} = \frac{[\beta_2 + 3] \sqrt{\beta_1}}{2[5\beta_2 - 6\beta_1 - 9]} = .32.$$

$$\text{Hence since } \text{Skewness} = \frac{\text{Mean} - \text{Mode}}{\text{Standard Deviation}},$$

we find on substituting the value 6.48 for the Mean and 3.07 for the Standard Deviation, that the *Mode* is 5.50.¹

The graph. The dotted curve shows the distribution of percentage mean scores among the 374 percipients with possible scores ≥ 300 . The percentage mean scores are represented along the horizontal axis and the *area* included between the graph, the horizontal axis and two vertical lines through any two points on the percentage score axis (e.g. 3 and 7) is proportional to the number of percipients whose scores lay between these two values (i.e. 3 per cent. and 7 per cent.). A similar curve (broken) is drawn for the 160 "psychics" with possible scores ≥ 300 and a ruled curve for the remaining 214 "non-psychics." The vertical scales of the three curves are so adjusted that the *total area* underneath each graph is the *same*.

¹ The notation employed in the above computations is that given by Jones, *op. cit.*, pp. 213-4.

It will be seen that the three curves follow each other very closely on the whole, and there seems no justification for assuming that the distribution for the "psychics" differs from that for the "non-psychics," or from that of the whole.

Further Note on Individual Scoring of the 27 Objects

It should be noted that in cases where a percipient recorded more than one visualisation or distinct impression on an evening such as 9 January when only one material object was shown, the impression to be scored was chosen by the throw of dice as explained fully in Appendix IV. On an evening such as 10 October on which more than one material object was looked at, in cases where a percipient recorded a successful impression in the same ten minute period as that in which the relevant object was shown, the impression to be scored was selected from this interval. If, however, the percipient noted a successful guess in a ten minute interval other than that in which the corresponding object was shown dice were first thrown to decide from which interval an impression was to be chosen for scoring. A percipient, therefore, who gave a right guess in the wrong ten minute interval had a certain chance of gaining marks for his guess but not such a good chance as one who recorded his impression in the correct interval. Such restrictions as these were necessary in order to put all the percipients on a common basis as far as possible.

Distribution of successful contemporaneous hits on the 27 objects by the 579 percipients

By a "contemporaneous" successful hit is meant any correct impression of an object recorded in the same ten minutes during which the agents looked at the object. It must be mentioned, however, that in what follows the successful guess was allowed to count even when the percipient had recorded more than one distinct visualisation in the same ten minutes. That is to say, there was no selection by dice.

(a) Four percipients obtained five successful contemporaneous hits each. These were nos. 118, 255, 338 and 421. Their total possible scores were 1020, 920, 860 and 960 respectively. Their average¹ numbers of visualisations or sensations recorded per ten minute interval were 3.19, 3.04, 2.42, 1.48. Their percentage mean scores were 11.2%, 13.5%, 15.2% and 11.5% respectively.

(b) Two percipients (8 and 557) obtained four successful contemporaneous hits each. Their total possible scores were 1020 and

¹ This average per ten minute interval for the whole of the 579 percipients is 1.85. The averages for groups (c) and (d) were 2.81 and 2.18 respectively.

720 respectively, and their average numbers of visualisations or sensations recorded per ten minute interval were 2.52 and 3.44 respectively. Their percentage mean scores were 10.6% and 13.1%.

(e) Thirteen percipients obtained three successful contemporaneous hits each. The average possible score of this group was 884, and the mean percentage score of the group was 9.1%.

(d) Thirty-nine percipients obtained two successful contemporaneous hits. The average possible score of these was 741. The mean percentage score of this group was 8.3%.

A successful hit, of course, may be a very slight success indeed, and may therefore receive only a low mark. It by no means follows that the percipients with the most successful hits with the 27 objects obtained the highest percentage scores. Moreover, a high percentage score on the whole series may be the result of exceptional success with the statistical material (*i.e.* numbers, playing cards, etc.) rather than with the objects.

Examples from (a) and (b). I shall here quote one or two specimen examples from groups (a) and (b).

(i) *Percipient no. 557.* Score = $94/720 = 13.1\%$.

| Date. | Impression. | Object of Experiment. |
|---------------|---------------------------------------|---|
| 10 Oct. (ii) | A wigwam with grasses. | (ii) Indian tomahawk. |
| 14 Nov. (ii) | A figure of a man in flannels poling. | (ii) Bear on hind legs with pole. |
| 21 Nov. (i) | Something circular whizzing round. | (i) The rotating wheel of the seissors grinder. |
| 13 Feb. (iii) | A fox seated. | (iii) Picture of Alsatian dog. (Fox-like head.) |

The above is one of the most interesting records, but the percipient was not very successful with the statistical material.

(ii) *Percipient no. 255.* Score = $124/920 = 13.5\%$.

| Date. | Impression. | Object of Experiment. |
|--------------|---|---|
| 31 Oct. (i) | A large man with green plush hat and goggles. | (i) A <i>duck</i> in goggles and tall hat. |
| 31 Oct. (ii) | A fan-shaped object. | (ii) A paper ornament which folded up like a fan. |
| 28 Nov. (i) | A briar rose. | (i) Yellow chrysanthemums. |
| 19 Dec. (ii) | A bulldog. | (ii) Dog with pipe and cap. |
| 23 Jan. (i) | Flowers. | (i) A red rose. |

Especially noticeable is the "double" success on 31 October (i) and (ii).

(iii) *Percipient no. 118.* Score = $114/1020 = 11.2\%$.

| Date. | Impression. | Object of Experiment. |
|--------------|---|---|
| 10 Oct. (i) | A red book. | (i) Red poppies. |
| 7 Nov. (i) | A vivid impression of red. A deep red tie. | (i) Scarlet sheets of paper and red dunce cap. |
| 28 Nov. (i) | Impression of a yellow ladder. | (i) Yellow paper and yellow chrysanthemums. |
| 9 Jan. (i) | A red object (an apple?). | (i) A red apple. |
| 13 March (i) | Orange colour. | (i) A yellow duck with orange feet and bill. |

Practically all the successes here are impressions of colour.

The distribution of high scores. Of the 374 percipients whose possible scores equal or exceed 300, the distribution of the higher percentage scores is as follows :

TABLE III

| Score. | Number of Percipients. |
|-----------|------------------------|
| 15.0-15.5 | 2 (nos. 338 and 519) |
| 14.5-15.0 | 1 (no. 382) |
| 14.0-14.5 | 5 |
| 13.5-14.0 | 1 |
| 13.0-13.5 | 4 |
| 12.5-13.0 | 2 |
| 12.0-12.5 | 4 |
| 11.0-12.0 | 18 |
| 10.0-11.0 | 17 |
| 9.0-10.0 | 20 |
| 8.0- 9.0 | 29 |
| 7.0- 8.0 | 46 |

Mean percentage score = 6.48.

It is noteworthy that the three percipients who obtained the highest scores were not particularly successful with the 27 objects, but obtained a considerable number of partial successes with three figure numbers, capital letters, etc.

It will be sufficient as specimens to quote the successes of percipients nos. 338, 519 and 382.

TABLE IV

Percipient no. 338. Score = $131/860 = 15.2\%$ (highest score).

| Date. | Impression. | Object of Experiment. |
|---------------|------------------------------|---|
| 10 Oct. (i) | Casual mention of "red." | (i) Red poppies. |
| 17 Oct. (ii) | A ship (<i>Post</i>). | (i) A sailing yacht. |
| 17 Oct. (iii) | "Fireworks." "Blackness." | (iii) Indoor fireworks. Stars in darkness. |

| Date. | Impression. | Object of Experiment. |
|---------------|---|---------------------------------|
| 31 Oct. (i) | A <i>bird</i> in a cage. | (i) A yellow duck. |
| 21 Nov. (iii) | Equilateral triangle. | (iii) Equilateral triangle. |
| 28 Nov. (iii) | <i>Many</i> concentric circles drawn [more than three]. | (iii) Three concentric circles. |
| 19 Dec. (i) | "A couple dancing." | (i) Dancing monkey on organ. |
| 16 Jan. (i) | Glass vase. | (i) Chinese cup and saucer. |
| 23 Jan. (ii) | 479. | (ii) 491. |
| 23 Jan. (iii) | "2 of Hearts." | (iii) 2 of Diamonds. |
| 30 Jan. (i) | Small animal [furry]. | (i) Furry toy bear. |
| 30 Jan. (ii) | 562 | (ii) Number 222. |
| 30 Jan. (iii) | Letter A. | (iii) Letter H. |
| 6 Feb. (i) | 8 of Hearts. | (i) 4 of Spades. |
| 6 Feb. (ii) | Number 796. | (ii) Number 777. |

TABLE V

Percipient no. 519. Score = $120/800 = 15.0\%$.

| Date. | Impression. | Object of Experiment. |
|---------------|--|--|
| 17 Oct. (i) | Large round green ball like <i>balloon</i> (<i>Prev.</i>). | (ii) Firework balloon. |
| 24 Oct. (ii) | " <i>Violin</i> on red cloth" (<i>Post</i>). | (i) Toy mandolin. |
| 21 Nov. (iii) | Equilateral triangle inscribed in a circle. | (iii) Equilateral triangle. |
| 28 Nov. (ii) | Number 814. | (ii) Number 444. |
| 28 Nov. (iii) | Three <i>intersecting</i> circles. | (iii) Three <i>concentric</i> circles. |
| 5 Dec. (ii) | Number 658. | (ii) Number 888. |
| 9 Jan. (i) | Impression of <i>red</i> object. | (i) <i>Red</i> apple. |
| 9 Jan. (ii) | The number 591. | (ii) The number 581. |
| 16 Jan. (i) | "Large china bowl." | (i) Chinese cup and saucer. |
| 16 Jan. (ii) | Number 555. | (ii) Number 555. |
| 23 Jan. (iii) | King of Hearts. | (iii) 2 of Diamonds. |
| 20 Feb. (i) | Ace of Clubs. | (i) 6 of Clubs. |
| 27 Feb. (i) | 5 of Hearts. | (i) 5 of Hearts. |

TABLE VI

Percipient no. 382. Score = $136/920 = 14.8\%$.

| Date. | Impression. | Object of Experiment. |
|---------------|--------------------------------------|--|
| 24 Oct. (iii) | Drawing of half of a Maltese cross. | (iii) Maltese cross. |
| 31 Oct. (iii) | Drawing of concentric spirals. | (iii) Three circles in triangular formation. |
| 14 Nov. (iii) | Pentagon. | (iii) Pentagon. |
| 21 Nov. (ii) | 47—. | (ii) Number 424. |
| 5 Dec. (i) | "Feeling of something being killed." | (i) Mention of hunting a kangaroo. |

| Date. | Impression. | Object of Experiment. |
|---------------|--|--------------------------------|
| 5 Dec. (ii) | Number 586. | (ii) Number 888. |
| 5 Dec. (iii) | Letter "E" persisted. | (iii) Letter F. |
| 12 Dec. (i) | Saw a <i>pike</i> . | (i) An <i>alligator</i> . |
| 19 Dec. (ii) | A little daneing man (<i>Post</i>). | (i) A daneing monkey on organ. |
| 23 Jan. (ii) | The number 491. | (ii) Number 491. |
| 23 Jan. (iii) | 2 of Hearts. | (iii) 2 of Diamonds. |
| 6 Feb. (i) | Jack of Spades. | (i) 4 of Spades. |

Note the interesting "double" success on 23 January.

A few typical impressions. We may conelude our disussion of the 27 objects by eiting a few of the more interesting impressions obtained under various dates. It will be seen that the great majority of these are isolated successses, which are obtained by percipients with only an average score on their total output.

1. Date : 10 October (i). Percipient : no. 282. Score : 32/320 = 10·0%. Impression : (i) A field of poppies. Object of experiment : (i) Red artefieial poppies.

2. Date : 24 October (i). Percipient : no. 232. Score : 87/720 = 12·1%. Impression : (i) A *coloured caricature*; *nose* being prominent feature. Object of experiment : (ii) A long salmon-coloured earboard nose.

3. Date : 31 October (iii). Percipient : no. 232. Score : 87/720 = 12·1%. Impression : (iii) (*Post*) Mention of honeyeomb and suggestion of squared paper. Object of experiment : (ii) A paper ornament honeyeombed with cells.

4. Date : 28 November (i). Percipient : no. 232. Score : 87/720 = 12·1%. Impression : (i) Strands of gold ereum wool wound round something. Object of experiment : (i) Sheets of yellow paper.

5. Date : 13 Mareh (i). Percipient : no. 152. Score : 70/640 = 10·9%. Impression : (i) "A duek or drake moving head and opening bill." Object of experiment : (i) A toy yellow duek.

6. Date : 13 Mareh (i). Percipient : no. 156. Score : 69/820 = 8·4%. Impression : (i) A toy *yellow duck* on wheels. Object of experiment : (i) A toy *yellow duck* not on wheels.

7. Date : 10 October (ii). Percipient : no. 440. Score : 43/880 = 4·9%. Impression : (ii) A domestic ehopper being used. Object of experiment : (ii) A tomahawk.

8. Date : 10 October (iii). Percipient : no. 440. Impression : (iii) Model head of negro. Object of experiment : (iii) Small female Egyptian head with tape measure.

Note "double" success.

9. Date : 14 November (i). Percipient : no. 227. Score : 38/500 = 7·6%. Impression : (i) "A string of pearls." Object of experiment : (i) White mistletoe berries.

10. Date : 14 November (ii) (*Post*). Percipient : no. 568. Score : $89/920 = 9.7\%$. Impression : (ii) Branch of holly and dark green leaves. Object of experiment : (i) Mistletoe and green leaves.

11. Date : 19 December (ii) (*Post*). Percipient : no. 229. Score : $44/700 = 6.3\%$. Impression : (ii) (*Post*) "Rapid motion becoming faster and faster like some part of a machine revolving rapidly or a *hand turning a handle very quickly*." Object of experiment : (i) Organ-grinder turning handle of street organ.

12. Date : 13 February (iii). Percipient : no. 152. Score : $70/640 = 10.9\%$. Impression : (iii) A wolf. Object of experiment : (iii) An Alsatian dog.

13. Date : 17 October (i) and (iii). Percipient : no. 160. Score : $46/620 = 7.4\%$. Impression : (i) Pink toy balloon on string. Something bursts or breaks. It made a bang (*Prev.*). (iii) Heaps of paper streamers. He stirs them up with a poker (*Post*). Object of experiment : (ii) A small bomb ignited and paper scattered about room. A paper balloon was lighted and rose to the ceiling. [Rather a curious impression.]¹

14. Date : 20 March (i). Percipient : no. 383. Score : $113/840 = 13.5\%$. Impression :

"A wee bird came tae our door.
He warbled sweet and clearly ;
But aye it e'er came to this song
Was Wae's me for Prince Charlie."

Object of experiment : (i) Picture of a *bird* perched on a *skull*.
NOTE.—The percipient associates the idea of a *bird* with disaster or tragedy.

15. Date : 10 October (i) (*Prev.*). Percipient : no. 504. Score : $79/1020 = 7.7\%$. Impression : (i) "A metal head of Egyptian." Object of experiment : (iii) A small female Egyptian head with tape measure protruding from mouth.

Concluding remarks on the 27 objects. While a careful study of Tables XXXIII gives no indication of any constantly operating faculty of supernormal perception among the mass of the percipients, it must be freely admitted that the accuracy of certain isolated impressions, or in some cases small groups of impressions, baffle all analysis. If certain of the successes described in the preceding sections are due to telepathy, we can only conclude that this faculty is so occasional, so sporadic in its operation, as to be undiscoverable by statistical analysis.

¹ It is an instructive illustration of the scope of chance to compare this impression with one obtained by no. 317 on 23 January (i), which reads : "Burning paper. Girl with cigarette. Air balloon. Flash of light."

Special experiment on 6 March. Between 10.0 and 10.10 on 6 March 1929 a special attempt was made by the agents to transmit the idea of the first verse of Blake's poem "The Tiger":

"Tiger, tiger burning bright,
In the forests of the night,
What immortal hand or eye
Could frame thy fearful symmetry?"

A sealed envelope was sent to 23 additional agents, containing a white card on which the above verse was written in red ink. The notice sent out to the 230 percipients who took part was as follows: "10.0 p.m. Think over and write out a verse of poetry of *not more* than 5 lines and record all impressions." The 23 additional agents were requested to break the seal at 10.0 p.m. on 6 March and to concentrate on the contents from 10.0-10.5 p.m. Concentration was to cease at 10.5 p.m. The agents at 2 Adelaide Road chanted the poem together from 10.0-10.10 p.m. There was mention of the ferocity of tigers and of poking the tiger at the Zoo with an umbrella.

As a result none of the 230 percipients quoted any verse from the poem in question, and no percipient mentioned a tiger. A few percipients quoted poems in which "night" was mentioned, but there were no close approximations to the idea of a fire in the darkness. Perhaps the percipient who got nearest to the "spirit" of the poem was no. 232, who is cited in connection with the 27 objects (p. 235, above). His verse ran:

"God of the granite and the rose,
Soul of the sparrow and the bee,
Thy mighty tide of being flows
Through all thy creatures back to thee."

We may note a few poems quoted by percipients in order of popularity. Undoubtedly the most popular poem was Longfellow's "Psalm of Life," from which no less than seven persons quoted a verse: "Tell me not in mournful numbers . . ." nos. 152 (Letchworth) and 380 (Palmer's Green); "Life is real, life is earnest . . ." nos. 321 (Basingstoke) and 472 (Dudley); "Lives of great men all remind us," nos. 454 (Ireland) and 486 (Herefordshire); "Let us then be up and doing," no. 249 (Oxford).

Next there were six quotations from Gray's "Elegy," four quotations from Wordsworth's "Intimations of Immortality"—these being mostly the lines beginning "Our birth is but a sleep and a forgetting," three from the "Ancient Mariner," etc. Two percipients (163 and 628) cited the not very well known verse from Fitzgerald's "Omar": "Lo! some we loved, the loveliest and the best . . ."

Coincidence in time for the "object" impressions. Taking the dates 10, 17, 24, 31 October, 7, 14 November, and 19 December, on each of which more than one concrete object was shown, we find from the Object Tables XXXIII that there were altogether 501 distinct successful hits. Care has been taken to count each successful hit only once, as some hits are enunciated in the tables under more than one heading. On evenings like 10 October, where three objects were shown, we might expect by chance that the successful hits would be about equally distributed among the three intervals of ten minutes, so that if on such an evening there were x successful hits in all, the expected number for each interval would be $x/3$. Similarly, on an evening like 7 November, on which two concrete objects only were exhibited, the chance expectation for each of the two ten minute intervals would be $y/2$ where y is the total of successful hits on this evening.

We are thus able to calculate what number of the 501 successful hits would on a chance basis happen to be guessed in the same ten minute interval as that in which the corresponding object was shown to the agents. This chance expectation of hits which are neither "post" nor "previsional" is found to be 209.2. The actual number of such hits is 210. Thus the agreement is unexpectedly close and furnishes us with one more argument in favour of the view that the successful hits have no special relation to the particular time interval in which the corresponding objects were shown. (The details of the counts have been preserved and can be seen by anyone wishing to verify them.)

B. Geometrical Figures

The figures the agents attempted to transmit in the six geometrical experiments are shown in Table VIII (Analysis of geometrical transmission experiments). The notice sent out to percipients is given on p. 215, above. When a percipient drew more than one distinct drawing, the first in order from left to right or from top to bottom was chosen for the purpose of scoring and of classification.¹ The number of geometrical impressions sent in was as a rule considerably less than the weekly total of percipients, since a certain number of percipients seemed to shirk this type of experiment. No additional agents were used in any of the geometrical tests. The figure chosen for transmission each week was deliberately selected by myself and drawn by me in the presence of the other agents.

¹ When, however, a percipient underlined one of two drawings as being a stronger impression than the other, the stronger impression was chosen. Where a percipient made more than two distinct drawings his impressions were ignored.

Classification of the drawings. The sketches were divided into two main classes : (a) "straight line" figures, and (b) curved figures. The class (a) comprised triangles, pyramids, prisms, quadrilaterals, polygons and all other figures formed entirely or almost entirely of straight lines. Class (b) comprised complete circles, ovals, arcs of circles, spheres, cones, cylinders, crescents and other figures composed almost entirely or entirely of curved lines. In the case of a "mixed" drawing, in which straight lines and curves equally predominate, one-half was counted to belong to class (a) and one-half to class (b). Drawings of this type are, for example, a triangle inscribed in a circle, a circle (not excessively minute) inscribed in a triangle, a sector of a circle or a quadrilateral or polygon inscribed in a circle (or *vice versa*), a segment of a circle, a bounded semicircle, and so on.

These two classes (a) and (b) were then sub-divided into smaller classes such as quadrilaterals, complete circles, triangles and pyramids, ovals, sectors, polygons, cones, cylinders, curved impressions unclassified, linear impressions not classified, and so on.¹ In Tables VII and VIII we are concerned with only three of these sub-classes, viz. : (i) triangles and pyramids, (ii) complete circles, (iii) pentagons and higher polygons such as hexagons, octagons, etc. Class (ii) includes single circles, concentric circles, two or more intersecting or non-intersecting complete circles, but excludes sectors, semicircles, etc. Class (i) includes single triangles, tetrahedrons, a pair of triangles base to base or vertex to vertex, Maltese crosses formed of four triangles, and also figures formed by a pair of distinct interlacing triangles or of one triangle inscribed in another. Pyramids with a square or polygonal base counted for only one-half in the triangular class and one-half in the quadrilateral or polygon class. Drawings of a triangle inscribed in a circle counted for one-half in the triangular class and one-half in the complete circle class. A similar partition was used in the case of a polygon inscribed in a circle or a circle inscribed in a polygon.

Table VII gives the numbers of impressions in each class under the appropriate headings in each of the five "control" experiments, where no drawing was looked at by the agents. From the totals the average frequency for each class is found. Thus the frequency for the "triangular" class (i) is found by dividing the total number (259.5) of triangles and pyramids by the total number (1161) of distinct drawings. The result is $259.5/1161 = .224$, and so on for the remaining classes (Table VII). These frequencies are then used to calculate the *expected* numbers of each class in the other six geometrical tests. The standard deviations are also calculated on the

¹ The actual tables of classification for each week may be inspected at the S.P.R. Rooms.

assumption of a binomial distribution. In Table VIII these *expected* numbers are compared with the corresponding "actual" numbers.

It will be seen that with one single exception (28 November, complete circles and triangular classes) the actual deviations are all numerically less than twice the corresponding standard deviations. The deviation on 28 November just exceeds $2 \times \text{S.D.}$ in the complete circle class, but since this deviation is *negative* it provides no evidence for supernormal perception. It appears, in fact, that the frequencies found from the control experiments apply extremely well to the results of the remaining experiments, and there is no evidence that when the agents have thought of a triangle, for instance, the numbers in the triangular class show any significant increase.

Table IX gives the numbers of times which the *actual* drawings shown in the six experiments were guessed on each date. Here again there is no evidence that the agents have augmented these numbers on certain weeks by their concentration.

TABLE VII
ANALYSIS OF GEOMETRICAL CONTROL EXPERIMENTS

| Date. | Number of Triangular Drawings and Pyramids. | Number of Complete Circles. | Number of Pentagons and Higher Polygons. | Total Number of Straight Line Impressions. | Total Number of Distinct Drawings. |
|---------------|---|-----------------------------|--|--|------------------------------------|
| 7 Nov. | 60.5 | 47.5 | 20.0 | 167.5 | 261 |
| 12 Dec. | 38.0 | 37.5 | 12.0 | 128.5 | 212 |
| 19 Dec. | 50.0 | 55.0 | 10.0 | 135.0 | 238 |
| 9 Jan. | 60.5 | 40.5 | 13.0 | 147.0 | 243 |
| 6 Feb. | 50.5 | 35.5 | 11.0 | 138.0 | 207 |
| Totals | 259.5 | 216.0 | 66.0 | 716.0 | 1161 |
| Frequencies - | .224 | .168 | .0568 | .617 | — |

[These frequencies are used to calculate the expected values for the same classes of drawings in Table VIII.]

TABLE VIII

ANALYSIS OF GEOMETRICAL TRANSMISSION EXPERIMENTS

| Date. | Class of Impression. | Actual Numbers. | Expected Numbers. | Deviations. | Standard Deviations. | Object of Transmission. |
|---------|------------------------|-----------------|-------------------|---------------|----------------------|--|
| 24 Oct. | Triangular - | 82.0 | 72.8 | + 9.2 | ±7.5 | Maltese cross formed by four equilateral triangles. |
| | Complete circle | 70.0 | 60.4 | + 9.6 | ±7.0 | |
| | Polygonal - | 24.0 | 18.5 | + 5.5 | ±4.2 | |
| | Straight line figure - | 214.0 | 200.5 | + 13.5 | ±8.8 | |
| 31 Oct. | Triangular - | 70.0 | 66.3 | + 3.7 | ±7.2 | Three sets of two concentric circles in triangular formation and touching in pairs externally. |
| | Complete circle | 66.0 | 55.0 | + 11.0 | ±6.7 | |
| | Polygonal - | 12.0 | 16.8 | - 4.8 | ±4.0 | |
| | Straight line figure - | 189.0 | 182.6 | + 6.4 | ±8.4 | |
| 14 Nov. | Triangular - | 44.0 | 48.4 | - 4.4 | ±6.1 | Regular pentagon. |
| | Complete circle | 36.0 | 40.2 | - 4.2 | ±5.7 | |
| | Polygonal - | 14.0 | 12.3 | + 1.7 | ±3.4 | |
| | Straight line figure - | 136.5 | 133.3 | + 3.2 | ±7.1 | |
| 21 Nov. | Triangular - | 49.5 | 57.8 | - 8.3 | ±6.7 | Equilateral triangle. |
| | Complete circle | 45.0 | 48.0 | - 3.0 | ±6.2 | |
| | Polygonal - | 20.0 | 14.6 | + 5.4 | ±3.7 | |
| | Straight line figure - | 166.5 | 159.2 | + 7.3 | ±7.8 | |
| 28 Nov. | Triangular - | 35.0 | 48.2 | - 13.2 | ± 6.1 | Three concentric circles. |
| | Complete circle | 28.5 | 40.0 | - 11.5 | ± 5.7 | |
| | Polygonal - | 13.5 | 12.2 | + 1.3 | ±3.4 | |
| | Straight line figure - | 135.0 | 132.6 | + 2.4 | ±7.1 | |
| 16 Jan. | Triangular - | 53.0 | 52.4 | + 0.6 | ±6.4 | Black equilateral triangle inscribed in a circle. |
| | Complete circle | 35.0 | 43.5 | - 8.5 | ±6.0 | |
| | Polygonal - | 13.0 | 13.3 | - 0.3 | ±3.5 | |
| | Straight line figure - | 158.5 | 144.4 | + 14.1 | ±7.5 | |

TABLE IX

Explanation: Under, for example, the heading Pentagon we find for each date the number of percipients who drew a pentagon on that date. A *pentagon* was actually shown to the agents on 14 November.

| Date. | Total Number of Distinct Drawings. | Drawing of Maltese Cross or mention of same. | Triangle in a Circle. | Penta-gon. | Two or more Con-centric Circles. | Cone (b) (iii). | Three Circles in Tri-angular Formation. |
|---------|------------------------------------|--|-----------------------|--------------|----------------------------------|-----------------|---|
| 24 Oct. | 325 | 3 (c) | 16 (a) | 5 | 9 | 4 | 0 |
| 31 Oct. | 296 | 3 | 3 | 0 | 8 | 3 | 1 (c) |
| 7 Nov. | 261 | 4 | 1 | 4 | 9 | 6 (c) | 0 |
| 14 Nov. | 216 | 3 | 4 | 6 (c) | 6 | 6 | 1 |
| 21 Nov. | 258 | 1 | 2 | 6 | 6 | 5 | 0 |
| 28 Nov. | 215 | 3 | 3 | 5 | 4 (c) | 6 | 2 |
| 12 Dec. | 212 | 1 | 4 | 1 | 6 | 8 | 0 |
| 19 Dec. | 238 | 0 | 2 | 2 | 7 | 7 | 2 |
| 9 Jan. | 243 | 5 | 6 | 5 | 2 | 7 | 0 |
| 16 Jan. | 234 | 0 | 3 (c) | 2 | 4 | 7 | 1 |
| 6 Feb. | 207 | 4 | 1 | 3 | 5 | 3 | 1 |
| Totals | 2705 | 27 | 45 | 39 | 66 | 62 | 8 |

(a) This seems to be clearly an abnormal result, and we might suspect the influence of some common suggestion in this particular week.

(b) Cf. Experiment 7 Nov. (i).

(c) The values in heavy type correspond to the *date on which the object at the head of the column was shown to the agents.*

C. The Three Figure Number Experiments

There were eight attempts to transmit a three figure number and six control experiments. The notices sent out to percipients on each occasion are to be found on p. 215, above.

On three occasions, viz. 9 January (ii), 16 January (ii) and 30 January (ii), between 20 and 30 additional agents were employed to assist in the transmission.

The instructions sent to these agents is to be found on pp. 293-4, 296 below. It will be seen by a reference to the chart that on 9 January and 16 January the additional agents had finished their concentration before the percipients began to record their impressions of three figure numbers. This was arranged to test the "sub-conscious" or "latent" transmission theory.

The selection of the numbers. On 21 November and 9 and 23 January the numbers were chosen by myself in private by drawing

from a bag a piece of cardboard on which was inscribed one of the nine digits. The digits were replaced in the bag together with another piece of cardboard bearing the figure 0, and the operation of drawing was repeated twice. The three figure number was thus constructed.

For the five remaining experiments I decided to employ numbers in which all three digits were the same, and subject to this restriction and the further restriction that no such number should be used twice on different dates, the method of selection was by drawing from a bag. The number was usually selected some days before the date of the experiment in which it was required, and was drawn by me in black or blue crayon on several postcards, one of which was handed to each agent. In cases where the percipient made an extra guess,¹ the first in order of recording was chosen for the purposes of scoring and analysis except when the percipient had underlined one impression as being stronger than the other, in which case the impression underlined was chosen.

Explanation of Tables X to XIII. Table X gives the individual percipients who guessed the number correctly and also those who guessed the first two digits correctly. It will be seen that even with the "popular" numbers 555, 777, etc. the amount of success is negligible. Moreover, no individual percipient guessed more than a single one of the eight numbers correctly.

TABLE X
INDIVIDUAL RESULTS OF NUMBER TESTS

| Date. | No. shown. | Percipients with first two or more Digits correct. | |
|---------|------------|--|--------------------------------|
| | | Absolutely correct. | First two Digits only correct. |
| 21 Nov. | 424 | — | Nos. 264, 636, 624, 152 |
| 28 Nov. | 444 | x^2 | No. 355 |
| 5 Dec. | 888 | — | — |
| 9 Jan. | 581 | — | Nos. 383 and 270 |
| 16 Jan. | 555 | No. 519 | Nos. 523 and 311 |
| 23 Jan. | 491 | No. 382 | Nos. 691 and 265 |
| 30 Jan. | 222 | No. 661 | Nos. 186 and 15 |
| 6 Feb. | 777 | No. 394 | No. 523 |

¹ An identical procedure was adopted in the experiment with capital letters and playing cards. When, however, *more than two guesses* were given the percipient's impressions were ignored as being probably valueless.

² This percipient's postcard could not be identified.

TABLE XI

NO. OF CASES IN WHICH THE FIRST TWO DIGITS ARE THE SPECIAL COMBINATIONS SHOWN

| Date. | Total No. Guesses. | No. shown to Agents. | 42 | 44 | 88 | 58 | 55 | 49 | 22 | 77 |
|---------|--------------------|----------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| 21 Nov. | 336 | 424 | 4 | 4 | 6 | 2 | 2 | 4 | 1 | 1 |
| 28 Nov. | 283 | 444 | 4 | 2 | 0 | 3 | 0 | 1 | 3 | 7 |
| 5 Dec. | 262 | 888 | 7 | 1 | 0 | 5 | 1 | 2 | 0 | 2 |
| 9 Jan. | 236 | 581 | 2 | 0 | 1 | 2 | 1 | 3 | 0 | 5 |
| 16 Jan. | 235 | 555 | 1 | 0 | 1 | 2 | 3 | 5 | 0 | 1 |
| 23 Jan. | 235 | 491 | 3 | 2 | 2 | 1 | 3 | 3 | 5 | 4 |
| 30 Jan. | 231 | 222 | 3 | 3 | 0 | 0 | 5 | 1 | 3 | 1 |
| 6 Feb. | 258 | 777 | 2 | 1 | 3 | 3 | 4 | 3 | 2 | 2 |
| 13 Feb. | 250 | Control | 4 | 2 | 1 | 3 | 2 | 0 | 2 | 4 |
| 20 Feb. | 232 | Control | 2 | 0 | 3 | 3 | 2 | 0 | 1 | 5 |
| 27 Feb. | 228 | Control | 4 | 4 | 1 | 2 | 3 | 3 | 3 | 3 |
| 6 Mar. | 235 | Control | 4 | 2 | 3 | 2 | 6 | 1 | 1 | 1 |
| 20 Mar. | 195 | Control | 6 | 1 | 1 | 4 | 1 | 2 | 2 | 1 |
| 27 Mar. | 231 | Control | 1 | 0 | 0 | 5 | 3 | 1 | 2 | 5 |
| Total | 3447 | Totals | 47 | 22 | 22 | 37 | 36 | 29 | 25 | 42 |

NOTE.—In each column we read opposite any date the number of guesses on that date which had for their first two digits the special combination given at the head of the column. The numbers in heavy type should be compared with the remaining numbers in the same column. Cases of three digits identical are included here.

TABLE XII

OCCURRENCE OF NUMBERS WITH THREE REPEATED DIGITS

| Date. | Total No. of Guesses. | No. shown | 111 | 222 | 333 | 444 | 555 | 666 | 777 | 888 | 999 |
|---------|-----------------------|------------|-----|-----|-----|----------|----------|-----|-----|-----|-----|
| 21 Nov. | 336 | 424 | 6 | — | 6 | 1 | 2 | 2 | 1 | 3 | 2 |
| 28 Nov. | 283 | 444 | 2 | 1 | 8 | 1 | — | 6 | 5 | — | 1 |
| 5 Dec. | 262 | 888 | 3 | — | 8 | 1 | 1 | 3 | 2 | — | 4 |
| 9 Jan. | 236 | 581 | 1 | — | 6 | — | 1 | 3 | 4 | — | 1 |
| 16 Jan. | 235 | 555 | 2 | — | 2 | — | 1 | 3 | — | 1 | 1 |
| 23 Jan. | 235 | 491 | 1 | 2 | 3 | 1 | 2 | 1 | 3 | 1 | 2 |
| 30 Jan. | 231 | 222 | 3 | — | 3 | 2 | 1 | — | — | — | 5 |
| 6 Feb. | 258 | 777 | 5 | — | 4 | 1 | 2 | — | — | 3 | 4 |
| 13 Feb. | 250 | Control | 3 | 1 | 2 | — | 2 | 1 | 1 | 1 | — |
| 20 Feb. | 232 | Control | 1 | 1 | 4 | — | 1 | 1 | 4 | 2 | 3 |
| 27 Feb. | 228 | Control | — | 1 | 1 | 2 | 2 | 1 | — | 1 | 2 |
| 6 Mar. | 235 | Control | 3 | — | 2 | — | 3 | 2 | 1 | 2 | — |
| 20 Mar. | 195 | Control | — | 1 | 5 | 1 | 1 | 2 | 1 | — | 2 |
| 27 Mar. | 231 | Control | 1 | 1 | 2 | — | 1 | 2 | 2 | — | 3 |
| Total | 3447 | | | | | | | | | | |

The values in heavy type should be compared with the remaining values in the same vertical column under the headings 222, 444, 555, 777, 888 respectively. Under heading 222, for instance, we find the numbers of times 222 was guessed on each of the fourteen weeks. Looking opposite 30 January we find that on this date 222 was not guessed at all.

TABLE XIII

SPECIAL IMPRESSIONS OF ISOLATED DIGITS OR DIGITS SPECIALLY STRESSED

| Date. | Total No. of Guesses. | No. shown. | Digit stressed. | | | | | | | | | Roman Numerals. | |
|---------|-----------------------|------------|-----------------|---|---|---|----------|----------|---|----------|----------|-----------------|---|
| | | | 1 | 2 | 3 | 4 | 4 | 5 | 6 | 7 | 8 | | 9 |
| 21 Nov. | 336 | 424 | — | — | 1 | 4 | 9 | 1 | — | 2 | 1 | — | — |
| 28 Nov. | 283 | 444 | — | — | 1 | 1 | 1 | — | — | 3 | 1 | 1 | — |
| 5 Dec. | 262 | 888 | — | 1 | — | — | 7 | — | 1 | — | 5 | 1 | 5 |
| 9 Jan. | 236 | 581 | — | 1 | 1 | — | 3 | 8 | — | 4 | 3 | 1 | — |
| 16 Jan. | 235 | 555 | 1 | — | 2 | 2 | — | 3 | 1 | 1 | 2 | — | — |
| 23 Jan. | 235 | 491 | — | — | 3 | — | 4 | 1 | — | — | — | — | 2 |
| 30 Jan. | 231 | 222 | 1 | — | — | — | — | 1 | — | 4 | 1 | — | — |
| 6 Feb. | 258 | 777 | — | — | 1 | 2 | — | 1 | — | 2 | 1 | — | — |
| 13 Feb. | 250 | Control | — | — | 1 | 0 | 1 | — | 1 | 2 | 1 | — | 2 |
| 20 Feb. | 232 | Control | — | — | 1 | 1 | 1 | 2 | 3 | — | — | — | — |
| 27 Feb. | 228 | Control | — | — | 1 | 1 | 1 | 1 | 2 | 1 | 1 | — | — |
| 6 Mar. | 235 | Control | — | 1 | 1 | 1 | 1 | 1 | 1 | — | — | — | 2 |
| 20 Mar. | 195 | Control | — | — | — | — | 2 | — | — | — | — | — | — |
| 27 Mar. | 231 | Control | — | — | 1 | 1 | — | 1 | — | 2 | 1 | — | — |
| Total | 3447 | | | | | | | | | | | | |

NOTE.—In each column we read opposite any date the number of percipients who on that date specially underlined or emphasised the particular digit given at the head of the column.

In Table XI¹ we investigate whether there is any *general* tendency to get the first two digits correct. If the numbers in heavy type in this table are compared with the other numbers in the *same column* it will be obvious that there is absolutely no significant superiority whatever in any case.

Table XII investigates the amount of *general* success obtained with the numbers consisting of three repeated digits. Here again if the numbers in heavy type are compared with those in the same column as the one in heavy type it will be seen that there is obviously no superiority whatever on any occasion.

Table XIII deals with those single digits specially stressed by percipients. It often happened that a percipient guessed a three

¹ In all the tables, by the total number of guesses each week is meant the number of *complete* three figure numbers, one of course being recorded for each percipient. A considerable proportion of the guesses each week, however, were incomplete.

figure number and underlined say the first digit. In other cases a percipient would say, "I see the figure 5 very strongly," or "I see hosts of 8's," etc. Table XIII has been constructed to discover if there is any correlation between these "specially strong" digital impressions and the numbers shown to the agents. On 21 and 28 November the digit 4 in the numbers 444 and 424 was exhibited to the agents as shown here: 4. Certain percipients wrote 4 instead of 4. In the case of 4, if we look down the column under this heading we find a certain superiority on 21 November, but none whatever on 28 November. Moreover, on 5 December the number of percipients who wrote 4 is only slightly inferior to the number on 21 November. Hence there does not appear to be much in the matter.

The only other case of a superiority is in the stressed digit "8" on 5 December and 9 January. But here again it is doubtful if the superiority is large enough to warrant serious attention. In the case of digits 1, 2, 7, there is no superiority.

Explanation of Tables XIV to XXI. We have now to investigate whether there is any general tendency to get the digit correct in the hundreds place alone, or in the tens place alone, or in the units place alone, or in the case of numbers like 777 in all three places. To solve this problem I have constructed first 29 tables, of which it will be sufficient to give the four for the date 16 January,¹ on which day the number shown to the agents was 555.

We can confine our attention to 16 January, *hundreds* place (Table XIV). The second column under the heading N_s gives the total number of times in which each of the digits 1, 2, 3 ... 9 occurs in the hundreds place in all the six control experiments *pooled together*. $N=1371$ is the sum of these numbers. In the third

column is found the value of $\frac{N_s}{N}$ for each digit, this representing,

therefore, the frequency ratio of each digit in the control series. Column 7 under the heading N_s^1 gives the actual number of times in which each of the digits 1, 2, ... 9 occurs in the hundreds place for the guesses obtained on the date 16 January. In column 6 is

to be found the value of $\frac{N_s^1}{N^1}$ for each digit, N^1 being the total

number of guesses on 16 January = 235. The values of $\frac{N_s^1}{N^1}$ are

therefore the actual frequency ratios for the digits 1, 2, 3, ... 9 on 16 January. Columns 4 and 5 are merely convenient steps in the calculation of the numbers in the last column under the heading

$$\frac{\left[\frac{N_s}{N} - \frac{N_s^1}{N^1} \right]^2 N N^1}{N_s + N_s^1} = Y_s^2$$

¹ The other twenty-five tables may be inspected at the S.P.R. Rooms.

SPECIMEN TABLES SHOWING THE EVALUATION OF Y_s^2

TABLE XIV

16 JANUARY. HUNDREDS PLACE. [Number shown=555.]

| Digit. | N_s [Control] (combined). | Control Frequen- cies. | $\frac{N_s^1}{N} - \frac{N_s^1}{N^1}$ | $N_s + N_s^1$ | Frequen- cies for 16 Jan. | 16 Jan. N_s^1 | $\frac{\left[\frac{N_s^1}{N} - \frac{N_s^1}{N^1} \right]^2 N N^1}{N_s + N_s^1}$ |
|--------|-----------------------------------|------------------------------|---------------------------------------|---------------|---------------------------------|--------------------|--|
| | | $\frac{N_s}{N}$ | | | $\frac{N_s^1}{N^1}$ | | |
| $s=1$ | 190 | ·139 | +·016 | 219 | ·123 | 29 | ·38 |
| $s=2$ | 148 | ·108 | +·019 | 169 | ·089 | 21 | ·69 |
| $s=3$ | 246 | ·179 | +·005 | 287 | ·174 | 41 | ·03 |
| $s=4$ | 139 | ·101 | +·003 | 162 | ·098 | 23 | ·02 |
| $s=5$ | 150 | ·109 | +·020 | 171 | ·089 | 21 | ·75 |
| $s=6$ | 111 | ·081 | -·017 | 134 | ·098 | 23 | ·69 |
| $s=7$ | 184 | ·134 | -·040 | 225 | ·174 | 41 | 2·29 |
| $s=8$ | 96 | ·070 | -·002 | 113 | ·072 | 17 | ·01 |
| $s=9$ | 107 | ·078 | -·003 | 126 | ·081 | 19 | ·02 |
| Totals | 1371 = N | ·999 [Check] | +·001 [Check] | 1606 | ·998 [Check] | $N^1=235$ | $\chi^2=4\cdot88$ $P_{\chi^2}=0\cdot76$ |

TABLE XV

16 JANUARY. TENS PLACE. [Number shown=555.]

| Digit. | N_s [Control] (combined). | Control Frequen- cies. | $\frac{N_s^1}{N} - \frac{N_s^1}{N^1}$ | $N_s + N_s^1$ | Frequen- cies for 16 Jan. | 16 Jan. N_s^1 | $\frac{\left[\frac{N_s^1}{N} - \frac{N_s^1}{N^1} \right]^2 N N^1}{N_s + N_s^1}$ |
|--------|-----------------------------------|------------------------------|---------------------------------------|---------------|---------------------------------|--------------------|--|
| | | $\frac{N_s}{N}$ | | | $\frac{N_s^1}{N^1}$ | | |
| 1 | 122 | ·089 | +·017 | 139 | ·072 | 17 | ·67 |
| 2 | 167 | ·122 | +·007 | 194 | ·115 | 27 | ·08 |
| 3 | 174 | ·127 | +·029 | 197 | ·098 | 23 | 1·38 |
| 4 | 124 | ·090 | -·008 | 147 | ·098 | 23 | ·14 |
| 5 | 131 | ·096 | +·011 | 151 | ·085 | 20 | ·26 |
| 6 | 137 | ·100 | +·002 | 160 | ·098 | 23 | ·01 |
| 7 | 147 | ·107 | +·005 | 171 | ·102 | 24 | ·05 |
| 8 | 123 | ·090 | -·004 | 145 | ·094 | 22 | ·04 |
| 9 | 109 | ·079 | -·061 | 142 | ·140 | 33 | 8·44 |
| 0 | 137 | ·100 | +·002 | 160 | ·098 | 23 | ·01 |
| Totals | $[N=$ 1371] | 1·000 [Check] | +·000 [Check] | 1606 | 1·000 [Check] | $[N^1=235]$ | $\chi^2=11\cdot08$ $P_{\chi^2}=0\cdot27$ |

TABLE XVI

16 JANUARY. UNITS PLACE. [Number shown = 555.]

| Digit. | N_s [Control] (combined). | Control Frequencies. | $\frac{N_s^1}{N}$ $\frac{N_s^1 - N^1}{N}$ | Frequencies for 16 Jan. | $N_s + N_s^1$ | 16 Jan. N_s^1 | $\frac{[N_s^1 - N^1]^2 N N^1}{N_s + N_s^1}$ |
|--------|-----------------------------------|-------------------------|--|----------------------------|---------------|--------------------|---|
| | | $\frac{N_s}{N}$ | | $\frac{N_s^1}{N^1}$ | | | |
| 1 | 149 | ·109 | - ·014 | ·123 | 178 | 29 | ·35 |
| 2 | 103 | ·075 | - ·031 | ·106 | 128 | 25 | 2·42 |
| 3 | 169 | ·123 | + ·025 | ·098 | 192 | 23 | 1·05 |
| 4 | 112 | ·082 | + ·005 | ·077 | 130 | 18 | ·06 |
| 5 | 152 | ·111 | + ·026 | ·085 | 172 | 20 | 1·27 |
| 6 | 138 | ·101 | + ·016 | ·085 | 158 | 20 | ·52 |
| 7 | 179 | ·131 | + ·012 | ·119 | 207 | 28 | ·22 |
| 8 | 114 | ·083 | + ·002 | ·081 | 133 | 19 | ·01 |
| 9 | 154 | ·112 | - ·007 | ·119 | 182 | 28 | ·09 |
| 0 | 101 | ·074 | - ·032 | ·106 | 126 | 25 | 2·62 |
| Totals | [$N =$ 1371] | 1·001 [Check] | + ·002 [Check] | ·999 [Check] | 1606 | [$N^1 = 235$] | $\chi^2 = 8·61$ $P_{\chi^2} = 0·47$ |

TABLE XVII

16 JANUARY. ALL PLACES. [Number shown = 555.]

| Digit. | N_s [Control] (combined). | Control Frequencies. | $\frac{N_s^1}{N}$ $\frac{N_s^1 - N^1}{N}$ | Frequencies for 16 Jan. | $N_s + N_s^1$ | 16 Jan. N_s^1 | $\frac{[N_s^1 - N^1]^2 N N^1}{N_s + N_s^1}$ |
|--------|-----------------------------------|-------------------------|--|----------------------------|-----------------|--------------------|---|
| | | $\frac{N_s}{N}$ | | $\frac{N_s^1}{N^1}$ | | | |
| 1 | 461 | ·112 | + ·006 | ·106 | 536 | 75 | 0·19 |
| 2 | 418 | ·102 | - ·002 | ·104 | 491 | 73 | 0·02 |
| 3 | 589 | ·143 | + ·020 | ·123 | 676 | 87 | 1·72 |
| 4 | 375 | ·091 | + ·000 | ·091 | 439 | 64 | 0·00 |
| 5 | 433 | ·105 | + ·018 | ·087 | 494 | 61 | 1·90 |
| 6 | 386 | ·094 | + ·000 | ·094 | 452 | 66 | 0·00 |
| 7 | 510 | ·124 | - ·008 | ·132 | 603 | 93 | 0·31 |
| 8 | 333 | ·081 | - ·001 | ·082 | 391 | 58 | 0·01 |
| 9 | 370 | ·090 | - ·023 | ·113 | 450 | 80 | 3·41 |
| 0 | 238 | ·058 | - ·010 | ·068 | 286 | 48 | 1·01 |
| Totals | [$N =$ 4113] | 1·000 [Check] | + ·002 | 1·000 [Check] | 4818 [Check] | [$N^1 =$ 705] | $\chi^2 = 8·57$ $P_{\chi^2} = 0·47$ |

The square root Y_s of this quantity can be shown to represent the ratio of the difference of the two frequency ratios $\frac{N_s}{N}$ and $\frac{N_s^1}{N^1}$ to the standard error of this difference.¹

Now if in the majority of experiments the value of Y_s^2 considerably exceeded 4 for the particular digit s in the hundreds place that was being visualised by the agents, we should have evidence that the agents' concentration was affecting the distribution of this digit. In the example chosen 16 January (hundreds place) it is clear that for $s=5$ (number 555) the value of Y_s^2 is .75, which is very much less than 4.

The sum of the numbers in the last column, that is $\sum_{s=1}^{s=9} Y_s^2$, is called χ^2 , and in the example considered (16 January) $\chi^2=4.88$.

The magnitude of χ^2 determines the degree of "closeness of fit" between the actual distribution (16 January) and the "control" series.

In the particular case considered by reference to Karl Pearson's tables for statisticians we find for nine groups corresponding to $\chi^2=4.88$ a value $P_{\chi^2}=.76$. This must be interpreted to mean that by chance alone a worse fit than the present one (16 January) would occur on the average 76 times out of every 100 trials. We conclude then that the distribution of digits in the hundreds place on 16 January agrees pretty well with the distribution in the control series and that the fit is a good one.

In the long run the value of P_{χ^2} should as often exceed .5 as be below .5.

The values of Y_s^2 in each of the eight experiments for the hundreds place digit have all been tabulated in Table XVIII, and the value corresponding to the digit concentrated upon by the agents on each date is in heavy type. Not one of these stressed values of Y_s^2 even approaches 4, the largest being 1.50.

The last two rows of Table XVIII give the values of χ^2 and P_{χ^2} respectively. It is seen that the best fit $P_{\chi^2}=.93$ is on 23 January and the worst $P_{\chi^2}=.02$ on 30 January. Five of the eight values exceed .5 and three are less than .5. In the whole table there are 64 values of Y_s^2 , and by chance alone about 5% of these might be expected to exceed 4, *i.e.* about three values. Actually there are two such values, 5.67 and 9.81. Neither of these, however, correspond to a digit selected by the agents.

¹ For a proof of this statement consult Appendix II.

TABLE XVIII

VALUES OF $Y_s^2 = \frac{\left[\frac{N_s}{N} - \frac{N_s^1}{N^1} \right]^2 NN^1}{N_s + N_s^1}$ and of χ^2 and P_{χ^2} for HUNDREDS PLACE

| Date. | 21 Nov. | 28 Nov. | 5 Dec. | 9 Jan. | 16 Jan. | 23 Jan. | 30 Jan. | 6 Feb. |
|---------------------------|---------|---------|--------|-------------|------------|---------|---------|--------|
| Number shown - | 424 | 444 | 888 | 581 | 555 | 491 | 222 | 777 |
| Total number of guesses - | 336 | 283 | 262 | 236 | 235 | 235 | 231 | 258 |
| Values of Y_s^2 | — | — | — | — | — | — | — | — |
| Digit = 1 - | .03 | 3.46 | 2.15 | .00 | .38 | .59 | .24 | 1.88 |
| 2 - | .43 | .76 | .05 | .23 | .69 | .22 | .31 | .46 |
| 3 - | 3.16 | 1.39 | .64 | .16 | .03 | .09 | 9.81 | 1.06 |
| 4 - | .58 | .33 | .61 | .82 | .02 | .38 | .28 | .03 |
| 5 - | 1.75 | .43 | .92 | 1.50 | .75 | .07 | 1.37 | .24 |
| 6 - | .00 | .34 | 1.26 | 1.49 | .69 | .20 | .47 | 1.48 |
| 7 - | 2.30 | .03 | .11 | 1.00 | 2.29 | .55 | 5.67 | .32 |
| 8 - | 1.32 | .00 | .60 | .34 | .01 | .62 | .23 | .05 |
| 9 - | .60 | 1.53 | .07 | .52 | .02 | .30 | .00 | .00 |
| Values of χ^2 | 10.17 | 8.27 | 6.41 | 6.06 | 4.88 | 3.02 | 18.38 | 5.52 |
| Values of P_{χ^2} | .25 | .41 | .60 | .65 | .76 | .93 | .02 | .70 |

NOTE.—If the sum of the values of χ^2 in the last row but one is denoted by χ_1^2 it is useful to note that $\sqrt{2\chi_1^2}$ is distributed normally about a mean $\sqrt{2n-1}$ with *unit* standard deviation where n is the total number of degrees of freedom. In the above table $\chi_1^2 = 62.71n$ (supposed > 30) is equal to 8 [9 - 1] = 64. Hence $\sqrt{2\chi_1^2} - \sqrt{2n-1} = -.07$ which is less than the standard deviation and indicates a good agreement between the control series and the 8 experiments as a whole. (See *Statistical Methods for Research Workers*, p. 78, by R. A. Fisher.)

TABLE XIX

VALUES OF $Y_s^2 = \frac{\left[\frac{N_s}{N} - \frac{N_s^1}{N^1}\right]^2 NN^1}{N_s + N_s^1}$ and of χ^2 and P_{χ^2} for TENS PLACE

| Date. | 21 Nov. | 28 Nov. | 5 Dec. | 9 Jan. | 16 Jan. | 23 Jan. | 30 Jan. | 6 Feb. |
|---------------------------|------------|------------|------------|--------|------------|------------|------------|------------|
| Number shown - | 424 | 444 | 888 | 581 | 555 | 491 | 222 | 777 |
| Total number of guesses - | 336 | 283 | 262 | 236 | 235 | 235 | 231 | 258 |
| Values of Y_s^2 | — | — | — | — | — | — | — | — |
| Digit = 1 - | .43 | .04 | 1.15 | 1.03 | .67 | .06 | .49 | .15 |
| 2 - | .02 | .50 | .03 | 1.87 | .08 | .16 | .13 | 1.56 |
| 3 - | .10 | .58 | .45 | 2.19 | 1.38 | 2.39 | 1.17 | .21 |
| 4 - | .05 | .97 | .06 | .86 | .14 | .74 | 1.53 | 1.55 |
| 5 - | 1.06 | .16 | .00 | .02 | .26 | .48 | 1.04 | .00 |
| 6 - | .07 | .62 | .32 | 3.60 | .01 | .46 | 2.55 | .11 |
| 7 - | .02 | 6.96 | .24 | .38 | .05 | 2.57 | .02 | .05 |
| 8 - | .35 | .01 | .73 | 1.24 | .04 | .06 | .02 | .05 |
| 9 - | .33 | .19 | .46 | 8.48 | 8.44 | .88 | 4.08 | .27 |
| 0 - | 1.12 | .15 | .00 | 2.17 | .01 | .70 | .56 | .00 |
| Values of χ^2 | 3.55 | 10.18 | 3.44 | 21.84 | 11.08 | 8.50 | 11.59 | 3.95 |
| Values of P_{χ^2} - | .94 | .33 | .94 | .01 | .27 | .48 | .23 | .90 |

NOTE.—For significance the values in heavy type under each date should considerably exceed 4.

In the above table

$$\chi_1^2 = 74.13, \quad n = 8 \quad [10 - 1] = 72$$

whence $\sqrt{2\chi_1^2} - \sqrt{2n-1} = +.22$, which again indicates good agreement with theory. (See footnote to Table XVIII.)

TABLE XX

VALUES OF $Y_s^2 = \frac{\left[\frac{N_s}{N} - \frac{N_s^1}{N^1}\right]^2 NN^1}{N_s + N_s^1}$ and of χ^2 and P_{χ^2} for UNITS
PLACE

| Date. | 21 Nov. | 28 Nov. | 5 Dec. | 9 Jan. | 16 Jan. | 23 Jan. | 30 Jan. | 6 Feb. |
|---------------------------|------------|------------|------------|------------|-------------|------------|------------|-------------|
| Number shown - | 424 | 444 | 888 | 581 | 555 | 491 | 222 | 777 |
| Total number of guesses - | 336 | 283 | 262 | 236 | 235 | 235 | 231 | 258 |
| Values of Y_s^2 | — | — | — | — | — | — | — | — |
| Digit = 1 - | ·16 | 1·77 | ·01 | ·05 | ·35 | ·09 | 1·10 | ·00 |
| 2 - | ·68 | 1·19 | 1·60 | ·26 | 2·42 | ·93 | ·65 | ·10 |
| 3 - | 3·46 | ·33 | 1·55 | 1·42 | 1·05 | ·00 | 1·31 | 1·23 |
| 4 - | ·22 | ·67 | 1·24 | 1·36 | ·06 | ·12 | 1·11 | ·13 |
| 5 - | ·12 | 1·49 | 1·09 | ·60 | 1·27 | ·90 | 2·03 | ·02 |
| 6 - | ·90 | ·08 | ·08 | ·00 | ·52 | ·38 | 2·11 | 3·49 |
| 7 - | ·48 | 2·10 | 2·28 | ·73 | ·22 | ·63 | ·10 | 1·26 |
| 8 - | ·71 | 4·38 | ·21 | ·30 | ·01 | ·30 | ·48 | ·01 |
| 9 - | ·48 | 1·25 | ·58 | ·09 | ·09 | ·70 | 1·63 | 1·36 |
| 0 - | ·03 | ·60 | 2·36 | 1·51 | 2·62 | ·01 | ·22 | ·19 |
| Values of χ^2 | 7·24 | 13·86 | 11·00 | 6·32 | 8·61 | 4·06 | 10·74 | 7·79 |
| Values of P_{χ^2} - | ·61 | ·13 | ·28 | ·70 | ·47 | ·91 | ·29 | ·55 |

NOTE.—For significance the values in heavy type under each date should considerably exceed 4.

In the above table $\chi_1^2 = 69·62$, $n = 72$ whence $\sqrt{2\chi_1^2} - \sqrt{2n-1} = -·16$, again showing good agreement with theory.

TABLE XXI

VALUES OF $Y_s^2 = \frac{\left[\frac{N_s}{N} - \frac{N_s^1}{N^1} \right]^2}{N_s + N_s^1} NN^1$ and of χ^2 and P_{χ^2} for ALL PLACES

| Date | 28 Nov. | 5 Dec. | 16 Jan. | 30 Jan. | 6 Feb. |
|-----------------------------|------------|------------|-------------|------------|------------|
| Number shown - | 444 | 888 | 555 | 222 | 777 |
| Total number of guesses - - | 283 | 262 | 235 | 231 | 258 |
| Values of Y_s^2 - - | — | — | — | — | — |
| Digit = 1 - - - | 4.08 | .15 | .19 | .42 | .71 |
| 2 - - - | .44 | .16 | .02 | .02 | 1.10 |
| 3 - - - | .70 | .65 | 1.72 | 4.37 | .02 |
| 4 - - - | .38 | .01 | .00 | .23 | .70 |
| 5 - - - | 1.54 | 1.44 | 1.90 | 4.27 | .15 |
| 6 - - - | .07 | .17 | .00 | 2.10 | .34 |
| 7 - - - | 5.91 | .65 | .31 | 1.76 | .19 |
| 8 - - - | 1.65 | .03 | .01 | .60 | .03 |
| 9 - - - | 2.63 | .07 | 3.41 | 3.66 | 1.02 |
| 0 - - - | .05 | .90 | 1.01 | .09 | .04 |
| Values of χ^2 - - | 17.45 | 4.23 | 8.57 | 17.52 | 4.30 |
| Values of P_{χ^2} - - | .04 | .89 | .47 | .04 | .86 |

NOTE.—For significance the values in heavy type under each date should considerably exceed 4.

Similar tables (XV and XIX and XVI and XX) have been constructed for the digit in the tens and units places. Again, in the tens place table (Table XIX) we find that the greatest of the heavy type values is 1.24, so that none of these approach 4.

Of the 80 entries in the "tens digit" table (XIX), we might expect by chance alone 5% of 80=4 values of Y_s^2 to exceed 4. There are actually four such values. Of the values of P_{χ^2} there are three exceeding .5 and five less than .5. Three of the fits are extremely close (.90, .94, .94).

In Table XX for the units digit the greatest of the heavy type values of Y_s^2 is 1.27, so that none of them approach 4. In the whole table there is only one value exceeding 4, which is less even than chance would predict. Of the values of P_{χ^2} four exceed .5 and four are less than .5.

In Table XXI for all three digits again none of the heavy type values even approach 4 in magnitude. There are four values of Y_s^2 (slightly) exceeding 4 in the whole 50 entries, whereas chance would

predict 2.5 such values. Two values of P_{χ^2} exceed .5 and three are less than .5.

To sum up, there is an excellent agreement between the control series and the series in which numbers were actually exhibited to the agents. In no single case is there any evidence that the distribution of digits in any one of the three places has been affected by the concentration of the agents. The experiments in "unconscious" transmission (9 and 16 January) have equally failed.

The eight number experiments considered as a whole. We have in all 2076 complete guesses in the eight experiments in which a three-figure number was shown. Using for each week the control frequencies N_s/N given in the third columns of Tables XIV, XV and XVI, the reader may verify that the total expected numbers of correct guesses in the hundreds, tens, and units place will be 215.3, 208.2 and 201.0 respectively. The numbers actually obtained from Tables XIV, XV, XVI, and the twenty-one unpublished similar tables are found to be 213 (hundreds place), 206 (tens place), and 201 (units place). The reader may with some labour verify that the *joint* standard deviations for the hundreds, tens and units place are 13.9, 13.7 and 13.4 respectively. The close agreement between the actual and expected numbers in each case is a testimony to the reliability of the control series.

Had there been as many as even thirty cases of telepathy among the 2076 guesses in, say, the hundreds place, we should in all probability have detected it.

Frequencies of the different digits. The following frequencies are based upon the whole 14 experiments, *i.e.* on a total of 3447 guesses.

(a) *Hundreds place.*

| | | | | | | | | | | |
|-----------|---|---|------|------|------|------|------|------|------|------|
| Digit | - | - | 3 | 7 | 1 | 2, 4 | 5 | 6 | 9 | 8 |
| Frequency | - | - | .197 | .129 | .127 | .105 | .100 | .088 | .075 | .074 |

(b) *Tens place.*

| | | | | | | | | | | |
|-----------|---|---|------|------|------|------|------|------|---------|------|
| Digit | - | - | 3 | 2 | 7 | 0 | 9 | 4 | 1, 6, 8 | 5 |
| Frequency | - | - | .123 | .116 | .115 | .097 | .094 | .093 | .091 | .090 |

(c) *Units place.*

| | | | | | | | | | | |
|-----------|---|---|------|------|------|------|------|------|------|------|
| Digit | - | - | 7 | 3 | 9 | 1 | 5 | 6 | 2, 8 | 4, 0 |
| Frequency | - | - | .131 | .129 | .114 | .108 | .100 | .094 | .086 | .076 |

(d) *Total frequency of each digit.*

| | | | | | | | | | | |
|-----------|---|------|------|------|------|------|------|------|------|------|
| Digit | - | 3 | 7 | 1 | 2 | 5 | 9 | 4, 6 | 8 | 0 |
| Frequency | - | .150 | .125 | .109 | .102 | .097 | .094 | .091 | .084 | .058 |

It will be seen that on the whole 3, 7 are the most popular digits and 4, 6, 8 the least popular. In the *tens* place there is a tendency to *equalisation* of the different frequencies and a rise in the popularity

TABLE XXII

| Times guessed. | Expected Numbers. | Observed Numbers. |
|--------------------|-------------------|-------------------|
| 0 | 19.35 | 98 |
| 1 | 74.33 | 127 |
| 2 | 142.74 | 145 |
| 3 | 182.70 | 153 |
| 4 | 175.34 | 101 |
| 5 | 134.57 | 79 |
| 6 | 86.05 | 63 |
| 7 | 47.15 | 46 |
| 8 | 22.60 | 24 |
| 9 | 9.62 | 16 |
| 10 | 3.69 | 13 |
| Exceeding 10 times | - 1.86 | 35 |
| Total | - <u>900.00</u> | <u>900</u> |

The above table shows that not only is there a small class of numbers which are favoured by the percipients, but there is also another class which is avoided. In fact the differences between the expected numbers and the actual numbers counted in the experiment for "0 times guessed" and "1 time guessed" are far too great to be mere chance variations.

TABLE XXIII

In order of popularity the most highly favoured numbers are the following :

| Number. | No. of times guessed in the Whole Series [14 Experiments]. |
|---------------|--|
| 333 | 56 |
| 123 | 34 |
| 111 | 31 |
| 999 | 30 |
| 666 | 27 |
| 777 | 25 |
| 555 and 321 | 20 each |
| 365 and 369 | 19 each |
| 100 and 357 | 18 each |
| 237, 371, 567 | 16 each |

It will be seen that the most popular numbers are numbers with three repeated digits and certain numbers whose digits are in arithmetical progression; 365 of course represents the number of days in the year.

Of the 98 numbers not guessed at all by the percipients, there are 58 numbers which have two digits the same and the third digit different—*e.g.* 886, 933, 808. The chance expectation is about 26.5. This feature therefore would appear to be a characteristic of the numbers avoided.

Only 3 of the 98 avoided numbers commence with the digit 3, whereas 21 commence with 8 and 19 with 9.

Owing to the considerable divergence of the expected numbers from the actual numbers in Table XXII, it does not seem possible to utilise Dr Fisher's formula to investigate the question of mental contagion among the percipients. In Table XXIV, however, I have calculated for 13 out of the 14 weeks the expected numbers of three figure numbers which are guessed 0 times, 1 time, 2 times, etc. (in the line opposite E) and have set under these the actual observed numbers (in the line opposite A). It will be seen that the number of numbers guessed *twice* generally agrees very closely with the expected number and seldom seriously exceeds it. This is a point which tells against the existence of mental contagion between any considerable number of pairs of percipients.

Taking a group of percipients who have all made the same number of guesses (say 12) of three figure numbers I have examined whether there is any tendency for certain individuals to be associated in more than the average number of coincidences with the other percipients. For all the groups I have examined (14, 13, 12, 11, 10 guesses respectively) I find no such tendency on the part of any particular individuals.

TABLE XXIV

NUMBER COINCIDENCES

This table gives for each date the number of three figure numbers lying between 100 and 999 which were guessed 0 times, once, twice, three times, etc., together with the chance expectations.

| Date. | | Guessed 0 times. | 1 time. | 2 times. | 3 times. | More than 3 times. | Total. |
|---------|----------------|---------------------|---------|----------|----------|--------------------------|--------|
| 28 Nov. | E ¹ | 657·5 | 206·5 | 32·4 | 3·4 | 0·2 | 900 |
| | A ² | 683 | 175 | 30 | 7 | 5 | 900 |
| 5 Dec. | E | 672·8 | 195·8 | 28·4 | 2·8 | 0·2 | 900 |
| | A | 693 | 169 | 27 | 9 | 2 | 900 |
| 9 Jan. | E | 692·4 | 181·4 | 23·8 | 2·0 | 0·4 | 900 |
| | A | 703 | 170 | 20 | 4 | 3 | 900 |
| 16 Jan. | E | 693·4 | 181·0 | 23·5 | 2·0 | 0·1 | 900 |
| | A | 701 | 168 | 26 | 5 | 0 | 900 |
| 23 Jan. | E | 693·4 | 181·0 | 23·5 | 2·0 | 0·1 | 900 |
| | A | 703 | 166 | 24 | 7 | 0 | 900 |
| 30 Jan. | E | 696·5 | 179·0 | 22·8 | 1·6 | 0·1 | 900 |
| | A | 713 | 154 | 26 | 4 | 3 | 900 |
| 6 Feb. | E | 675·8 | 193·9 | 27·7 | 2·5 | 0·1 | 900 |
| | A | 695 | 166 | 30 | 5 | 4 | 900 |
| 13 Feb. | E | 681·7 | 189·5 | 26·3 | 2·4 | 0·1 | 900 |
| | A | 699 | 159 | 36 | 5 | 1 | 900 |
| 20 Feb. | E | 695·9 | 179·5 | 22·9 | 1·6 | 0·1 | 900 |
| | A | 709 | 158 | 28 | 2 | 3 | 900 |
| 27 Feb. | E | 698·9 | 176·8 | 22·3 | 1·8 | 0·2 | 900 |
| | A | 709 | 158 | 29 | 4 | 0 | 900 |
| 6 Mar. | E | 693·4 | 181·0 | 23·5 | 2·0 | 0·1 | 900 |
| | A | 708 | 157 | 28 | 6 | 1 | 900 |
| 20 Mar. | E | 724·4 | 157·2 | 17·0 | 1·2 | 0·2 | 900 |
| | A | 738 | 137 | 21 | 2 | 2 | 900 |
| 27 Mar. | E | 696·5 | 179·0 | 22·8 | 1·6 | 0·1 | 900 |
| | A | 716 | 147 | 27 | 10 | 0 | 900 |

¹ E = Expected number according to Dr Fisher's formula.

² A = Actual number obtained in the particular experiment under each date.

Other investigations in connection with mental contagion. (a) I have also constructed tables to examine whether there is any tendency for pairs of percipients who guess the same three figure number on a particular week to coincide in their capital letter or playing card guesses on the same evening. Such cases are extremely rare, but they occasionally occur. Certainly they are not sufficiently frequent to suggest anything beyond chance coincidence.

Example :

Date : 27 February. Percipient : no. 337. Percipient : no. 518. Three figure number : 428. Capital letter : H.

A comparison of the records of percipients 337 and 518 reveals little evidence of mental contagion on other evenings on which both took part.

In the following example there is not only coincidence in the three figure number and capital letter experiments, but also *approximate* coincidence in the case of the playing card.

Date : 27 February. Percipient : no. 133. Three figure number : 355. Capital letter : G. Playing card : 6 of Clubs.

Date : 27 February. Percipient : no. 208 (automatic writer). Three figure number : 355. Capital letter : G. Playing card : 6 of Spades.

Here again though there are slight minor coincidences between nos. 133 and 208 on other dates, there is no convincing evidence that these percipients were in telepathic communication.

(b) Tables have also been drawn up to determine whether there was any tendency for the additional agents who concentrated on the same object for the first five or ten minutes to be put into mental rapport during the second and third ten minutes when they acted as percipients. One hundred and five of the 579 percipients acted as additional agents between 5 December 1928 and 27 March 1929, and the average number of transmissions done by each agent was about four, although certain persons did as many as eight or nine transmissions. From these tables made out for each week I find no serious evidence of mental contagion, either "telepathic" or "suggestive," among the agents with regard to objects, geometrical drawings, capital letters, three figure numbers or playing cards. These tables can be seen by anyone wishing to consult them.

(c) As regards the "object" guesses, there were of course numerous cases each week of two or more percipients guessing the same object but the coincidences seldom showed any degree of complexity in detail. For some 200 of the 579 percipients Miss Carruthers made out for each percipient a complete list of all the coincidences between the impressions of the percipient and those of all the

remaining percipients who took part on the same evening. The coincidences for the most part are of a very simple and commonplace kind, such as "Fan," "Basket," "Yellow flowers," "Ladies' shoes," "Polar bear," etc. Only very occasionally is there anything a little more complex, *e.g.*

- 12 Dec. { 199 (i) Gentleman swinging small weight at end of string.
 { 203 (i) A small ball swinging by a thread.
- 21 Nov. { 199 (i) Gentleman measuring with a tape measure.
 { 193 (iii) Old gentleman with measuring tapc.

In the last example it was revealed by further correspondence that no. 193 imagined his gentleman to be measuring "ground," while no. 199 saw his gentleman measuring another man along the back, presumably for a suit. But even the examples we have quoted are almost the only ones worthy of note. Moreover, such interesting coincidences as these never occur twice between the same pair of percipients. Between nos. 199 and 203, for instance, I find no further coincidences of even a simple kind. The same is true for nos. 199 and 193.

It must be confessed in conclusion that throughout the present extensive series of experiments I find no satisfactory evidence of what Warcollier has called "mental contagion" that cannot be reasonably explained away as pointing to either a definite suggestion from the agents conveyed normally to the percipients or to the influences of a common civilised environment. And there I must leave the question.

D. Capital Letters

There were four attempts to transmit the impression of a capital letter of the English alphabet, together with five control experiments. On each of the four occasions the letter was selected by me by striking a page of print at random with the point of a pencil, the eyes being closed. The letter chosen was drawn on a postcard.

Statistical analysis. No single percipient guessed more than one of the four letters correctly. The method adopted is precisely similar to that used in the three figure number experiments. It will suffice to give a single table¹—that for 30 January, when the letter H was shown. In the second column Table XXV we find the aggregate number of times each letter was guessed in all five control experiments. In the last column but one is recorded the number of times each letter was guessed on 30 January. It will be seen that certain letters like N, I, Y, U are so unpopular that it has been necessary to collect them into a single group.

¹The remaining tables are available to anyone who cares to inspect them at the S.P.R. Rooms.

TABLE XXV
30 JANUARY. "H"

| | N_s [Control]. | Control Frequen- cies. | $\frac{N_s - N_s^1}{N - N^1}$. | $N_s + N_s^1$. | Frequen- cies for 30 Jan. | 30 Jan. N_s^1 . | $\left[\frac{N_s - N_s^1}{N - N^1} \right]^2 \frac{NN^1}{N_s + N_s^1}$. |
|--------|---------------------|------------------------------|---------------------------------|-----------------|---------------------------------|----------------------|---|
| | | $\frac{N_s}{N}$. | | | $\frac{N_s^1}{N^1}$. | | |
| A | 87 | ·0703 | - ·0133 | 111 | ·0836 | 24 | ·57 |
| B | 81 | ·0655 | - ·0146 | 104 | ·0801 | 23 | ·73 |
| C | 58 | ·0469 | - ·0158 | 76 | ·0627 | 18 | 1·17 |
| E | 48 | ·0388 | + ·0109 | 56 | ·0279 | 8 | ·75 |
| G | 74 | ·0598 | + ·0284 | 83 | ·0314 | 9 | 3·45 |
| H | 62 | ·0501 | - ·0091 | 79 | ·0592 | 17 | ·37 |
| K | 38 | ·0307 | + ·0063 | 45 | ·0244 | 7 | ·31 |
| L | 48 | ·0388 | - ·0100 | 62 | ·0488 | 14 | ·57 |
| M | 75 | ·0606 | + ·0014 | 92 | ·0592 | 17 | ·01 |
| O | 39 | ·0315 | - ·0173 | 53 | ·0488 | 14 | 2·00 |
| P | 64 | ·0517 | - ·0040 | 80 | ·0557 | 16 | ·07 |
| R | 56 | ·0453 | - ·0035 | 70 | ·0488 | 14 | ·06 |
| S | 83 | ·0671 | + ·0079 | 100 | ·0592 | 17 | ·22 |
| T | 49 | ·0396 | + ·0013 | 60 | ·0383 | 11 | ·00 |
| V | 43 | ·0348 | + ·0034 | 52 | ·0314 | 9 | ·08 |
| W | 41 | ·0331 | - ·0017 | 51 | ·0348 | 10 | ·02 |
| XF | 81 | ·0655 | + ·0272 | 92 | ·0383 | 11 | 2·86 |
| DZ | 78 | ·0630 | + ·0212 | 90 | ·0418 | 12 | 1·77 |
| JQ | 59 | ·0477 | - ·0150 | 77 | ·0627 | 18 | 1·04 |
| INYU | 73 | ·0590 | - ·0037 | 91 | ·0627 | 18 | ·05 |
| Totals | 1237 = N | ·9998 [Check] | [Check] ·0000 | 1524 | ·9998 [Check] | 287 = N ¹ | 16·10 = χ^2 0·65 = P_{χ^2} |

The values ¹ of $Y_s^2 = \frac{\left[\frac{N_s}{N} - \frac{N_s^1}{N^1} \right]^2 NN^1}{N_s + N_s^1}$

are given in the last column. These values to suggest super-normality should in the case of the particular letter visualised by the agents considerably exceed 4 in the majority of cases. In the given example the value of Y_s^2 opposite "H" is only ·37. The

¹ As on p. 250 Y_s denotes the ratio of the difference of the two frequency fractions $\frac{N_s}{N}$ and $\frac{N_s^1}{N^1}$ to the standard error of this difference.

sum of the values in the last column gives the value of χ^2 and the value of P_{χ^2} found from tables determines the degree of "closeness of fit" between the actual series (30 January) and the control series.

The values of Y_s^2 for the letter shown on each of the four occasions, together with the values of χ^2 and P_{χ^2} , are given in the following table :

TABLE XXVI

| Date. | Letter. | Y_s^2 . | χ^2 . | P_{χ^2} . | No. of Guesses. |
|---------|---------|-----------|------------|----------------|-----------------|
| 5 Dec. | - F | ·01 | 26·11 | ·20 | 348 |
| 12 Dec. | - S | 2·39 | 16·44 | ·68 | 287 |
| 30 Jan. | - H | ·37 | 16·10 | ·65 | 287 |
| 13 Feb. | - W | ·50 | 22·37 | ·21 | 235 |

It is seen that the value of Y_s^2 never even approaches 4. In all four tables (82 entries) the value of Y_s^2 exceeds 4 on two occasions, once (5·14) on 5 December and once (4·67) on 13 February.

It will be seen that two values of P_{χ^2} exceed ·5 and the other two are less than ·5, which is what we should expect under normal circumstances. Two of the fits (12 December and 30 January) are very fair.

Popularity of the different letters. Taking all nine experiments we have a total of 2394 guesses. It will be seen from the following list that the most favoured letters are A, the labials B, M, P, the sibilant S and the aspirant H. The least popular are the nasal N and the letters Y, I, U.

The letters A, B were guessed 175 times each ; S, 145 times ; M, 141 times ; P, 122 times ; H, 118 times ; G, C, 117 times each ; R, 113 times ; L, 102 times ; T, 93 times ; W, O, 91 times each ; V, 83 times ; K, 82 times ; E, F, 80 times each ; D, 73 times ; X, 72 times ; J, Z, 65 times each ; Q, 56 times ; N, 45 times ; Y, 44 times ; I, 29 times ; U, 20 times. A total of 2394 guesses.

E. *Experiments with Playing Cards*

There were five attempts to convey impressions of a playing card, and in addition three control experiments. The card was chosen by myself on each occasion by cutting from a full pack. As additional agents were frequently employed this selection generally took place in the presence of Miss Carruthers, a few days before the date of the experiment.

Individual results. The best performances of individual percipients are given below. The notation used is that of Dr Fisher's classification (*Proceedings*, xxxviii. 269-71).

TABLE XXVII

| No. of Percipient. | No. of Tests tried. | Success. |
|--------------------|---------------------|----------------|
| 569 | 5 | NS in 2 tests. |
| 575 | 5 | 1 NS and 1 ON. |
| 116 | 5 | 1 NS and 1 ON. |
| 338 | 5 | NC in 2 tests. |
| 255A | 5 | NC in 2 tests. |
| 470 | 5 | ON in 3 tests. |

A further test was organised for these six most successful percipients. On the five Wednesday evenings commencing 2 October and ending 6 November 1929 it was arranged that I alone should concentrate on five playing cards between 10.0 p.m. and 10.25 p.m. Five minutes were allowed for the transmission of each card, the method of transmission being active concentration and visualisation for the first three cards and the "glance and forget" method for the remaining two. The five cards for each evening were drawn by Col. Hayward at 31 Tavistock Square, in the sole presence of Miss Carruthers, who noted their values and posted each card to me in a sealed envelope, which arrived on the morning of the experiment. The seals were broken at home or elsewhere by me at the times indicated on the envelopes, 10.0 p.m., 10.5 p.m., etc., in the presence of a witness who duly affixed his signature.

The six percipients received the usual notice with the appropriate times inserted and sent in their impressions to the S.P.R. Office in the usual way. These impressions were received by Miss Carruthers, who kept a record of them.

Each percipient thus did 25 guesses. These sets of 25 were scored on Fisher's system.

The scores were as follows :

TABLE XXVIII

| No. of Percipient. | Mean Score. |
|--------------------|-------------|
| 569 | 9.10 |
| 575 | 11.42 |
| 116 | 12.87 |
| 338 | 10.51 |
| 255A | 7.43 |
| 470 | 13.39 |

It will be seen that all these scores are well under 15.18 and there is no suggestion of supernormal faculty on the part of any percipient.

Investigation of colour and suit. As the total number of card guesses (1083 in all) is comparatively small I have thought it worth

while to make an analysis only of colour and suit. In Table XXIX I have worked out the expected preference factors¹ for red and black on the basis of the 6317 guesses obtained in the card-guessing experiment carried out with Miss Jephson and Mr Besterman (*Proceedings*, xxxix. 375). I thus obtain $p_R = .513$ and $p_B = .487$. The factors obtained on the basis of the three control experiments agree pretty well with the above values, being $p_R = .521$ and $p_B = .479$, even although the control series is a somewhat small one. I have based my preference factors on the joint experiment rather than on the B.B.C. experiment, since the conditions of the former experiment more nearly approach those of the actual series in which the card guessed one week probably to some extent influences the choice in the succeeding week. It will be seen from Table XXIX that all the deviations with the exception of that on 6 February are less than $2 \times \text{S.D.}$ This particular week (6 February) does not, however, furnish any evidence in favour of the supernormal since the deviation is *negative*. But what is really important is the fact that on the *whole series* the deviation (-25) is well under $2 \times \text{S.D.} = 32.8$.

TABLE XXIX

ANALYSIS OF COLOUR

Based on the 6317 guesses of the "joint" card-guessing experiment.

Preference Factors (Red) $p_R = .513$.

„ „ (Black) $p_B = .487$.

| Date. | Card shown. | Number of Guesses. | Number with Colour correct. | Expected Numbers. | Deviations from Expected Numbers. | Standard Deviations. |
|---------|-------------|--------------------|-----------------------------|-------------------|-----------------------------------|----------------------|
| 23 Jan. | - 2D | 274 | 144 | 141 | + 3 | ± 8.3 |
| 6 Feb. | - 4S | 214 | 81 | 104 | - 23 | ± 7.3 |
| 20 Feb. | - 6C | 234 | 121 | 114 | + 7 | ± 7.6 |
| 27 Feb. | - 5H | 195 | 87 | 100 | - 13 | ± 7.0 |
| 27 Mar. | - 3H | 166 | 86 | 85 | + 1 | ± 6.4 |
| | Totals | 1083 | 519 | 544 | - 25 | |

$$\text{S.D. for whole series} = \pm \sqrt{(8.3)^2 + (7.6)^2 + (7.3)^2 + (7.0)^2 + (6.4)^2} \\ = \pm 16.4$$

$$\text{Actual deviation for whole series} = -25.$$

¹ p_R , for instance, is obtained by dividing the number of times in which a red suit was chosen by the total number of guesses 6317 furnished by the joint experiment.

Table XXX gives a corresponding analysis in the case of suit, the preference factors being again calculated from the "joint experiment." Again the deviations, with the exception of that for 27 February, are well under $2 \times \text{S.D.}$, as is also the deviation for the whole series. The deviation on 27 February just exceeds $2 \times \text{S.D.}$ but is *negative*.

TABLE XXX
ANALYSIS OF SUIT

Based on the 6317 guesses of the "joint" card-guessing experiment.

| | |
|------------------------------------|---------------|
| <i>Preference Factors</i> (Spades) | $p_s = .239.$ |
| (Clubs) | $p_c = .248.$ |
| (Diamonds) | $p_d = .253.$ |
| (Hearts) | $p_h = .260.$ |

| Date. | Card shown. | Number of Guesses. | Number with Suit correct. | Expected Numbers. | Deviations from Expected Numbers. | Standard Deviations. |
|---------|-------------|--------------------|---------------------------|-------------------|-----------------------------------|----------------------|
| 23 Jan. | - 2D | 270 | 78 | 68 | + 10 | ± 7.1 |
| 6 Feb. | - 4S | 212 | 43 | 51 | - 8 | ± 6.2 |
| 20 Feb. | - 6C | 233 | 58 | 58 | ± 0 | ± 6.6 |
| 27 Feb. | - 5H | 195 | 37 | 51 | - 14 | ± 6.2 |
| 27 Mar. | - 3H | 166 | 37 | 43 | - 6 | ± 5.7 |
| Totals | | 1076 | 253 | 271 | - 18 | |

$$\text{S.D. for whole series} = \pm \sqrt{(7.1)^2 + (6.2)^2 + (6.6)^2 + (6.2)^2 + (5.7)^2} \\ = \pm 14.3$$

$$\text{Actual deviation for whole series} = -18.$$

Acknowledgments. In concluding these statistical sections I especially wish to thank Dr E. S. Pearson of the Biometric Laboratory, University College, for his very valuable assistance in connection with the P_{χ^2} tables and the problem of "mental contagion." Not only has Dr Pearson spent several hours discussing these matters with me, but he has also taken the trouble to work out in detail the table for letter "F" as a specimen. He has also kindly allowed me to copy out data from Karl Pearson's tables for statisticians in the library of the laboratory.

I have already had occasion to mention the valuable assistance rendered me by Dr Fisher, F.R.S., in solving the problem of the number coincidences, and the best thanks of the Society are due to this gentleman, as well as to Dr Pearson, for the unfailing courtesy

and patience with which they have met the difficulties of a mere beginner in statistics.

I must also thank my friend Dr A. E. Church, another statistician, for very useful advice relating to the graph showing the distribution of scores.

The dictionary tests, 1928-1929. The dictionary "control" was continued throughout the year 1928-1929 under the conditions described in Part I. Many percipients, however, omitted to carry out the dictionary test and most others erred in choosing an insufficient number of words to tally with the number of distinct ideas contained in their impressions. Some excuse must, of course, be allowed as opinions as to what constituted a distinct idea must naturally vary. An impression such as "saw man tossing a ball" would, according to my intention, require three "control words" corresponding to the three different ideas of "man," "tossing" and "ball," whereas many percipients would content themselves with only one word.

The only use I have made of the control in the present series of experiments is to examine, for the sake of curiosity, the number of successful hits scored by the dictionary each week on the objects shown to the agents. Here are a few specimen weeks chosen quite at random.

TABLE XXXI

(a) 10 October. Total no. of words=1808.

(i) Object of experiment: "Red poppies." Word: Geranium (518).

(ii) Object of experiment: "Indian tomahawk." Words: Hatchet (98, 246), mattock (42), pickaxe (345), Indian (453), moccasin (388, 332).

(iii) Object of experiment: "Small Egyptian head and tape measure." Words: Egyptian (581), mummy (60), obelisk (89), head (445), phrenological (169), rattle (255, 314).

(b) 24 October. Total no. of words=1068.

(i) Object of experiment: A toy mandolin. Words: Guitar (438, 568), lute (366), flute (581), bassoon (56), cornet (276), hautboy (77), harmonium (283), saxophone (104).

(ii) Object of experiment: "Long nose with spectacle rims." Words: Spectacles (675), caricature (488).

(c) 14 November. Total no. of words=744.

(i) Object of experiment: "White mistletoe berries and green leaves." Words: Oak ¹ (320), dagger ¹ (197).

¹ See p. 286.

(ii) Object of experiment: "A toy bear with pole." Word: Polo (181.)

(d) 5 December. Total no. of words=815.

(i) Object of experiment: "Postcard picture of kangaroo." Words: Maori (186), menageric (122), rat's tail (286). NOTE.—This last item, rat's tail, is very remarkable as the long tail of the kangaroo in the photograph closely resembled a rat's tail, and especial attention was devoted to the tail by the agents.

(e) 12 December. Total no. of words=682.

(i) Object of experiment: Postcard photograph of alligator. Words: Cuttle-fish (624), death (152).

(f) 30 January. Total no. of words=550.

(i) Object of experiment: "Brown bear pushing ball." Words: None applicable.

(g) 13 February. Total no. of words=508.

(iii) Object of experiment: "Calendar with picture of Alsatian dog and red ribbon." Words: Calendar (173), dog (28, 583), retriever (318).

(h) 13 March. Total no. of words=469.

Object of experiment: "A yellow toy duck with orange beak. Also a mechanical pecking bird." Word: Beak (656). In addition, ten words which were names of birds but no water birds among them.

These examples will suffice to show something of the scope of chance coincidence when a large number of guesses are made.

*Comparison with the card-guessing experiment.*¹ It is of some interest to compare the performance of the nine percipients who obtained the highest scores in the "joint" card-guessing experiment with their achievements in the present experiment.

TABLE XXXII

| Identity No. of Percipient. | Original Mean Score in Card- guessing Experiment. | Percentage Score in present Experiment. | Possible Score. |
|--------------------------------|--|---|--------------------|
| 118 | 17.96 | 11.2% | 1020 |
| 112 | 17.01 | 8.0% | 200 |
| 366 | 16.77 | 11.8% | 560 |
| 319 | 16.02 | 4.8% | 660 |
| 256 | 15.47 | 5.2% | 1020 |
| 233 | 15.46 | 6.4% | 800 |
| 98 | 15.46 | 10.3% | 960 |
| 623 | 15.32 | 3.2% | 440 |
| 221 | 15.10 | 7.2% | 640 |

¹ *Proceedings*, xxxix. 395, Table X.

The only case at all interesting is that of percipient 118, who in the card-guessing experiment obtained a success exceeding $3 \times$ standard deviation. Although in the present series his total percentage score is only 11.2%, he is the most successful of all the percipients in guessing the *colour* of the object (cf. p. 233). However, in the card-guessing experiment his forte was decidedly *not* colour or suit, but *number*. The coincidence, therefore, is probably only a mere fluke.

Similarly, of the eight percipients with possible scores ≥ 300 who obtained the highest percentage mean scores in the present experiment (15.2–14.0%), only one obtained a mean score in the card-guessing experiment exceeding 12 (12.7). The other seven were below even the average (11.18). There appears, therefore, no sort of correlation between successful guessing in the two experiments.

Conclusion. At the end of an elaborate and somewhat minute examination which has occupied a considerable portion of the leisure time of four years we may conclude without hesitation that we fail to discover on the scale of the present experiments any general mass faculty of supernormal perception. And this is true for each of the five classes of objects which have been made the material of experiment. Increasing the number of agents even until it reaches 30 per cent. of the number of the percipients produces no observable effect on the result. Similarly we fail to find any serious evidence whatever for what Warcollier has called “*la contagion mentale*” or telepathic rapport between pairs or among groups of percipients.

But though I have spent weeks searching for such things as cross-correspondences, I have not found them. What does seem to emerge from the present experiments is the real existence of mass preference factors for certain simple geometrical figures—letters of the alphabet, colours, numbers, etc. That these factors are subject to a certain limited fluctuation is only to be expected, but when the same group of people work week after week *under the same conditions* they appear to remain fairly constant. The same is probably true within wider limits of common objects, such as cats, dogs, flowers, birds, etc., though, as we have seen in the experiments with the black cloth, a simple suggestion from the experimenter will readily disturb the distribution and cause certain classes of objects to be guessed with more than the usual frequency.

How far the determination and use of such preference factors will be an aid in appraising the value of successful hits in future experiments practice can alone determine. From the data of the present experiment I have worked out such preference factors for more than 150 different objects. The value of $p=1$ in N given for each object may be taken to represent (with fair approximation when p is greater than $1/100$ but only roughly where p is less than

1/1000) the chance that the *average* person who keeps his mind passive for ten minutes and records during that interval an average of 1.85 distinct visualisations shall note the object in question. For the object "flowers of any description" the "average" person of the particular class who did the experiments might be expected to note a flower or flowers about once in 18 sittings in the long run.

But this "average" person probably does not exist as an individual, since each person in the world will have a bias towards certain specific classes of objects. Yet even when dealing with an individual one might reasonably expect that his preferences would be abnormal only with respect to a small percentage of the objects catalogued in the present lists, covering as these do an extremely wide and representative field.

At the same time the tables of preference factors will be better adapted for testing considerable groups of people than individuals.

Needless to add that the persons subjected to these "standardised" object tests should not be those who have studied the present lists, for with such persons the tests might fail as ignominiously as the standardised Binet-Simon tests of intelligence if applied to a group of schoolboys who had learned the answers to all the questions given in Mr Burt's book.

But to return to the main conclusions of this report. If we have failed on the present scale of numbers to obtain evidence of a mass faculty of supernormal perception, we have failed equally to discover individual percipients with indisputable claims to a supernormal power. Two or three isolated cases in which the evidence is suggestive, but very far from conclusive in any way, is all we are able to record.

This almost universal paucity of continued success in our opinion greatly enhances the claims of a few exceptional people in the world (such as Mrs Piper and Mrs Leonard) to be considered possessors of supernormal faculties. For these individuals have succeeded in producing extraordinarily complex coincidences week after week and year after year. Between the work of say Mrs Leonard and that of any percipient who took part in the present experiments there is a wide and unbridgeable gulf. That does not, of course, imply that had Mrs Leonard taken part in the present series she would have done immeasurably better than the average, for it may be that the conditions of the present experiment are not those under which supernormal knowledge makes its appearance. Possibly some special state of mind such as hypnosis or trance *in combination with faculties* that cannot be cultivated but are *innate* is required before perception at a distance takes place. Possibly also the co-operation of the discarnate is necessary for the production of telepathy among the living. And even when, as in the case of Mrs

Leonard, such a combination is realised some sort of personal link may be necessary, such as a glove, etc., belonging to the person whose environment the psychic is trying to penetrate. Or again, some strong emotional stimulus, such as belief in the spirit hypothesis provides, may be an important factor.

In the case of normal or almost normal persons, we may doubt if they ever have experiences of telepathic perception, except when in some state of peculiar mental stress or crisis.

It is hoped that the present report will at least do something to combat a growing tendency on the part of many psychical researchers to assume, and apparently to believe, that psychic experiences are as common as blackberries. One constantly hears of little groups of people, apparently the possessors of no exceptional or outstanding psychic gifts, describing experiments in telepathy among themselves, and success is almost invariably claimed for such experiments. Such accounts will seldom bear a critical examination. The usual method is to select a few of the more striking coincidences from large numbers of failures. Then follows a vaguely worded reference to percentages of successes, in which the term "success" is often allowed the most elastic interpretation, not infrequently being applied to objects not even selected by the experimenter. But mere percentages of successes are not very useful unless we have definite and precise expectations with which to compare them. In such experiments as I am alluding to these standards of comparison are almost invariably lacking, or at any rate inadequate. Moreover, instead of being given an exact account of the precise conditions under which each experiment was carried out, we are regaled with "samples" of successes generally chosen to illustrate preconceived theories of the way in which telepathy is supposed to work. I believe this inveterate determination to find the supernormal at all costs in every series of experiments to be the most injurious influence in psychical research to-day. The scepticism of the open-minded man of science who has not given much attention to the subject is an entirely wholesome thing compared with the "will to believe" shown by the class of psychical researchers whose real aim appears to be not the investigation of the conditions under which telepathy and clairvoyance occur, or the question whether they occur at all, but the *production of examples of these faculties for the purpose of bolstering up beliefs they hold on the destiny and spiritual nature of man or for the purpose of confuting the spirit hypothesis*. It is easy to understand how the psychic researcher actuated by such motives becomes the prey to self-deception, as it is easy to understand his innate dislike of statistical methods, and in fact of all minute and dispassionate threshing out and weighing up of evidence. His desire is for

supernormal happenings, and he is not disposed to look too critically at the methods by which these supposedly supernormal facts were established. And experiments in telepathy and clairvoyance unfortunately are the easiest in the world to manipulate so as to give the illusion of success.

But in the present obscure position of psychical research, when even the occurrence of telepathy is granted by only a small minority of men of science, it is just as important to investigate conditions under which telepathy does not occur as to produce specific examples of its occurrence. It is because I have felt that the methods we employ in estimating our results are at least as important as the results themselves that I have thought it worth while to carry out this investigation to the bitter end of a negative conclusion.

APPENDIX I

DR R. A. FISHER, F.R.S., has very kindly communicated to me the following investigation of the theoretical distribution of N random guesses at three figure numbers. I give Dr Fisher's demonstration in his own words. I alone am responsible for the illustration of the use of the formulae in the section beginning "As an illustration we may apply the above formula . . . etc."

Dr Fisher writes :

"First as to the theoretical distribution for N really random guesses at three figure numbers.

"If $n_1, n_2, \dots n_{900}$ are the number of times the individual 900 numbers are guessed,

$$\sum_{r=1}^{r=900} n_r = N.$$

"The frequency of occurrence of this series is the plain multivariate expression

$$\frac{N!}{n_1! n_2! \dots n_{900}!} \cdot \frac{1}{900^N}.$$

"The numbers of the series $n_1, n_2, \dots n_{900}$ will not be all different, and some of them may be zero.

"Suppose that in the series $n_1, n_2, \dots n_{900}$ the number p_1 occurs π_1 times, the number p_2 occurs π_2 times, and, finally, the number p_r occurs π_r times, so that

$$\begin{aligned} \pi_1 + \pi_2 + \dots \pi_r &= 900. \\ p_1 \pi_1 + p_2 \pi_2 + \dots p_r \pi_r &= N. \end{aligned}$$

"The distribution is now specified by a particular partition of the number N into 900 parts; any particular partition includes

$\frac{900!}{\pi_1! \pi_2! \dots \pi_r!}$ of the occurrences first considered and has a frequency

$$\frac{N!}{[p_1!]^{\pi_1} [p_2!]^{\pi_2} \dots [p_r!]^{\pi_r}} \cdot \frac{900!}{\pi_1! \pi_2! \dots \pi_r!} \cdot \frac{1}{900^N} \dots (2).$$

"Note that (2) summed for all partitions must give unity. The mean value of π_r is obtained by multiplying (2) by π_r and summing for all partitions, or what comes to the same thing, for all partitions

which contain a part p_σ ; these will each correspond to a partition of $N - p_\sigma$ into 899 parts, so writing

$$\pi_\sigma \left[\frac{N!}{[p_1!]^{\pi_1} [p_2!]^{\pi_2} \dots [p_\sigma!]^{\pi_\sigma} \dots [p_r!]^{\pi_r}} \cdot \frac{900!}{\pi_1! \pi_2! \pi_\sigma! \dots \pi_r!} \cdot \frac{1}{900^N} \right]$$

in the form

$$\frac{N!}{[N - p_\sigma]! p_\sigma!} \cdot \frac{899^{N-p_\sigma}}{900^{N-1}} \cdot \left[\frac{(N - p_\sigma)!}{(p_1!)^{\pi_1} \dots (p_\sigma!)^{\pi_\sigma - 1} \dots (p_r!)^{\pi_r}} \cdot \frac{899!}{\pi_1! \dots (\pi_\sigma - 1)! \dots \pi_r!} \cdot \frac{1}{899^{N-p_\sigma}} \right]$$

we see that the mean value of π_σ comes out to be

$$\frac{N!}{(N - p_\sigma)! p_\sigma!} \cdot \frac{899^{N-p_\sigma}}{900^{N-1}}$$

“ Putting $p_\sigma = 0, 1, 2$ etc., we have

$$\frac{899^N}{900^{N-1}} \left[1, \frac{N}{899}, \frac{N(N-1)}{899^2 \cdot 2!}, \frac{N(N-1)(N-2)}{899^3 \cdot 3!}, \dots \right]$$

a series to which the Poisson series

$$900 \times e^{-m} \left[1, m, \frac{m^2}{2!}, \frac{m^3}{3!}, \dots \right]$$

(e being as usual the base of natural logarithms = 2.71828) gives a good approximation where $m = N/900$.

“ Hence with N random guesses the distribution of the 900 three figure numbers will be as follows :

| | | | | |
|---------------------------|---|-------|-----|--|
| Number of numbers guessed | 0 | times | = | $e^{-m} \times 900,$ |
| “ | “ | “ | 1 | “ = $e^{-m} \cdot m \times 900,$ |
| “ | “ | “ | 2 | “ = $\frac{e^{-m} \cdot m^2}{1 \times 2} \times 900,$ |
| “ | “ | “ | 3 | “ = $\frac{e^{-m} \cdot m^3}{1 \times 2 \times 3} \times 900,$ |
| “ | “ | “ | r | “ = $\frac{e^{-m} \cdot m^r}{1 \times 2 \times 3 \dots r} \times 900.$ |

“ It is useful, however, to have a test for goodness of fit.

“ Suppose there are N perfectly random and independent selections of the 900 possible numbers. The chance expectation of each of these 900 numbers is $m = N/900$ and a test of goodness of fit in the case of an observed distribution can be carried out by

calculating $\chi^2 = \sum_{r=1}^{r=900} \frac{(n_r - m)^2}{m}$ if the number of observed cases is sufficiently numerous and n_1, n_2, \dots, n_{900} are the observed numbers of times each of the 900 three figure numbers occur in the actual case under consideration.

“ This expression for χ^2 is easily seen to be the same as

$$\frac{900}{N}[\pi_1 p_1^2 + \pi_2 p_2^2 + \dots + \pi_r p_r^2] - N,$$

the p 's and π 's having the same meaning as on page 273.

χ^2 can therefore be easily found, and hence $\sqrt{2\chi^2}$ can be calculated and compared with $\sqrt{2 \times 899 - 1}$ (899 being the number of degrees of freedom).

The difference $\sqrt{2\chi^2} - \sqrt{2 \times 899 - 1}$

i.e. $\sqrt{2\chi^2} - \sqrt{1797}$, can be shown ¹ to be a normal variate with a standard deviation of unity.”

As an illustration we may apply the above formula to both the “ actual ” and “ expected ” numbers given in Table XXIV for the date 27 February.

Reading first along the line “ E ” opposite 27 February we find $\pi_1 = 698.9$, $\pi_2 = 176.8$, $\pi_3 = 22.3$, $\pi_4 = 1.8$, and the higher values of π are clearly very small. Hence $p_1 = 0$, $p_2 = 1$, $p_3 = 2$, $p_4 = 3$, $N = \text{no. of guesses for 27 February} = 228$.

Hence we find

$$\chi^2 = \frac{900}{228}[176.8 + 2^2 \times 22.3 + 3^2 \times 1.8] - 228 = 886.$$

Hence $\sqrt{2\chi^2} - \sqrt{1797} = \sqrt{1772} - \sqrt{1797} = 42.1 - 42.4 = -0.3$.

Hence $\frac{\text{Deviation}}{\text{Standard Deviation}} = \frac{.3}{1} = \frac{1}{3}$ approx.

This is of course an excellent fit, as would be expected, since the values in line “ E ” are *calculated* values.

Taking now the *observed* values for the same date opposite line “ A ” (27 February) we have $\pi_1 = 709$, $\pi_2 = 158$, $\pi_3 = 29$, $\pi_4 = 4$, π_5 and higher values = 0.

Hence $\chi^2 = \frac{900}{228}[158 + 2^2 \times 29 + 3^2 \times 4] - 228 = 995$.

And $\sqrt{2\chi^2} - \sqrt{1797} = \sqrt{1990} - \sqrt{1797} = 44.6 - 42.4 = 2.2$.

Hence $\frac{\text{Deviation}}{\text{Standard Deviation}} = \frac{2.2}{1} = 2.2$.

Here we have a suggestion of interference with the normal distribution, due to the fact that the guesses are not random but biased in favour of special types of three figure numbers.

¹ Cf. *Statistical Methods for Research Workers*, chap. iv, by R. A. Fisher, F.R.S.

APPENDIX II

DEMONSTRATION OF THE FORMULA $Y_s^2 = \frac{\left[\frac{n_s}{N} - \frac{n_s^1}{N^1} \right]^2 \cdot NN^1}{n_s + n_s^1}$.

Suppose we have a set of N individuals each of which can be assigned to one of k groups according to certain characteristics. Let the numbers of individuals which belong to the k groups be $n_1, n_2, n_3, \dots, n_k$, so that

$$n_1 + n_2 + n_3 + \dots + n_k = N.$$

The proportion of individuals in the s th group will then be $\frac{n_s}{N}$.

Suppose now we have a second set of N^1 individuals which can be assigned to the same k groups. Let the numbers of individuals which belong to the k groups be $n_1^1, n_2^1, \dots, n_k^1$, so that

$$n_1^1 + n_2^1 + n_3^1 + \dots + n_k^1 = N^1.$$

The proportion in the s th group will be $\frac{n_s^1}{N^1}$.

The proportions $\frac{n_s}{N}$ and $\frac{n_s^1}{N^1}$ will not usually be quite the same.

The question arises: Can the two sets of N and N^1 be regarded merely as two samples of a large common population and are the differences in proportion $\left[\frac{n_s}{N} - \frac{n_s^1}{N^1} \right]$ merely chance differences?

Or on the other hand are the two groups N and N^1 fundamentally different and the discrepancy in the ratios $\frac{n_s}{N}, \frac{n_s^1}{N^1}$ too large to be explained by chance?

Now assuming that N, N^1 are mere samples of a larger common population let us suppose that the *true value* of the proportion for the s th group is p_s . Then for the group N the standard deviation

of the ratio $\frac{n_s}{N}$ will be $\sqrt{\frac{p_s(1-p_s)}{N}}$ and the standard deviation of the ratio $\frac{n_s^1}{N^1}$ will be $\sqrt{\frac{p_s(1-p_s)}{N^1}}$.

Hence the standard deviation of the *difference* $\frac{n_s}{N} - \frac{n_s^1}{N^1}$ will be

$$\sqrt{\frac{p_s(1-p_s)}{N} + \frac{p_s(1-p_s)}{N^1}} = \sqrt{p_s(1-p_s)} \sqrt{\frac{N+N^1}{NN^1}}.$$

The true value of p_s is of course unknown, but we might take as our best approximation the value $p_s = \frac{n_s + n_s^1}{N + N^1}$.

Now if the number of groups k is large the value of p_s will generally be small and $\sqrt{p_s(1-p_s)}$ will be nearly equal to $\sqrt{p_s}$.

Hence an approximation to the standard error of the difference $\frac{n_s}{N} - \frac{n_s^1}{N^1}$ will be $\sqrt{p_s} \sqrt{\frac{N + N^1}{NN^1}} = \sqrt{\frac{n_s + n_s^1}{NN^1}}$ nearly.

Hence we see that the difference $\frac{n_s}{N} - \frac{n_s^1}{N^1}$ divided by the estimated standard deviation of this difference is equal to

$$\frac{\left[\frac{n_s}{N} - \frac{n_s^1}{N^1} \right] \sqrt{NN^1}}{\sqrt{n_s + n_s^1}} = Y_s \text{ (say).}$$

For there to be a serious discrepancy in say the s th group of the two sets N and N^1 the value of Y_s should considerably exceed 2. Or Y_s^2 should exceed 4.

But it is possible to go further and to institute a comparison of the two sets N and N^1 , considering them as wholes. The following method is due to the genius of Prof. Karl Pearson.

The quantity formed by adding together the squares of the values of Y_s for all the different groups,

$$\text{i.e. } Y_1^2 + Y_2^2 + Y_3^2 + \dots + Y_k^2, \text{ is known as } \chi^2$$

and is a sort of measure of the discrepancy between the two sets N, N^1 considered as wholes.

Now provided that the values of n_s and n_s^1 are not too small (say when all the values n_s, n_s^1 are each ≥ 10 or thereabouts), Prof. Pearson has shown that it is possible to estimate theoretically the probability, in drawing two random samples N, N^1 from a large common population classed in k groups, of obtaining a value of χ^2 greater than or equal to some observed value. Tables have been constructed on the double entry principle in which the values of χ^2 are tabulated horizontally at unit intervals and k the number of groups tabulated vertically. For each pair of values of χ^2 and k we read from the table a decimal called P_{χ^2} . This quantity P_{χ^2} represents the chance or probability that if the two sets N, N^1 were random samples of a common population a value of χ^2 as great or greater than the actual value would be obtained.

Let us illustrate by taking Table XVI. On 16 January the number 555 is shown to the agents in London. At the same time 235 persons in different parts of the country each guess a three figure number. A certain proportion of the guesses registered will have 5 as the last figure, *i.e.* in the units place. What we wish to know

is: Is the proportion of 5's in the last place greater than it would have been if the agents had not concentrated on any number at all? We can only test this by finding out what the proportion of 5's is on an evening when the agents do not think of any three figure number. But it is obviously better to take six such evenings and pool the numbers obtained and so obtain a more truly representative proportion than could be obtained from a single evening. Now since the last figure may be 0, 1, 2, ... 9 there are altogether ten groups, so that $k=10$. We therefore count the numbers each week which fall into each of these ten groups, and by pooling the six weeks' contributions to each group we obtain ten larger groups. The numbers n_1, n_2, \dots, n_{10} in these control groups are tabulated opposite the corresponding digits in the second column of Table XVI. The sum of the values in the ten groups, *i.e.* $n_1 + n_2 + n_3 + \dots + n_{10}$, is equal to 1371, which is our N of the first set. The proportions for each group (that is the values of $\frac{n_s}{N}$) are tabulated in the third column.

$$\text{Thus } \frac{n_5}{N} = \frac{152}{1371} = 0.111.$$

Now our second set N^1 consists of the 235 guesses obtained on 16 January, and in Col. 7, under the heading n_s^1 (16 January), are tabulated the number of guesses which fall in each of the ten groups. Thus $N^1=235$ and $n_5^1=20$. The proportions for each group, that is the values of $\frac{n_s^1}{N^1}$, are tabulated in Col. 5 under this heading.

$$\text{Thus } \frac{n_5^1}{N^1} = \frac{20}{235} = 0.085.$$

Col. 4 gives the values of the difference $\frac{n_s}{N} - \frac{n_s^1}{N^1}$ for each group.

In this particular example it happens that the proportion $\frac{n_5^1}{N^1} = 0.085$ is actually less than the proportion $\frac{n_5}{N}$ in the control experiments, so that there can be no question of the concentration of the agents having increased the proportion of 5's.

Still this is not always the case, and by examining the value of Y_s^2 in the last column we can see in the case of any digit whether the difference in the two proportions is probably due to chance or not. In this example we look in the last column opposite the digit 5 and find $Y_5^2 = 1.27$.

This shows that Y_5^2 is considerably less than 2 and no significance can be attached to the difference in proportions of the given experiment and the control for this particular digit. But the same holds good for each of the other digits, since each value of Y_s^2 in the last column is considerably less than 4. If, however, we wish to see

how the series for 16 January compares as a whole with the control series (*i.e.* whether or not they can be regarded as two samples drawn from a much larger series) we add up the values of Y_s^2 in the last column and thus obtain $\chi^2 = Y_1^2 + Y_2^2 + Y_3^2 + \dots + Y_{10}^2$.

(χ^2 here = 8.61, with $k=10$.)

Turning now to the last two rows of Table XX, under the date 16 January we read $\chi^2 = 8.61$, $P_{\chi^2} = .47$.

This must be interpreted to mean that if we made a pair of control experiments employing no agents, and if in the first experiment 1371 guesses were obtained and in the second only 235 guesses, then if we kept on repeating this pair of experiments (taking care that the batch of guesses and other general conditions did not vary) we might expect to get a value of χ^2 as large as or greater than 8.67 on the average about 47 times in every 100 trials. In other words the divergence of the series on 16 January from the combined control series is so commonplace that it would be about even odds that you would get a divergence as great on a single trial.

As explained on p. 247 tables similar to Table XVI were constructed for each three figure number experiment, separate tables being made for the hundreds, tens and units digits.

To have published all these tables, 29 in number, would, however, have been very expensive, and, moreover, unnecessary, since the only vital part of each table is the last column giving the values of Y_s^2 for each digit.

I have thought it wise to give these last columns in full, since obviously it was important to demonstrate that the experiments on individual weeks really are close fits with the control series.

If the general fits had been bad we might have had to conclude that mass preferences for numbers, capital letters, etc. were so fluctuating and unreliable as to defy any attempts at statistical evaluation. In such an event, of course, the controls would have been useless.

The last columns of the 29 three figure number tables have been collected under each date in Tables XVIII-XXI. From these tables we can find the value of Y_s^2 for any digit in the hundreds, tens or units places for each date on which the agents concentrated on a three figure number. The sum of the numbers in each column gives the value of χ^2 , and under this is tabulated the corresponding value of P_{χ^2} . In each column the value in heavy type is the value of Y_s^2 corresponding to the special digit exhibited to the agents on the date at the head of the column. Had there been any considerable occurrence of mass telepathy a good proportion of these heavy type values (considerably exceeding say 30 per cent.) would have been greater than 4, whereas not even a single value in any of the four tables even approaches 4.

APPENDIX III

LIST OF OBJECTS OF EXPERIMENT AND INDIVIDUAL SCORING SYSTEM, OCTOBER 1928-MARCH 1929 ¹

I. 10 October 1928 ; 414 percipients ; agents : Prof. and Mrs M., Miss B., Mr O., and S. G. S.

The notice sent out to the percipients reads on each occasion, but for the change in date : "Wednesday, October 10, 1928. Three different objects will be shown, one each at 10.0 p.m., 10.10 p.m., 10.20 p.m. [Signed] S. G. SOAL."

i. 10.0-10.10 p.m. I exhibited three *large red artificial poppies* with double rows of petals. Green leaves. Talk of poppy fields at Cromer, of poppies in Flanders, the opium poppy, the sea-poppy, poppy the symbol of sleep, Francis Thompson's simile "His great pentecostal tongue." ²

| | <i>Scoring Scheme I (i)</i> | <i>Score</i> |
|---|-----------------------------|--------------|
| Red artificial poppies | - - - - - | 20 |
| <i>Artificial red</i> flowers of any other kind | - - - - - | 17 |
| Mention of word "poppy" | - - - - - | 15 |
| Mention of red flowers only | - - - - - | 12 |
| Mention of any <i>artificial</i> flowers (<i>not red</i>) | - - - - - | 10 |
| Mention of <i>pink</i> flowers | - - - - - | 10 |
| Any specially vivid impression of red objects | - - - - - | 10 |
| Mention of red <i>and</i> yellow flowers | - - - - - | 9 |
| Mention of purple flowers | - - - - - | 8 |
| Mention of flowers of other colours or colour not mentioned | - - - - - | 5 |
| Any casual mention of a red object | - - - - - | 4 |

¹ All the transmissions in this series were made from 2 Adelaide Road, London, N.W.

² It will be observed that no place in the scheme is allocated for an impression bearing upon item (a) "*His great pentecostal tongue*," etc., or for a mention of *poetry* or *sleep*. It must be inferred that no percipients mentioned any of these items on 19 October. In every case the scheme for each object was amplified and modified to meet the actual guesses made by the percipients. So that when on examining the percipients' records a fresh guess arose which was relevant to the object of the experiment, but unprovided for by the existing tariff, an appropriate place was made for it in the scheme. In each case I commenced with a skeleton scheme, which was gradually filled in as I read more and more records.

ii. 10.10-10.20 p.m. A small toy *tomahawk* with curved handle and wooden head covered with silver paper. Talk of Red Indians.

| <i>Scoring Scheme I (ii)</i> | | | | | | | <i>Score</i> |
|---|---|---|---|---|---|---|--------------|
| Mention of tomahawk | - | - | - | - | - | - | 20 |
| Mention of an axe or chopper or of chopping | - | - | - | - | - | - | 15 |
| Mention of a Red Indian (or associations) | - | - | - | - | - | - | 15 |
| Mention of any other savage weapon | - | - | - | - | - | - | 12 |
| Mention of a golf club | - | - | - | - | - | - | 8 |
| Mention of war or battle | - | - | - | - | - | - | 6 |
| Mention of any <i>metal</i> object | - | - | - | - | - | - | 4 |

iii. 10.20-10.30 p.m. A small brown female Egyptian head out of whose *mouth* a tape measure could be drawn and let fly back again. Inches on one side of tape and centimetres on the other.

| <i>Scoring Scheme I (iii)</i> | | | | | | | <i>Score</i> |
|---|---|---|---|---|---|---|--------------|
| Mention of Egyptian head and tape measure | - | - | - | - | - | - | 20 |
| Mention of Egyptian head only | - | - | - | - | - | - | 13 |
| Mention of a measuring tape or of measuring | - | - | - | - | - | - | 10 |
| Mention of negro's head or coloured native's head | - | - | - | - | - | - | 8 |
| Mention of a woman's head (head or bust only) | - | - | - | - | - | - | 6 |
| Mention of a baby's rattle or other rattling object | - | - | - | - | - | - | 5 |
| Any impression directly connected with Egypt | - | - | - | - | - | - | 5 |

II. 17 October 1928 ; 386 percipients ; agents : Prof. and Mrs M., Mr O., and S. G. S.

i. 10.0-10.10 p.m. A toy model yacht with one white sail and containing a small figure of a native with a feather in his hat.

| <i>Scoring Scheme II (i)</i> | | | | | | | <i>Score</i> |
|---|---|---|---|---|---|---|--------------|
| Mention of a <i>sailing</i> ship and native and feather | - | - | - | - | - | - | 20 |
| Mention of sailing ship and native only | - | - | - | - | - | - | 17 |
| Mention of sailing ship with any figure in it | - | - | - | - | - | - | 15 |
| Mention of a <i>non-sailing</i> ship with native | - | - | - | - | - | - | 12 |
| Mention of any <i>sailing ship</i> but with no figure | - | - | - | - | - | - | 12 |
| Mention of a <i>non-sailing</i> ship with any figure | - | - | - | - | - | - | 10 |
| Mention of any kind of ship other than a sailing ship (<i>e.g.</i> steamer, canoe, etc.), with no figure in it | - | - | - | - | - | - | 5 |
| Mention of a native with feather in hat | - | - | - | - | - | - | 5 |
| Mention of single feather but no native | - | - | - | - | - | - | 3 |
| Mention of <i>white triangle</i> | - | - | - | - | - | - | 3 |
| Mention of the sea or of a river | - | - | - | - | - | - | 3 |
| Mention of a bunch of feathers | - | - | - | - | - | - | 2 |
| Any mention of a native or Indian only | - | - | - | - | - | - | 2 |
| Mention of a white sheet | - | - | - | - | - | - | 2 |

ii. 10.10-10.20 p.m. I ignited a small paper bomb which made a slight detonation. A paper flower was shot out and much paper scattered about. I then applied a match to a piece of prepared paper on which was drawn a representation of a balloon. The paper balloon rose slowly to the ceiling and fell in a charred mass.

Scoring Scheme II (ii)

| | <i>Score</i> |
|--|--------------|
| Mention of bomb and paper balloon - - - - | 20 |
| Mention of the word <i>bomb</i> or <i>bursting bomb</i> - - - | 12 |
| Mention of an explosion of any sort (<i>e.g.</i> gun or pistol) - | 10 |
| Mention of <i>fireworks</i> (without description) - - - - | 10 |
| Mention of <i>burning paper</i> - - - - - | 10 |
| Any mention of balloon or parachute only - - - - | 8 |
| Mention of paper being scattered about - - - - | 5 |
| Mention of smoke or steam - - - - - | 5 |
| Any mention of burning (other than paper) - - - - | 5 |
| Any idea associated with gun or pistol - - - - | 4 |
| Mention of box of matches or a match - - - - | 4 |

iii. 10.20-10.30 p.m. The lights were extinguished and a few small firework sticks were lit, which emitted showers of silver stars or sparks.

Scoring Scheme II (iii)

| | <i>Score</i> |
|--|--------------|
| Mention of firework stars in darkness - - - - | 20 |
| Mention of fireworks of the Catherine-wheel or sparking variety | 17 |
| Mention of any showers of sparks - - - - - | 15 |
| Mention of stars on a dark background - - - - | 15 |
| Any mention of flashes of light in darkness - - - - | 12 |
| Mention of stars only - - - - - | 10 |
| People peering into darkness - - - - - | 10 |
| Mention of <i>fireworks</i> (without description) ¹ - - - - | 10 |
| Mention of a light (not contrasted with darkness) - - - | 8 |
| Impression of blackness or darkness - - - - - | 8 |

III. 24 October 1928 ; 385 percipients ; agents : Prof. and Mrs M., Mr O., and S. G. S.

The following notice was sent to percipients : "Wednesday, 24 October 1928. Three different objects will be shown, one each at 10 p.m., 10.10 p.m., 10.20 p.m. (this object will be a geometrical sketch). Please draw your impression."

i. 10.0-10.10 p.m. I twanged a small toy mandolin, the baek of which was striped like a melon. Mention of serenades.

Scoring Scheme III (i)

| | <i>Score</i> |
|---|--------------|
| Mention of mandolin with full details - - - - | 20 |

¹ This item is only scored *once* whether it is recorded in intervals (i), (ii) or (iii).

| | | | | | |
|---|---|---|---|---|----|
| Mention only of a mandolin, a banjo or guitar | - | - | - | - | 17 |
| Mention of a violin or other <i>stringed</i> instrument | - | - | - | - | 10 |
| Mention of any <i>other</i> musical instrument | - | - | - | - | 8 |
| Any impression of singing or of music | - | - | - | - | 8 |
| Any drawing approximating to shape of mandolin | - | - | - | - | 6 |
| Any mention of wires or sets of wires | - | - | - | - | 4 |

ii. 10.10-10.20 p.m. Each agent and myself in turn wore a long salmon-coloured cardboard nose with spectacle rims attached. Mrs M. told a story about a Cambridge man's nose.

Scoring Scheme III (ii) Score

| | | | | | |
|---|---|---|---|---|----|
| Mention of long nose and spectacle rims | - | - | - | - | 20 |
| Mention of a long, large or grotesque nose | - | - | - | - | 15 |
| Mention of comic face with glasses | - | - | - | - | 14 |
| Mention of mask and spectacles (but not associated) | - | - | - | - | 13 |
| Mention of Punch or of a jester | - | - | - | - | 12 |
| Mention of a mask | - | - | - | - | 10 |
| A grotesque or comic face | - | - | - | - | 10 |
| Mention of spectacles, pince-nez or goggles only | - | - | - | - | 10 |
| Mention of Jack-in-box or marionettes | - | - | - | - | 7 |

iii. 10.20-10.30 p.m. The outline of a Maltese cross was drawn several times by me.

Scoring Scheme III (iii) Score

| | | | | | |
|--|---|---|---|---|----|
| Drawing of Maltese cross or mention of it | - | - | - | - | 20 |
| Drawing of two triangles with their apexes touching | - | - | - | - | 10 |
| Drawing of a Swiss or star-like cross | - | - | - | - | 10 |
| Drawing of a <i>cross</i> , but in <i>curved lines</i> | - | - | - | - | 8 |
| Drawing of an isosceles triangle | - | - | - | - | 5 |
| Drawing of a very scalene triangle | - | - | - | - | 3 |

IV. 31 October 1928; 355 percipients; agents: Prof. and Mrs M., Mr O., and S. G. S.

The notice sent out to percipients was identical except for *date* with the notice for 24 October.

i. 10.0-10.10 p.m. A toy *yellow plaster duck* wearing a black top hat and spectacles. It had orange webbed feet and an orange bill. The duck's neck was jointed and could be set at different angles. Mention of a lady who sent a goose to Browning.

Scoring Scheme IV (i) Score

| | | | | | |
|--------------------------------------|---|---|---|---|----|
| Duck with top hat and spectacles | - | - | - | - | 20 |
| Mention of a yellow duck only | - | - | - | - | 14 |
| Mention of a hat and spectacles only | - | - | - | - | 12 |

| | | | | | |
|---|---|---|---|---|----|
| Mention of a duck only but <i>not</i> yellow | - | - | - | - | 12 |
| Mention of a top hat or tall hat only | - | - | - | - | 10 |
| Mention of a <i>yellow</i> bird other than duck | - | - | - | - | 10 |
| A bird <i>with a crest</i> (unspecified) | - | - | - | - | 10 |
| Mention of goose, swan or chicken | - | - | - | - | 8 |
| Mention of a <i>man's black</i> hat, other than a top hat | - | - | - | - | 8 |
| Mention of a bird other than any mentioned above and not yellow | - | - | - | - | 6 |
| A yellow animal other than a bird | - | - | - | - | 6 |
| Mention of spectacles or goggles only | - | - | - | - | 5 |
| Any vivid impression of yellow (excluding yellow bird) | - | - | - | - | 4 |
| Any association with a bird (<i>e.g.</i> eggs, feathers) | - | - | - | - | 3 |
| A casual mention of the colour yellow or gold | - | - | - | - | 2 |

ii. 10.10-10.20 p.m. A large bell-shaped paper ornament not unlike a Chinese lantern made of blue-green paper and honeycombed with cells. The ornament folded up like a fan.

Scoring Scheme IV (ii)

Score

| | | | | | |
|---|---|---|---|---|----|
| A bell-shaped blue paper object | - | - | - | - | 20 |
| Mention of a Chinese or Japanese lantern | - | - | - | - | 10 |
| Mention of a <i>bell-shaped</i> object ¹ | - | - | - | - | 10 |
| Mention of honeycomb or cells or lattice work | - | - | - | - | 10 |
| Mention of a fan or of a fan shape | - | - | - | - | 10 |
| Mention of a church bell or hand bell or school bell (or <i>sound</i> of such a bell) | - | - | - | - | 8 |
| Mention of a paper hat | - | - | - | - | 8 |
| Any <i>vivid</i> impression of blue or green | - | - | - | - | 8 |
| A casual mention of blue or green | - | - | - | - | 5 |
| A mosaic pattern | - | - | - | - | 4 |

iii. 10.20-10.30 p.m. A sketch was drawn several times in pencil by me of three sets of two concentric circles in triangular formation, the three outer circles touching in pairs externally. Mention of life-buoys and anchor-rings.

Scoring Scheme IV (iii)

Score

| | | | | | |
|--|---|---|---|---|----|
| The diagram described above | - | - | - | - | 20 |
| Three circles in triangular formation | - | - | - | - | 17 |
| Two concentric circles | - | - | - | - | 15 |
| Two concentric hexagons, with sides parallel | - | - | - | - | 12 |
| Four concentric circles | - | - | - | - | 9 |
| Three circles intersecting in pairs | - | - | - | - | 8 |
| Two non-intersecting single circles | - | - | - | - | 6 |
| One circle | - | - | - | - | 5 |

¹ *E.g.* Harebell. Mention of hand bell or church bell is here excluded.

V. 7 November 1928; 327 percipients; agents: Prof. and Mrs. M. Mr O., and S. G. S.

The notice sent to percipients was identical with those of 24 and 31 October except for date.

i. 10.0-10.10 p.m. I put on a brilliant scarlet conical dunce cap. Several sheets of scarlet paper were arranged in different parts of the room to convey a vivid impression of bright red.

| <i>Scoring Scheme V (i)</i> | <i>Score</i> |
|--|--------------|
| Scarlet conical dunce cap - - - - - | 20 |
| Mention of <i>red paper</i> or <i>red cloth</i> - - - - - | 16 |
| Any vivid impression of <i>red</i> - - - - - | 15 |
| Mention of a conical cap - - - - - | 13 |
| Any <i>other conical</i> object - - - - - | 10 |
| A <i>casual</i> mention of a red object - - - - - | 8 |
| Mention of sheets or rolls of paper (not red) - - - - - | 8 |
| Mention of something placed on the head - - - - - | 8 |
| Mention of any vivid impression of colour other than red - - - - - | 6 |
| Mention of a pyramidal object - - - - - | 5 |

ii. 10.10-10.20 p.m. A toy blacksmith which when wound up struck a piece of metal on an anvil with a hammer. Sparks flew from the anvil each time the hammer fell. The blacksmith was coloured a pale blue. The agents recited verses from "The Village Blacksmith."

| <i>Scoring Scheme V (ii)</i> | <i>Score</i> |
|--|--------------|
| Mention of blacksmith with hammer or anvil - - - - - | 20 |
| Mention of a blacksmith only - - - - - | 14 |
| Mention of an anvil only - - - - - | 14 |
| Mention of hammer or mallet only - - - - - | 10 |
| Mention of blows or taps - - - - - | 10 |
| Mention of a horseshoe - - - - - | 8 |
| Mention of sparks or sparking fireworks - - - - - | 8 |
| Mention of a mechanical toy - - - - - | 6 |
| Mention of metal ¹ (or object <i>obviously</i> made of metal) - - - - - | 4 |
| Mention of a horse only - - - - - | 3 |

iii. Geometrical *control* experiment.

VI. 14 November 1928; 311 percipients; agents: Prof. and Mrs M., Mr O., and S. G. S.

The notice sent to percipients was identical with the notice for 24 and 31 October and 7 November except for date.

¹ This mention of metal of course *excludes* "hammer" or "horseshoe" or "anvil," for which the tariffs are given separately. For instance a mention of a "kettle" would gain four marks.

i. 10.0-10.10 p.m. A few sprays of artificial mistletoe with dark green leaves and white celluloid berries. Mention of Balder and the mistletoe, of the Druids who cut mistletoe with golden knives, of the fact that mistletoe grows more often on apple trees than on oaks, of G. K. Chesterton's poem on Balder.

| <i>Scoring Scheme VI (i)</i> | <i>Score</i> |
|---|--------------|
| Mention of mistletoe <i>or</i> white berries + green leaves - - - - - | 20 |
| Mention of <i>white berries only</i> - - - - - | 18 |
| Mention of Druids or of Balder ¹ - - - - - | 15 |
| Mention of a <i>golden knife or dagger</i> - - - - - | 15 |
| Mention of holly - - - - - | 15 |
| Mention of berries <i>other than white (excluding holly)</i> - - - - - | 12 |
| Mention of oak or of oak leaves <i>or oak wood</i> ² <i>or acorn</i> - - - - - | 10 |
| Mention of <i>pearls or white beads</i> - - - - - | 10 |
| Mention of impressions connected with Christmas (e.g. Christmas tree, plum pudding, etc.) - - - - - | 10 |
| Mention of beads but not white - - - - - | 8 |
| Mention of green leaves <i>only (holly excluded)</i> - - - - - | 8 |
| Mention of a knife but not golden - - - - - | 8 |
| Mention of poetry - - - - - | 5 |
| A <i>cluster of white flowers</i> - - - - - | 4 |
| Mention of a bunch of grapes - - - - - | 4 |
| Mention of <i>artificial</i> plants or flowers - - - - - | 4 |
| Mention of other literature - - - - - | 3 |

ii. 10.10-10.20 p.m. A clockwork chocolate-coloured tin bear standing on its hind legs and holding a long hollow yellowish pole. When wound up by a key the bear slowly rotated on its hind legs.

| <i>Scoring Scheme VI (ii)</i> | <i>Score</i> |
|--|--------------|
| Mention of bear with pole or stick - - - - - | 20 |
| Mention of bear on its hind legs - - - - - | 15 |
| Mention of <i>brown bear</i> only - - - - - | 12 |
| Mention of a bear not brown or rampant - - - - - | 10 |
| Any rampant animal other than bear - - - - - | 7 |
| Mention of a pole only - - - - - | 6 |
| Mention of stick or walking stick - - - - - | 4 |
| Any clockwork toy - - - - - | 4 |
| Any other <i>brown</i> animal - - - - - | 4 |
| Any <i>brown</i> object not an animal - - - - - | 2 |

iii. 10.20-10.30 p.m. I drew a regular pentagon several times. Mention of haystack (shape of pentagon).

¹ These items "Druids" or "Balder" were provided for at the beginning but were never given by any percipient.

² A mention of *oak* furniture or wainscotting was here allowed.

Scoring Scheme VI (iii)

Score

| | | | | | | |
|--|---|---|---|---|---|----|
| Drawing of a regular pentagon or mention of one | - | - | - | - | - | 20 |
| Mention of a haystack without reference to shape | - | - | - | - | - | 10 |
| Drawing of hexagon, octagon, heptagon, etc. | - | - | - | - | - | 8 |

VII. 21 November 1928; 342 percipients; agents: Prof. and Mrs M., Mr O., and S. G. S.

The following notice was sent to the percipients: Wednesday, 21 November 1928. Three different objects will be shown, one each at 10.0 p.m., 10.10 p.m. (this second object will be a number of three figures), 10.20 p.m. (this third object will be a geometrical sketch. Please draw your impressions)."

i. 10.0-10.10 p.m. A small mechanical toy consisting of a man standing at a grindstone on which he holds a pair of scissors. When wound up a wheel revolved and the grindstone rotated rapidly, causing sparks to fly from the scissors. The man's left leg worked the treadle, which moved up and down rapidly.

Scoring Scheme VII (i)

Score

| | | | | | | |
|--|---|---|---|---|---|----|
| Mention of scissors grinder or man with grindstone | - | - | - | - | - | 20 |
| Mention of scissors only | - | - | - | - | - | 12 |
| Mention of a rotating wheel | - | - | - | - | - | 12 |
| Mention of other rotation | - | - | - | - | - | 8 |
| Mention of showers of sparks | - | - | - | - | - | 8 |

ii. 10.10-10.20 p.m. The number 424 drawn in violet crayon.

Scoring Scheme VII (ii)

Score

| | | | | | | |
|---------------------------------|---|---|---|---|---|----|
| The number 424 ¹ | - | - | - | - | - | 20 |
| 42- or 4-4 or 2-4 | - | - | - | - | - | 12 |
| 4- or -2- or -4 | - | - | - | - | - | 6 |
| If 4's are written 4 give bonus | - | - | - | - | - | +3 |

iii. 10.20-10.30 p.m. A triangle nearly equilateral drawn in black crayon.

Scoring Scheme VII (iii)

Score

| | | | | | | |
|---|---|---|---|---|---|----|
| Drawing of an equilateral triangle | - | - | - | - | - | 20 |
| Triangle nearly isosceles but not equilateral | - | - | - | - | - | 17 |
| A triangle drawn but very scalene | - | - | - | - | - | 15 |
| Several triangles or pair of joined triangles or triangle mixed with other figures (e.g. inscribed in a circle, etc.) | - | - | - | - | - | 6 |

¹ The representations 42-, 4-4 or -24 must be read to mean that the two given digits were correct, but the digit occupying the position of the dash was incorrect. 4- or -2- or -4 imply that one digit only was correct, while the two occupying the positions of the dashes were incorrect.

VIII. 28 November 1928; 313 percipients; agents: Prof. and Mrs M., Mr O., and S. G. S.

The notice sent out to percipients was identical with that for 21 November except for the date.

i. 10.0-10.10 p.m. I exhibited three large yellow chrysanthemums with small green leaves and flowers of the incurved variety. A strip of bright yellow paper 10' long by 1' was unrolled and placed conspicuously in the room.

| <i>Scoring Scheme VIII (i)</i> | <i>Score</i> |
|---|--------------|
| Mention of yellow chrysanthemums - - - - - | 20 |
| Mention of <i>yellow flowers</i> - - - - - | 15 |
| Any very <i>vivid</i> impression of yellow (<i>not flowers</i>) - - - - - | 14 |
| Mention of chrysanthemums but not yellow - - - - - | 12 |
| Sheets of fabric or of paper unrolled - - - - - | 8 |
| Casual mention of yellow or orange object (<i>not flowers</i>) - - - - - | 6 |
| Mention of flowers but <i>not</i> yellow - - - - - | 5 |

ii. 10.10-10.20 p.m. The number 444 was drawn in blue crayon by me.

| <i>Scoring Scheme VIII (ii)</i> | <i>Score</i> |
|--|--------------|
| 444 or $\frac{4}{4}\frac{4}{4}$ ¹ - - - - - | 20 |
| 44- or -44 or 4-4 - - - - - | 12 |
| 4- or -4- or -4 - - - - - | 6 |
| For writing $\frac{4}{4}$ as 4 <i>bonus</i> - - - - - | +3 |

iii. 10.20-10.30 p.m. Geometrical sketch of three concentric circles drawn in blue crayon by me.

| <i>Scoring Scheme VIII (iii)</i> | <i>Score</i> |
|---|--------------|
| <i>Three concentric circles</i> - - - - - | 20 |
| For drawing <i>concentric circles</i> , ² but more than three or less than three - - - - - | 15 |
| One circle only drawn <i>and no additions</i> - - - - - | 10 |
| For drawing a single circle inside a second figure - - - - - | 6 |
| For drawing two or more circles <i>not</i> concentric but external or intersecting - - - - - | 5 |
| One circle with triangle or line figure superadded - - - - - | 3 |

IX. 5 December 1928; 356 percipients; agents: Prof. and Mrs M., Mr O., and S. G. S. In addition it was arranged that 23 of the percipients should act as agents for the first interval (10.0-10.10 p.m.).

To each of the additional agents a sealed envelope was sent

¹ For explanation of the dashes see the footnote on page 287.

² A slight *eccentricity* in placing the circles would be allowed.

containing a picture postcard (Zoo series) showing a *kangaroo*. The envelope was posted together with an accompanying notice to reach the agent as far as possible on 5 December. The envelope was marked "To be opened at 10.0 p.m. in the presence of a witness."

The notice read as follows: "Special experiment for 5 December 1928. For the first ten minutes, from 10.0-10.10 p.m., we are asking you kindly to act this week as *agent* instead of percipient. Will you therefore please keep the enclosed envelope in a safe place and unopened till 10.0 p.m. on Wednesday, 5 December. It should then be opened in the presence of a witness. Will you therefore concentrate on the subject of the enclosure and from 10.0-10.10 p.m. try to transmit instead of receive impressions. (A number of people in different parts of the country will be concentrating on the same subject.) At the end of ten minutes cease to concentrate and continue recording impressions in the usual way for the rest of the half hour. When sending your impressions will you also kindly return the envelope in which you receive this, with the signature of the witness as to the time when it was opened.

Sgnd. S. G. SOAL."

The following notice was sent out to all percipients: "Wednesday, 5 December 1928. Three different objects will be shown: 10.0 p.m. Please record all impressions. 10.10 p.m. The second object will be a number of three figures. Please give *only* the *strongest* impression. 10.20 p.m. The third object will be a *capital letter of the alphabet*. Please record your impressions but give *only* the *strongest*.

Sgnd. S. G. SOAL."

i. 10.0-10.10 p.m. A picture postcard (Zoo series), "The Kangaroo." There was mention by the agents that the kangaroo when cornered can tear dogs to pieces, also mention of its powerful tail—a blow from which can kill a man, mention of marsupials, duck-billed platypus. There was that evening a cartoon in the *Evening Standard* showing a kangaroo, which, however, was not very conspicuous.

Scoring Scheme IX (i)

| | <i>Score</i> |
|---|--------------|
| Mention of a kangaroo - - - - - | 20 |
| Mention of a marsupial - - - - - | 18 |
| Mention of Australia (or associations) - - - - - | 12 |
| Mention of a <i>rabbit</i> or <i>rat</i> ¹ - - - - - | 10 |
| Mention of an animal's <i>tail</i> ¹ - - - - - | 10 |

¹ It will be observed that the mention of *rabbit* or *rat* is provided for by the scheme with a tariff of 10 marks, while 10 marks are also allotted to any impression drawing special attention to an animal's *tail*. But it will be seen that no tariff is provided for a percipient who mentions *both* these items. It must be inferred that actually no percipient did hit upon such a combina-

| | | |
|---|-----------|----|
| Mention of an <i>animal fighting</i> or of <i>hunting</i> an animal | - | 10 |
| Mention of a deer-like animal | - - - - - | 8 |
| Mention of an animal being killed | - - - - - | 7 |
| Mention of any <i>animal sitting on its haunches</i> | - - - - - | 5 |
| Mention of a postcard only | - - - - - | 5 |
| Mention of an animal with <i>no resemblance</i> to kangaroo and not on haunches | - - - - - | 3 |

ii. 10.10-10.20 p.m. The number 888 in violet crayon and in large digits.

Scoring Scheme IX (ii) Score

| | | |
|-------------------|-----------|----|
| 888 | - - - - - | 20 |
| 88- or 8-8 or -88 | - - - - - | 12 |
| 8- or -8- or -8 | - - - - - | 6 |

iii. 10.20-10.30 p.m. The capital letter F in violet crayon.

Scoring Scheme IX (iii) Score

| | | |
|-----------|-----------|----|
| F guessed | - - - - - | 20 |
| E guessed | - - - - - | 10 |
| P guessed | - - - - - | 6 |

X. 12 December 1928; 301 percipients; agents: Prof. and Mrs M., Mr O., S. G. S., and 23 additional agents.

The notice sent to the additional agents was practically identical except for date with that sent out for 5 December. The sealed envelope contained a picture postcard of the Zoo series, "The Alligator."

The following notice was sent out to all percipients: "Wednesday, 12 December 1928. Three different objects will be shown: 10.0 p.m. Please record all impressions. 10.10 p.m. The second object will be a capital letter of the alphabet. 10.20 p.m. The third object will be a geometrical figure.

Sgnd. S. G. SOAL."

i. 10.0-10.10 p.m. A picture postcard of the Zoo series, "The Alligator," showing an alligator with mouth open. The agents noted the pointed tail and the rows of teeth. The agents at 2 Adelaide Road gazed at the postcard for one minute only (10.0-10.1 p.m.) and then let it pass from their minds.

tion. The scoring scheme in fact was in all cases *amplified* to meet the different types of guesses that were met with in examining the percipients' records. Had I come across such a combination as that mentioned above, a special place in the scheme would have been arranged for it and the tariff thus allocated applied to any other similar case that arose.

| <i>Scoring Scheme X (i)</i> | <i>Score</i> |
|---|--------------|
| Mention of crocodile or alligator - - - - - | 20 |
| Mention of shark or pike or similar large fish ¹ - - - - | 12 |
| Mention of an open jaw with teeth or rows of teeth only - - | 12 |
| Mention of an open mouth without mention of teeth - - | 10 |
| Mention of any other <i>reptile</i> (c.g. lizard, snake, frog) - - | 10 |
| Feeling of repulsion or fear or horror ² - - - - | 8 |
| Mention of "picture of an animal" - - - - | 5 |

ii. 10.10-10.20 p.m. A large capital S in blue crayon.

| <i>Scoring Scheme X (ii)</i> | <i>Score</i> |
|---|--------------|
| A capital S in <i>blue</i> - - - - - | 20 |
| A capital S without mention of blue - - - - | 17 |

iii. 10.20-10.30 p.m. Control experiment. No object transmitted.

XI. 19 December 1928; 288 percipients; agents: Prof. and Mrs M., Mr O., S. G. S., and 20 additional agents.

The following notice was posted to the additional agents together with a sealed envelope: "Special experiment for 19 December 1928. For the second ten minutes, from 10.10-10.20 p.m., we are asking you again to act this week as *agent* instead of percipient. Will you therefore concentrate on the subject of the enclosure and try to *transmit* instead of receive impressions. (A number of people in different parts of the country will be concentrating on the same subject.) At the end of ten minutes cease to concentrate and continue recording impressions in the usual way for the rest of the half hour. When sending your impressions will you also kindly return the envelope in which you receive this, with the signature of a witness as to the time when it was opened.

Sgnd. S. G. SOAL."

The following notice was sent to all percipients: "Wednesday, 19 December 1928. 10.0 p.m. Imagine a *black cloth* which covers an object on a small round brass-topped table. *At 10.2 p.m. I shall raise the cloth.* Imagine the uncovering and record your impressions of the object disclosed. 10.10 p.m. Record all impressions. 10.20 p.m. The third object will be a geometrical figure. Please draw your impressions.

Sgnd. S. G. SOAL."

i. 10.0-10.10 p.m. The black cloth which was raised at 10.2 p.m. revealed a small toy organ grinder who when wound up turned the handle of a toy street piano, at the same time moving his head and

¹ Any savage fish with rows of teeth like a crocodile would be included here.

² Of course if a percipient mentioned *both* (a) shark and (b) fear he would only be given the marks due to (a), since (b) is a natural corollary to getting impression (a).

shoulders towards the organ and away from it. A few notes were emitted and a toy monkey danced on the top of the organ, dithering up and down and turning round. The organ grinder wore a grey hat like a soldier's tin helmet.

| <i>Scoring Scheme XI (i)</i> | <i>Score</i> |
|---|--------------|
| Mention of organ grinder and monkey - - - - | 20 |
| Mention of barrel organ alone - - - - | 16 |
| Mention of a musical box - - - - | 14 |
| Mention of someone turning a handle - - - - | 12 |
| Mention of a monkey or monkeys only - - - - | 12 |
| Mention of a man nodding or swaying his head - - - - | 10 |
| Mention of a little dancing man or figure - - - - | 10 |
| Mention of dancing in general (more than one person) - - - - | 8 |
| Mention of musical instrument or music - - - - | 8 |
| Mention of an <i>Italian</i> impression (<i>e.g.</i> macaroni or map of Italy, etc.) - - - - | 6 |
| Mention of some kind of wheeled cart - - - - | 6 |
| Mention of a workable model or clockwork toy only - - - - | 4 |

ii. 10.10-10.20 p.m. A picture postcard showing a dog wearing a cap and holding a clay pipe in its mouth. On the floor was a half-open box of matches.

| <i>Scoring Scheme XI (ii)</i> | <i>Score</i> |
|--|--------------|
| Dog with cap and pipe - - - - | 20 |
| Mention of a dog in any kind of hat - - - - | 15 |
| Mention of a dog with a pipe - - - - | 15 |
| Mention of a man in a hat and smoking a pipe - - - - | 12 |
| Mention of a dog dressed up in any way, <i>i.e.</i> wearing spectacles - - - - | 12 |
| Mention of a dog only - - - - | 10 |
| Mention of a man smoking a pipe - - - - | 10 |
| Mention of any other animal dressed up, <i>e.g.</i> elephant with spectacles - - - - | 8 |
| Mention of a pipe only - - - - | 8 |
| Mention of a cap only - - - - | 8 |
| Mention of a box of matches - - - - | 8 |
| Mention of a hat only - - - - | 6 |

iii. 10.20-10.30 p.m. Geometrical *control* experiment. No object shown.

XII. 9 January 1929; 298 percipients; agents: Prof. and Mrs M. and 29 additional agents.

The following notice was sent to the additional agents: "Special experiment for 9 January 1929. For the first five minutes, *i.e.* from

10.0 to 10.5 p.m., we are asking you to act this week as *agent* instead of percipient. Will you therefore concentrate on the subject of the enclosure and try to *transmit* instead of to receive impressions. (A number of people in different parts of the country will be concentrating on the same subject.) At the end of five minutes cease to concentrate and think no more of what is in the enclosure. *In fact put the experiment from your mind altogether until 10.20. At 10.20 begin to record impressions of the third object in the usual way. The third object is a geometrical impression. When sending your impressions will you also kindly return the envelope in which you receive this, with the signature of a witness as to the time when it was opened.*

Sgnd. S. G. SOAL."

The following notice was sent to percipients: "Wednesday, 9 January 1929. 10.0 p.m. Imagine a *black cloth* which covers an object on a small round brass-topped table. *At 10.2 p.m. I shall raise the cloth.* Imagine the uncovering and record your impressions of the object disclosed. 10.10 p.m. The second object will be a number of three figures. Give only your strongest impression. 10.20 p.m. The third object will be a geometrical figure. Please *draw* your impressions.

Sgnd. S. G. SOAL."

i. 10.0-10.10 p.m. A red apple was concealed by Mrs M. under a black cloth which was raised at 10.2 p.m. The agents concentrated on the object till 10.10 p.m.

| <i>Scoring Scheme XII (i)</i> | <i>Score</i> |
|---|--------------|
| Mention of a <i>red</i> apple or <i>red</i> ball - - - - - | 20 |
| Mention of <i>green</i> apple or apple with no colour specified - | 15 |
| Mention of an orange or oranges - - - - - | 10 |
| Mention of a coloured globe of any kind (<i>not</i> red) - - - | 8 |
| Mention of other fruit or fruit unspecified - - - - - | 5 |
| Casual mention of RED <i>object</i> NOT <i>globular</i> - - - - - | 5 |

ii. 10.10-10.20 p.m. A sealed envelope which had been posted to Prof. and Mrs M. by me containing a card with the number 581 in black crayon was opened at 10.10 p.m. by Mrs M. Concentration was carried out till 10.20 p.m.

| <i>Scoring Scheme XII (ii)</i> | <i>Score</i> |
|--------------------------------|--------------|
| The number 581 - - - - - | 20 |
| 58- or -81 or 5-1 - - - - - | 12 |
| 5- or -8- or -1 - - - - - | 6 |

iii. 10.20-10.30 p.m. Control experiment. No transmission.

XIII. 16 January 1929; 284 percipients; agents: Prof. and Mrs M., the sister of Mrs M., and 23 additional agents.

The notice sent to the percipients and the additional agents was, except for date, identical with that sent for 9 January 1929.

i. 10.0-10.10 p.m. Mrs M. chose as object of experiment a *Chinese cup and saucer* of white and terra-cotta colouring.

| <i>Scoring Scheme XIII (i)</i> | <i>Score</i> |
|--|--------------|
| Mention of Chinese cup and saucer - - - - | 20 |
| Any impression connected with <i>China</i> (country) - - | 14 |
| Mention of an ordinary cup and saucer - - - - | 12 |
| Mention of a cup alone or saucer alone - - - - | 10 |
| Mention of tea or teapot or tea cosy or of drinking tea - | 10 |
| Any <i>Eastern</i> vase or vessel - - - - - | 10 |
| Mention of <i>China</i> pottery - - - - - | 8 |
| Any impression of the East (but not of a jar or vessel) - | 8 |
| Other mentions of crockery - - - - - | 6 |
| Any drinking vessel other than the preceding - - - | 6 |
| Any other vessel, pan, iron jar, etc. (not used for drinking out of) - - - - - | 3 |

ii. 10.10-10.20 p.m. An envelope sealed previously by me and posted to Mrs M. was opened by the latter at 10.10 p.m. It contained a white card bearing the number 555 in black crayon. Concentration was carried out from 10.10-10.20 p.m.

| <i>Scoring Scheme XIII (ii)</i> | <i>Score</i> |
|---------------------------------|--------------|
| The number 555 - - - - - | 20 |
| 55- or 5-5 or -55 - - - - - | 12 |
| 5— or -5- or —5 - - - - - | 6 |

iii. 10.20-10.30 p.m. A sealed envelope posted by me to Mrs M. was opened by her at 10.20 p.m. It contained a white card on which was drawn a circle in which a black equilateral triangle was inscribed.

| <i>Scoring Scheme XIII (iii)</i> | <i>Score</i> |
|---|--------------|
| Drawing of <i>black</i> triangle in a circle - - - - - | 20 |
| Triangle in a circle but not black - - - - - | 15 |
| Mention of a <i>black</i> triangle alone - - - - - | 14 |
| A triangle and circle where triangle is not properly placed with regard to circle - - - - - | 10 |
| A circle with a line figure <i>inscribed</i> other than a triangle - | 8 |
| Drawing of an ordinary triangle alone - - - - - | 6 |
| Drawing of a circle alone - - - - - | 6 |

XIV. 23 January 1929; 275 percipients; agents: Prof. and Mrs M. and 25 additional agents took part.

The notice sent out to the additional agents was identical with that sent out for 16 January with the exception that the *third* object

was stated to be a "playing card" instead of a "geometrical impression."

The notice sent out to the percipients was as follows: "Wednesday, 23 January 1929. Three different objects will be shown, one each at: 10.0 p.m. Please record all impressions.—10.10 p.m. The second object will be a number of three figures.—10.20 p.m. The third object will be a *playing card*."

i. 10.0-10.10 p.m. The chosen agents and Prof. and Mrs M. were sent a sealed envelope containing a picture postcard showing a bright red full-blown rose with pale green leaves and one opening bud. The envelope was to be opened at 10.0 p.m.

Scoring Scheme XIV (i)

| | <i>Score</i> |
|---|--------------|
| Mention of <i>red</i> rose and green leaves - - - - | 20 |
| Mention of <i>red</i> rose but no leaves - - - - | 17 |
| Mention of a <i>red</i> flower but not a rose - - - - | 15 |
| Mention of a rose but <i>not</i> red - - - - | 10 |
| Mention of flowers red mixed with white or yellow - - - - | 9 |
| Any very <i>vivid</i> impression of red object - - - - | 8 |
| Mention of flower not red and not a rose - - - - | 6 |
| Casual mention of a red object - - - - | 4 |
| Mention of green leaves or foliage only - - - - | 4 |
| Impression of a green object other than foliage - - - - | 2 |

ii. 10.10-10.20 p.m. Mrs M. opened a sealed envelope at 10.10 p.m. containing a white card with the number 491 in black crayon.

Scoring Scheme XIV (ii)

| | <i>Score</i> |
|---|--------------|
| The number 491 or <i>491</i> - - - - | 20 |
| 49- or -91 or 4-1 - - - - | 12 |
| 4— or -9— or —1 - - - - | 6 |
| If <i>4</i> is given as 4 allowed bonus - - - - | +3 |

iii. 10.20-10.30 p.m. Mrs M. opened at 10.20 p.m. a sealed envelope sent by me and containing the 2 of Diamonds with red pips on a plain white card.

Scoring Scheme XIV (iii)

| | <i>Score</i> |
|----------------------------------|--------------|
| Card entirely correct - - - - | 20 |
| Value and colour correct - - - - | 18 |
| Value only correct - - - - | 15 |
| Suit and rank correct - - - - | 10 |
| Only suit correct - - - - | 8 |
| Colour and rank correct - - - - | 6 |
| Colour only correct - - - - | 4 |
| Rank only correct - - - - | 2 |

XV. 30 January 1929; 294 percipients; agents: Prof. and Mrs M., Mrs Lewis, a sister of Mrs M., Mrs E. H. and her sister, Mr O., S. G. S., and 29 additional agents.

The following notice was sent out to the additional agents: "Special experiment for 30 January 1929. For the first ten minutes, from 10.0 to 10.10 p.m., please record all impressions in the usual way. For the second ten minutes, *i.e.* from 10.10-10.20 p.m., we are asking you to act this week as *agent* instead of *percipient*. Will you therefore at 10.10 p.m. concentrate on the subject of the enclosure and try to *transmit* instead of to receive impressions. (A number of people in different parts of the country will be concentrating on the same subject.) At the end of five minutes, *i.e.* at 10.15 p.m., cease to concentrate and think no more of what is on the enclosure. *In fact put the experiment from your mind altogether until 10.20.* At 10.20 begin to record impressions of the third object in the usual way. The third object is a capital letter of the alphabet. When sending your impressions will you also kindly return the envelope in which you receive this, with the signature of a witness as to the time when it was opened. Sgnd. S. G. SOAL."

The following notice was sent to percipients: "Wednesday, 30 January 1929. Three different objects will be shown, one each at: 10.0 p.m. Please record all impressions.—10.10 p.m. This second object will be a number of three figures.—10.20 p.m. This third object will be a capital letter of the alphabet."

i. 10.0-10.10 p.m. The agents concentrated on the toy brown bear used in Expt. XXVII (first series, 1927-1928). The air-ball on this occasion, however, did not operate very well.

| <i>Scoring Scheme XV (i)</i> | | <i>Score</i> |
|---|-----------|--------------|
| Bear with a ball | - - - - - | 20 |
| Mention of bear with soft fur or a brown bear or black bear | - - - - - | 14 |
| Mention of a bear only | - - - - - | 12 |
| Mention of a <i>furry</i> animal (not a bear) | - - - - - | 8 |
| Mention of a ball only | - - - - - | 8 |
| Mention of fur only but no animal | - - - - - | 6 |
| Mention of a toy animal moving about | - - - - - | 4 |
| Mention of a <i>fierce</i> animal other than bear | - - - - - | 4 |
| Mention of a circus | - - - - - | 3 |

ii. 10.10-10.20 p.m. The group at Adelaide Road together with the additional agents concentrated on a postcard on which was drawn in red and black ink (double lines) the number 222.

| <i>Scoring Scheme XV (ii)</i> | | <i>Score</i> |
|-------------------------------|-----------|--------------|
| 222 | - - - - - | 20 |
| 22- or 2-2 or -22 | - - - - - | 12 |
| 2 — or -2- or —2 | - - - - - | 6 |

iii. 10.20-10.30 p.m. The Adelaide Road group concentrated on the letter H drawn on an envelope in blue-black ink.

| | <i>Scoring Scheme XV (iii)</i> | | | | | | <i>Score</i> |
|----------|--------------------------------|---|---|---|---|---|--------------|
| Letter H | - | - | - | - | - | - | 20 |
| Letter A | - | - | - | - | - | - | 6 |

XVI. 6 February 1929 ; 277 percipients ; agents : Prof. and Mrs M., Mr O., S. G. S., and 25 additional agents.

The additional agents were sent a sealed envelope containing a playing card with plain white back showing the 4 of Spades in black on a white background. They were asked to open the envelope at 10.0 p.m. on 6 February and to concentrate on the contents from from 10.0-10.5 p.m. At 10.10 p.m. they were to begin recording impressions in the usual way for the last two objects, ii and iii.

Percipients were notified : “ (i) The first object (10.0-10.10 p.m.) will be a playing card. (ii) 10.10-10.20 p.m. The second object will be a number of three figures. (iii) 10.20-10.30 p.m. The third object will be a geometrical sketch. Please draw your impressions.”

i. 10.0-10.10 p.m. The 4 of Spades—black pips on a white card. White back.

Scoring Scheme XVI (i)

The same as in XIV (iii).

ii. 10.10-10.20 p.m. The number 777 in black crayon.

| | <i>Scoring Scheme XVI (ii)</i> | | | | | | <i>Score</i> |
|---------------|--------------------------------|---|---|---|---|---|--------------|
| 777 | - | - | - | - | - | - | 20 |
| 77-, 7-7, -77 | - | - | - | - | - | - | 12 |
| 7—, -7—, —7 | - | - | - | - | - | - | 6 |

iii. A control experiment. No attempt at transmission.

XVII. 13 February 1929 ; 276 percipients ; agents : Prof. and Mrs M., Mr O., and 28 additional agents.

Previous to 13 February a sealed envelope had been sent to the additional agents containing a plain white postcard, on one side of which was drawn the capital W in red ink. The additional agents were asked to concentrate on the contents of the envelope from 10.0-10.5 p.m. and to commence recording impressions for (ii) and (iii) at 10.10 p.m.

The following notice was sent out to the percipients : “ Wednesday, 13 February 1929. Three different objects will be shown, one each at : 10.0 p.m. The first object will be a letter of the alphabet.—10.10 p.m. The second object will be a number of three figures.—10.20 p.m. Please record all impressions.”

i. 10.0-10.10 p.m. The agents concentrated on the letter W in red on a white card.

| <i>Scoring Scheme XVII (i)</i> | | <i>Score</i> |
|---|--|--------------|
| Letter W - - - - - | | 20 |
| Letter M - - - - - | | 10 |
| Letter V or U - - - - - | | 8 |
| Letter N - - - - - | | 5 |
| If letter is stated to be in <i>red</i> give <i>bonus</i> - - - - - | | +3 |

ii. 10.10-10.20 p.m. A control experiment. No attempt at transmission.

iii. 10.20-10.30 p.m. Mrs M. opened at 10.20 p.m. a large sealed envelope sent by me which contained a calendar with a large picture of an Alsatian dog. The dog had brown fur splashed with white and a red lolling tongue. Attached to the calendar was a piece of red ribbon.

| <i>Scoring Scheme XVII (iii)</i> | | <i>Score</i> |
|---|--|--------------|
| Mention of dog with lolling tongue - - - - - | | 20 |
| Mention of an Alsatian dog - - - - - | | 17 |
| Any <i>animal</i> other than dog with protruding tongue - - - - - | | 15 |
| Mention of dog with brown fur - - - - - | | 12 |
| Mention of a wolf - - - - - | | 12 |
| Mention of a dog simply - - - - - | | 10 |
| Mention of a tongue, but not protruding from animal's mouth | | 10 |
| Mention of animal + red ribbon - - - - - | | 9 |
| Mention of a fox - - - - - | | 8 |
| Mention of a calendar - - - - - | | 8 |
| Mention of four-footed brown animal splashed with white - - - - - | | 6 |
| Mention of fur only (<i>e.g.</i> ladies' fur) - - - - - | | 4 |

XVIII. 20 February 1929; 284 percipients; agents: Prof. and Mrs M., S. G. S., and 29 additional agents.

A sealed envelope containing a playing card (6 of Clubs) had been sent previously to the additional agents with instructions to break the seal at 10.0 p.m. and concentrate on the contents from 10.0-10.10 p.m. The pips were in blue-black ink on a plain white card. The chosen agents were asked to cease concentration at 10.10 p.m. and to record impressions in the ordinary way for objects ii and iii.

The instructions sent to the percipients were as follows: "Wednesday, 29 February 1929. Three different objects will be shown, one each at: 10.0 p.m. The first object will be a playing card.—10.10 p.m. The second object will be a number of three figures.—10.20 p.m. The third object will be a letter of the alphabet."

i. 10.0-10.10 p.m. The three agents at Adelaide Road concentrated from 10.0-10.10 p.m. on a playing card, the 6 of Clubs.

Scoring Scheme XVIII (ii)

The same as in XIV (iii).

ii, iii. Control experiments. No attempts at transmission.

XIX. 27 February 1929; 266 percipients; agents: Prof. and Mrs M., Mr O., and 27 additional agents.

A sealed envelope containing a playing card, the 5 of Hearts (red pips on a plain white card), had been sent previously to the additional agents with instructions to break the seal at 10.0 p.m. and to concentrate on the enclosure from 10.0 to 10.10 p.m. They were asked to cease concentration at 10.10 p.m. and to record impressions for objects ii and iii in the usual way. On 26 February a sealed envelope containing the same card (the 5 of Hearts) was sent to Mrs M. with instructions to open the envelope in the presence of a witness at 10 p.m. on 27 February.

The instructions sent to percipients were identical except for date with those sent out on 20 February.

i. 10.0-10.10 p.m. A playing card, 5 of Hearts.

Scoring Scheme XIX (i)

The same as in Expt. XIV (iii).

ii, iii. Control experiments. No attempts at transmission.

XX. 6 March 1929; 253 percipients; agents: Prof. and Mrs M., S. G. S., and 23 additional agents.

A sealed envelope was sent to each of the additional agents containing a white card on which was written in red ink the following lines from Blake's poem "The Tiger":

"Tiger, tiger burning bright,
In the forests of the night,
What immortal hand or eye
Could frame thy fearful symmetry?"

The additional agents were requested to break the seal at 10.0 p.m. on 6 March and to concentrate on the contents from 10.0-10.5 p.m. Concentration was to cease at 10.5 p.m. and at 10.10 they were to begin recording impressions for objects ii and iii in the usual way.

The following notice was sent to the percipients: "Wednesday, 6 March 1929. Three different objects will be shown, one each at: 10.0 p.m. Think over and write out a verse of poetry of *not more* than five lines, and record all impressions.—10.10 p.m. The second object will be a number of three figures.—10.20 p.m. The third object will be a playing card.
Sgnd. S. G. SOAL."

i. 10.0-10.10 p.m. The first verse (quoted above) from Blake's poem "The Tiger."

| <i>Scoring Scheme XX. (i)</i> | | <i>Score</i> |
|--|--|--------------|
| Quotation of a verse from the poem "The Tiger" - - - | | 20 |
| Any mention of a tiger - - - - - | | 15 |
| Mention of any animal's eyes shining in dark - - - | | 13 |
| Mention of stars or fire shining through a dark night - - - | | 12 |
| Any mention of a <i>forest</i> or <i>jungle</i> at night - - - | | 10 |
| Mention of a fire or burning - - - - - | | 8 |
| Mention of any sort of large cat, lion, leopard, etc. - - - | | 8 |
| Mention of night or darkness only - - - - - | | 6 |
| Mention of a wood or forest only - - - - - | | 5 |

ii, iii. Control experiments. No attempts at transmission.

XXI. 13 March 1929; 252 percipients; agents: Prof. and Mrs M. and S. G. S.

The following notice was sent to percipients: "Wednesday, 13 March 1929. Three different objects will be shown, one each at: 10.0 p.m. Imagine an attaché case placed on a round brass-topped table. At 10.2 p.m. the case will be opened and an object taken out. Imagine the opening of the case and record your impressions of the object.—10.10 p.m. The second object will be a playing card.—10.20 p.m. The third object will be a capital letter of the alphabet. Sgnd. S. G. SOAL."

i. At 10.2 p.m. the attaché case was opened by me and a *yellow plaster duck* was produced. It had an orange bill and orange webbed feet. I produced also a small toy green finch which when wound up by means of a key moved about and pecked on the table.

| <i>Scoring Scheme XXI (i)</i> | | <i>Score</i> |
|---|--|--------------|
| Mention of a yellow duck and a pecking bird - - - | | 20 |
| Mention of a yellow duck only - - - - - | | 18 |
| Mention of a bird pecking - - - - - | | 15 |
| Mention of a duck but not yellow - - - - - | | 15 |
| Mention of a <i>yellow bird</i> other than a duck - - - | | 12 |
| Mention of a bird with orange bill or webbed feet - - - | | 10 |
| Mention of a goose or a swan or other water bird - - - | | 8 |
| Mention of a bird other than the above - - - - - | | 6 |
| Vivid impression of yellow or orange object - - - | | 5 |
| Mention of eggs or feathers only - - - - - | | 3 |
| Casual mention of a yellow object - - - - - | | 3 |
| Mention of a clockwork toy - - - - - | | 3 |

ii, iii. Control experiments. No attempt at transmission.

XXII. 20 March 1929; 247 percipients; agents: Prof. and Mrs M., transmitting from Brockweir, Monmouthshire; Mr O. from

Kingston-on-Thames; and S. G. S. from Prittlewell, Essex, together with 43 additional agents.

The additional agents were sent a sealed envelope containing a reproduction of the Japanese print "A bird standing on a human skull," which was shown originally in the B.B.C. experiment. The agents were asked to concentrate on the subject of the enclosure from 10.0 to 10.10 p.m. and then to record their impressions for objects ii, iii and iv in the usual way. Similar reproductions were sent to Prof. and Mrs M. and to Mr O. in sealed envelopes, to be opened at 10.0 p.m. on March 20.

The following notice was sent to percipients: "Wednesday, 29 March 1929. Four different objects will be shown, one each at: 10.0 p.m. Please record all impressions.—10.10 p.m. The second object will be a playing card.—10.20 p.m. The third object will be a capital letter of the alphabet.—10.25 p.m. The *fourth* object will be a number of three figures. Sgnd. S. G. SOAL."

i. 10.0-10.10 p.m. The Japanese print of a bird standing on a skull (see *Proceedings*, xxxviii. 2).

Scoring Scheme XXII (i)

| | <i>Score</i> |
|---|--------------|
| Mention of a bird standing on or near a skull - - - | 20 |
| Mention of bird and skull, but apparently unconnected with each other - - - - - | 15 |
| Mention of a skull only - - - - - | 12 |
| Mention of a skeleton only - - - - - | 10 |
| Impression of a bird perched on some object other than a skull | 10 |
| An impression connected with death - - - - - | 8 |
| Mention of a bird only - - - - - | 6 |
| Impression of horror or repulsion - - - - - | 6 |
| A largish white oval-shaped object (<i>e.g.</i> a large white egg) - | 4 |

ii, iii, iv. Control experiments. No attempts at transmission.

XXIII. 27 March 1929; 262 percipients; agents: Prof. and Mrs M. at Brockweir, Monmouthshire; S. G. S. at Prittlewell; and 68 additional agents.

A sealed envelope was sent to each of the additional agents and to Prof. and Mrs M. containing a playing card (3 of Hearts), with instructions to break the seal at 10.0 p.m. The agents were asked to concentrate on the contents of the envelope from 10.0-10.10 p.m. and then to record their impressions for objects ii and iii in the usual way.

The percipients had been notified that: (i) 10.0 p.m. The first object will be a playing card. (ii) 10.10 p.m. The second object will be a number of three figures. (iii) 10.20 p.m. The third object will be a capital letter of the alphabet."

i. 10.0-10.10 p.m. A playing card, the 3 of Hearts. The pips were red on a plain white card.

Scoring Scheme XXIII (i)

The same as in Expt. XIV (iii).

ii, iii. Control experiments. No attempts at transmission.

THE OBJECT TABLES XXXIII¹

10 October—(i) 10.0-10.10 p.m. Red artificial poppies.

NOTE.—On the dates printed in clarendon other vivid red objects were shown.

| Items | October | | | November | | | December | | | January | | | Feb. March | | | | | | |
|---|---------------|---------------|---------------|---------------|---------------|---------------|--------------|-------------|--------------|--------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 | |
| 1. Mention of poppies. | 1 — 1 | — — — | — — — | — — — | 1 — 1 | 1 — 2 | — — — | — — — | — — — | 1 — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | Prev. Post. |
| 2. Mention of artificial red flowers. | — — — | — — — | — — — | — — — | 1 — — | — — — | — — — | — — — | 1 — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | Prev. Post. |
| 3. Total mentions of artificial flowers, red or otherwise. | — — 2 | — — 1 | — — — | — — — | 1 — 1 | 1 — — | — — — | — — — | 1 — — | — — — | — — 1 | — — — | — — — | — — — | — — — | — — — | — — — | — — — | Prev. Post. |
| 4. Total mentions of red flowers (including 1, 2 and 3). | 8 — 7 | 1 — 3 | — — 3 | — — — | 2 — 2 | 3 — 3 | — — — | — — — | 1 — — | 2 — — | — — 1 | — — — | — — — | — — — | — — — | — — — | — — — | — — — | Prev. Post. |
| 5. Total mentions of flowers of all descriptions (including 1, 2, 3 and 4). | 37 — 53 | 24 — 32 | 13 — 21 | 19 — 19 | 14 — 17 | 19 — 14 | — — — | — — — | 20 — — | 9 — — | 10 — 15 | 10 — 7 | 11 — 7 | 17 — — | 20 — 7 | 19 — — | 16 — — | 17 — — | Prev. Post. |
| 6. Total mentions of all red objects (including those in 1, 2, 3, 4 and 5). | 30 — 28 | 26 — 26 | 12 — 16 | 15 — 12 | 15 — 13 | 22 — 15 | 12 — 7 | — — — | 13 — 2 | 12 — 2 | 11 — 14 | 13 — 7 | 14 — 2 | 9 — — | 12 — — | 14 — 7 | 11 — — | 9 — — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

¹ Throughout the tables figures in italics represent stray impressions recorded in a ten-minute interval in which a geometrical or other statistical test was carried out.

TABLE XXXIII (continued)

10 October—(iii) 10.20-10.30 p.m. A small brown Egyptian female head with measuring tape drawn out through the mouth. When shaken something rattled inside the head, which was hollow.

| Items | October | | November | | | | | December | | | | January | | | Feb. | | March | | |
|--|---------|-----|----------|-----|-----|-----|-----|----------|-----|-----|-----|---------|-----|-----|------|-----|-------|-----|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 | |
| 1. Mention of an Egyptian head or face only. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 2. Mention of a head or face only of a Negro, Mongol, Hindoo or other coloured native. | 3 | — | 1 | 1 | — | — | — | — | 1 | — | 2 | — | — | — | — | 1 | — | — | Prev. Post. |
| 3. Mention of a head or face only of a man, woman or doll not included in 1 and 2. | 5 | 4 | 1 | 1 | 1 | 3 | 5 | 2 | 5 | 4 | 3 | 1 | 1 | 7 | 7 | 2 | 2 | — | Prev. Post. |
| 4. Mention of a piece of tape or of a measuring tape or of measuring land or cloth. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

TABLE XXXIII (continued)

| Items | October | | | November | | | December | | | January | | | Feb. | | | March | | | |
|--|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|-----|-----|-------|-----|-----|----------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 | |
| 5. Mention of a piece of string, ribbon or rope being stretched or pulled out or of the unwinding of wool or playing cat's cradle. (Any cases from 4 are included here.) | — | — | 1 | — | — | 1 | — | — | 1 | 1 | — | — | 2 | — | 1 | — | — | 1 | Prev. Post. |
| 6. Mention of any impression connected with Egypt (excluding any given in 1). | — | 4 | — | 1 | 1 | — | 2 | — | 1 | — | — | — | 1 | 2 | 2 | 3 | 1 | — | Prev. Post. |
| 7. Mention of a rattle (e.g. baby's rattle, police rattle, stones rattled in a bag, etc.). | 1 | 1 | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | 1 | — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

TABLE XXXIII (continued)

17 October—(i) 10.0-10.10 p.m. Model yacht with one white sail. Figure of native sitting in prow with one feather in his hat.

| Items | October | | November | | | | December | | | | January | | | Feb. | | March | | Prev. Post. | |
|--|---------|-----|----------|-----|-----|-----|----------|-----|-----|-----|---------|-----|-----|------|-----|-------|-----|-------------|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 20 | | |
| 1. Mention of ship or boat with sail (e.g. yacht, etc.). | 4 | 4 | 2 | 1 | 1 | — | 4 | 2 | 4 | 3 | — | 2 | — | 1 | — | 3 | 1 | — | Prev. Post. |
| 2. Mention of boat or ship in which sail is not definitely mentioned or otherwise implied. | 3 | 1 | 1 | 3 | 4 | 3 | 4 | 3 | 1 | — | 3 | — | 1 | 4 | 4 | 3 | — | 5 | Prev. Post. |
| 3. Mention of boat or ship with an Indian or native in it. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 4. Mention of boat or ship with a figure in it (excluding 3). | — | — | — | — | — | 1 | 1 | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

TABLE XXXIII (continued)

| Items | October | | | November | | | December | | | January | | | Feb. | | March | Prev. Post. | | |
|---|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|-----|-------|----------------|-----|----------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | | 13 | 20 |
| 5. Mention of a single feather or quill. | — | — | — | — | — | 1 | — | — | 1 | — | — | — | — | — | 1 | 1 | — | Prev. Post. |
| | 2 | 3 | 1 | 1 | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 6. Mention of several feathers or bunch of feathers (7 excluded). | 2 | 2 | 4 | — | 2 | 1 | 3 | 5 | 1 | 1 | 1 | — | — | 3 | — | 1 | — | Prev. Post. |
| | — | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 4 | 5 | 2 | 1 | 3 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 7. Mention of Indian head-dress of feathers. | — | — | — | — | — | — | — | — | 1 | — | — | — | — | — | — | — | — | Prev. |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 |

TABLE XXXIII (continued)

17 October—(ii) 10.10-10.20 p.m. I ignited a small bomb which made a slight detonation. A paper flower and small fragments of paper were shot out by the explosion. I then at 10.15 applied a match to a piece of prepared paper on which was drawn the figure of a balloon. The paper rose to the ceiling and fell in a charred mass.

| Items | October | | | November | | | | | December | | | January | | | Feb. March | | | Prev. Post. | |
|---|-------------|-------------|-------------|-------------|--------|--------|-----|-----|----------|-----|-----|---------|-----|-----|------------|-----|-----|-------------|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | | 20 |
| 1. Actual mention of a bomb or of an explosion or burst or bang. | — | 1 2 1 | 1 — | — | — | — | — | — | 2 | — | 2 | — | 1 | — | 1 | 1 | — | — | Prev. Post. |
| 2. Total mention of fireworks of all kinds and of other things connected with 5 November. | — | 2 1 2 | — 3 2 | — 1 — | 3 | 2 | — | 2 | — | 2 | — | — | 1 | — | 1 | 1 | — | — | Prev. Post. |
| 3. Mention of smoke or steam. | 3 4 1 | 3 4 1 | 2 — — | 2 — — | 2 | — 2 | — | — | 3 | 1 | 2 | — | 1 | 2 | 1 | 4 | — | — | Prev. Post. |
| 4. Mention of burnt paper. | — — 1 | — 1 — | — — — | 1 — — | — | 1 | — | — | 1 | — | — | — | — | 1 | — | — | — | — | Prev. Post. |
| 5. Any other mention of burning or smell of burning (excluding 4). | 2 1 3 | 1 1 1 | 1 1 — | 3 1 — | 1 1 | — | — | — | 2 | — | 1 | — | — | — | — | — | — | 1 | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

TABLE XXXIII (continued)

| Items | October | | | November | | | December | | | January | | | Feb. March | | | Prev. Post. | | |
|---|---------|-------------|-------------|----------|-----|-----|----------|-----|-----|---------|-----|-----|------------|-----|-----|-------------|-----|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | | 13 | 20 |
| 6. Mention of a balloon | — | 1 3 2 | — 3 — | — | — | — | — | — | — | — | 1 | — | — | 2 | 1 | — | 1 | Prev. Post. |
| 7. Mention of parachute descending. | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 8. Mention of pieces of paper flying about or paper streamers. | 2 | — | — | — | 1 | — | — | — | — | — | — | — | — | — | — | 1 | — | Prev. Post. |
| 9. Mention of crumpled paper (excluding 8) or fragments of paper. | — | — | — | — | 1 | — | — | 1 | — | — | — | — | — | — | 1 | — | — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 |

TABLE XXXIII (continued)

17 October—(iii) 10.20-10.30 p.m. Silver firework stars in darkness.

| Items | October | | | November | | | December | | | January | | | February | | | March | | | |
|---|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|----------|-----|-----|-------|-----|-----|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 | |
| 1. Mention of star-lit sky or stars on a dark or black background. | — | — | — | — | — | — | — | — | — | — | — | 1 | — | — | 1 | — | — | — | Prev. Post. |
| | 1 | 2 | — | — | — | — | — | — | — | 1 | — | — | — | — | — | — | — | — | Prev. Post. |
| 2. Mention of night or darkness or of a dark background with no mention of light. (4 (a) is here included but 7 is excluded.) | 2 | 3 | 1 | 2 | 3 | — | 2 | 4 | 4 | 4 | 4 | — | 3 | 6 | 5 | — | — | — | Prev. Post. |
| | 3 | — | 1 | 1 | 1 | 1 | — | — | — | 2 | 1 | — | — | — | — | — | — | — | Prev. Post. |
| 3. Mention of stars (real or artificial) without mention of a dark background. | 3 | — | 2 | — | 1 | — | 4 | 1 | — | 2 | — | 2 | — | — | 1 | — | 1 | — | Prev. Post. |
| | 1 | 2 | 1 | — | 1 | — | — | — | — | — | 3 | — | — | — | — | — | — | — | Prev. Post. |
| | — | — | 1 | 1 | 1 | — | — | — | — | — | — | — | — | 1 | 2 | — | — | — | Prev. Post. |
| 4. (a) Mention of lights being switched off or room darkened and | — | 1 | — | 1 | — | — | — | 1 | 2 | 1 | — | — | — | — | — | — | — | — | Prev. Post. |
| 4. (b) Impressions of alternate light and darkness. | 5 | 1 | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

TABLE XXXIII (continued)

| Items | October | | | November | | | December | | | January | | | Feb. | | | March | | Prev. Post. | |
|--|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|-----|-----|-------|-----|----------------|----------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | | 20 |
| 5. Mention of flasks of light or of a steady light in darkness. (4 and 7 are excluded.) | — | 1 | — | 1 | — | 1 | — | 1 | 2 | 1 | 1 | — | — | — | 2 | — | — | — | Prev. Post. |
| 6. Mention of lights without contrast with darkness. (3, 4, 7 and 10 excluded.) | 12 | 7 | 3 | 10 | 5 | 1 | 6 | 4 | 5 | 8 | 8 | 5 | 7 | 13 | 7 | 9 | — | 7 | Prev. Post. |
| 7. Mention of sparks or scintillations or coloured lights from fireworks in action. | — | 1 | — | — | — | 1 | — | — | — | 1 | — | — | — | — | — | — | — | — | Prev. Post. |
| 8. Mention of any sparking type of firework (<i>e.g.</i> Catherine-wheel), but not in action. | — | 1 | — | — | 2 | 1 | — | — | — | — | — | 1 | — | — | — | 1 | — | — | Prev. Post. |
| 9. Total of fireworks of all descriptions and 5 Nov-ember impressions. | — | 2 | — | — | 3 | 2 | — | 2 | — | 2 | 5 | 1 | 1 | — | 1 | 1 | — | — | Prev. Post. |
| 10. Mention of sparks or scintillations apart from fireworks. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

TABLE XXXIII (continued)

24 October—(i) 10.0-10.10 p.m. I twanged a toy mandolin.

| Items | October | | | November | | | December | | | January | | | Feb. | | | March | | Prev. Post. | | |
|---|---------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|--------------|-------------|-------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | | 20 | |
| 1. Mention of a mandolin, banjo, lute or guitar. | 1 — — | — — 1 | — — — | — — 1 | 2 — — | 1 — 1 | — — — | — — — | — — — | — — — | — — — | 1 — — | — — — | — — 1 | — — — | 1 — — | 1 — — | — — — | 1 — — | Prev. Post. |
| 2. Mention of violin or 'cello. | 3 — 5 | — 2 — | 3 — 1 | 1 — — | 4 — 2 | 2 — 1 | 1 — — | — — — | 3 — — | 1 — — | — — — | — — — | — — — | 4 — — | 3 — — | 5 — — | — — — | — — — | — — — | Prev. Post. |
| 3. Mention of any other stringed instrument. | — — 2 | — 4 — | 2 — 1 | — — 3 | 1 — — | — — — | — — 1 | 1 — — | — — — | 2 — — | — — — | — — — | — — — | — — — | — — — | 2 — — | — — — | — — — | — — — | Prev. Post. |
| 4. Mention of other musical instruments not included in 1, 2 and 3. | 12 — 22 | 9 — 11 | 5 — 4 | 3 — 4 | 3 — 5 | 1 — 2 | 4 — — | 7 — — | 13 — 5 | 7 — — | 4 — 12 | 1 — — | 4 — 1 | 12 — — | 11 — 1 | 8 — — | 1 — — | — — — | 9 — — | Prev. Post. |
| 5. Impressions of music or singing with no mention of any instrument. | 7 — 17 | 3 — 5 | 1 — 6 | 2 — — | 1 — 2 | 2 — 1 | — — 1 | — — — | 7 — 1 | 3 — — | — — 8 | 1 — 1 | — — — | 3 — — | 4 — — | 4 — — | 1 — — | — — — | 3 — — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | | |

¹ Another object suggesting music was shown on 19 December.

TABLE XXXIII (continued)

24 October—(ii) 10.10-10.20 p.m. A long salmon-coloured cardboard nose with black spectacle rims attached and worn by each agent in turn.

| Items | October | | | November | | | | December | | | January | | | Feb. | | March | | Prev. Post. | | |
|--|---------|-----|-----|----------|-----|-----|-----|----------|-----|-----|---------|-----|-----|------|-----|-------|-----|----------------|----|----------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | | 20 | |
| 1. Mention of a long nose, a large nose or any peculiar nose. | — | — | 1 | — | — | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 2. Any other mention of the word "nose" not included in 1. | — | — | 1 | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 3. Mention of Punch or of a jester. | 2 | 1 | 1 | — | — | — | — | — | — | — | — | — | 1 | 2 | — | — | 3 | 2 | — | Prev. Post. |
| 4. Mention of a grotesque face or comic face or of a gargoyle. | — | 1 | 1 | — | — | 1 | 1 | — | 1 | 2 | 1 | 1 | — | — | 1 | — | — | — | — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 260 | 294 | 276 | 252 | 204 | — | |

TABLE XXXIII (continued)

| Items | October | | | November | | | December | | | January | | | February | | | March | | | |
|--|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|----------|-----|-----|-------|-----|-----|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 | |
| 5. Mention of a Jack-in-box or of a Judy or of marionettes. | — | — | — | — | — | — | 2 | — | — | — | — | 1 | — | — | — | — | — | — | Prev. Post. |
| 6. Mention of spectacles, ¹ pince-nez or goggles. | 2 | 5 | 2 | 1 | 1 | 1 | 2 | — | 4 | 4 | 3 | 2 | — | 4 | 3 | 1 | — | — | Prev. Post. |
| 7. Mention of a mask of any kind. | 2 | 2 | — | 2 | 2 | 2 | — | 1 | 1 | 2 | 1 | 2 | — | 1 | — | 1 | 1 | — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

¹ On the dates printed in clarendon spectacles were again the subject of experiment.

TABLE XXXIII (continued)

| Items | October | | | November | | | December | | | January | | | February | | | March | | | |
|--|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|----------|-----|-----|-------|-----|-----|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 | |
| 5. Mention of honeycomb or cells or a drawing suggesting cells or honeycomb or lattice work. | — | — | — | 2 | 1 | 1 | 1 | 1 | — | 1 | — | — | — | 1 | — | 1 | — | — | Prev. Post. |
| 6. Impressions of blue which seem to have been of special vividness. | 2 | 5 | 1 | 1 | 3 | 1 | 3 | 6 | 2 | 5 | 3 | 3 | 2 | 5 | 4 | 2 | 1 | 4 | Prev. Post. |
| 7. Impressions of green which seem to have been of special vividness. | 4 | 2 | 3 | 4 | 1 | 1 | 2 | 1 | 3 | 7 | 2 | 6 | 1 | 3 | 4 | 2 | — | 2 | Prev. Post. |
| 8. Total number of mentions of blue. | 14 | 10 | 5 | 5 | 7 | 6 | 9 | 13 | 13 | 12 | 5 | 10 | 7 | 11 | 11 | 8 | 8 | 5 | Prev. Post. |
| 9. Total number of mentions of green. | 16 | 7 | 8 | 9 | 3 | 5 | 10 | 5 | 11 | 16 | 6 | 15 | 7 | 8 | 10 | 12 | 8 | 4 | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

TABLE XXXIII (continued)

7 November—(i) 10.0-10.10 p.m. I wore a brilliant scarlet conical dunce cap; also several large sheets of scarlet paper were placed in different parts of the room.

| Items | October | | November | | | | | December | | | January | | Feb. | | March | | Prev. Post. | | |
|--|-----------------|-----|----------|-----|-----|-----|-----|----------|-----|-----|---------|-----|------|-----|-------|-----|----------------|-----|----------------|
| | 10 ¹ | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | | 13 | 20 |
| 1. Mention of a dunce's cap, fool's cap or conical hat or pierrot's cap (all conical). | — | — | — | — | — | 2 | — | 1 | — | — | — | — | — | — | — | 1 | — | — | Prev. Post. |
| 2. Mention of a paper hat or funny hat (excluding cases from 1). | — | — | — | — | — | — | — | — | — | 1 | — | — | — | — | — | — | — | — | Prev. Post. |
| 3. A red hat or cap of any description. | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 4. A cone ² or other conical object (excluding 1). | 1 | 2 | — | — | 2 | — | 1 | — | 1 | — | 3 | 1 | 2 | — | — | 1 | 1 | — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

¹ On the dates printed in clarendon other vivid red objects were shown.

² Cones in the geometrical tests are here omitted. For these see Table IX.

TABLE XXXIII (continued)

| Items | October | | | November | | | December | | | January | | | February | | | March | | | |
|---|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|----------|-----|-----|-------|-----|-----|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 | |
| 5. Mention of rolls of paper or sheets of paper or coloured paper. | 1 | — | — | 1 | 3 | 2 | — | 1 | — | 2 | — | — | 3 | — | 1 | 2 | — | — | Prev. Post. |
| | 2 | — | 4 | — | 1 | 1 | — | 2 | — | — | — | — | — | — | — | — | — | — | — |
| 6. All impressions of red which seem to have been of special vividness. | 14 | 11 | 3 | 7 | 9 | 9 | 5 | 4 | 7 | 2 | 6 | 6 | 4 | 2 | 8 | 5 | 5 | 5 | Prev. Post. |
| | 11 | 12 | 4 | — | 4 | 6 | 7 | — | 7 | 7 | 5 | — | — | — | — | — | — | — | — |
| 7. Total mentions of all red objects (including any in the preceding category). | 30 | 26 | 12 | 15 | 15 | 22 | 12 | 9 | 13 | 12 | 11 | 13 | 14 | 9 | 12 | 14 | 11 | 9 | Prev. Post. |
| | 28 | 26 | 16 | 12 | 13 | 15 | 7 | 7 | — | 2 | 14 | 7 | 2 | — | — | 7 | — | — | — |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

TABLE XXXIII (continued)

7 November—(ii) 10.10.10-10.20 p.m. A toy blacksmith which when wound up struck with a sledge-hammer a piece of iron on an anvil. Each time the hammer fell sparks flew from the iron.

| Items | October | | | November | | | | December | | | January | | | Feb. | | March | Prev. Post. | | | | |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | | 13 | 20 | | |
| 1. Mention of a hammer or mallet or blows from a hammer or mallet. | — 1 1 | 2 — 2 | 1 1 — | 1 1 — | 1 — — | 1 1 — | 1 — — | — — — | — — — | — — — | 1 — — | — — — | — — — | — — — | — — — | — — — | 1 — — | — — — | — — — | Prev. Post. | |
| 2. Mention of a blacksmith. | — — — | 1 — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | Prev. Post. | |
| 3. Mention of a horseshoe. | — — — | 1 3 — | — 1 — | — 1 — | — 1 — | 1 — — | — — — | — — — | — — — | 1 — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | 1 — — | — — — | — — — | Prev. Post. |
| 4. Mention of horses or horse or pony (excluding 3). | 4 2 1 | 5 4 2 | — 3 — | 2 1 — | 3 3 — | 1 1 — | 2 — — | 3 — — | 6 — — | 3 — — | 2 5 — | 7 — — | 2 — — | 5 — — | 5 — — | 3 1 — | 2 — — | — — — | 2 — — | — — — | Prev. Post. |
| 5. Mention of clinking or jingling sound or sound of metal or glass or mechanical sound. | 2 4 2 | 1 2 1 | — — — | 1 1 — | — — — | — — — | 1 — — | 2 — — | — — — | — — — | — — — | — — — | — — — | — — — | 2 — — | — — — | — — — | — — — | 1 — — | — — — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | | | |

TABLE XXXIII (continued)

| Items | October | | | November | | | | December | | | January | | | Feb. | | March | | Prev. Post. | | |
|---|----------------|----------------|---------------|---------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|----------------|-------------|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 20 | | | |
| 6. Mention of sound of blows or raps or taps or cracks (excluding 5 and 1). | 2 6 4 | — 2 1 | 1 — — | — — — | 2 — — | — — — | — 1 — | — 1 — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | |
| 7. All ¹ mentions of metal, including either the word "metal" or name of any specific metal (e.g. gold, silver, iron, steel, etc.). (Any cases from 5 are included.) | 12 31 18 | 13 21 15 | 14 19 2 | 15 18 — | 13 9 — | 17 8 — | 18 — — | 18 — — | 10 — — | 7 — — | 9 55 — | 35 — — | 32 — — | 17 — — | 22 — — | 8 — — | 7 — — | — — — | — — — | |
| 8. All mentions of words "iron" or "steel." | 1 3 — | 1 1 1 | 3 1 2 | 1 2 — | 2 1 — | — — — | 1 — — | 2 — — | 2 — — | 2 — — | — 1 — | 1 — — | 1 — — | 2 — — | 2 — — | 3 — — | — — — | 1 — — | — — — | — — — |
| 9. Mention of sparks or fireworks actually emitting sparks. | — 1 — | — — — | — — — | — — — | — — — | — — — | 1 — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | 1 — — | — — — | — — — |
| 10. Mention of a mechanical toy or working model; a machine. | — 2 1 | 2 1 2 | — 1 — | — 4 — | — 1 — | — — — | 1 1 — | 1 — — | 1 — — | 3 — — | 4 2 — | 1 — — | 2 — — | 2 — — | 1 — — | 1 — — | 2 — — | 1 — — | — — — | — — — |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | — | — |

¹ The abnormally large number of impressions of metal on 19 December and 9 and 16 January are probably due to the suggestion of the brass-topped table.

TABLE XXXIII (continued)

14 November—(i) 10.0-10.10 p.m. A few sprigs of artificial mistletoe and dark green leaves. Mention of Druids, oak tree and golden knife; also of Chesterton's "Balder."

| Items | October | | November | | | | December | | | | January | | | Feb. March | | | Prev. Post. | | | |
|--|---------|-----|----------|-----|-----|-----|----------|-----|-----|-----|---------|-----|-----|------------|-----|-----|-------------|-----|----|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | | 13 | 20 | |
| 1. Mention of white berries. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 2. Mention of berries other than white. | 2 | 1 | — | 1 | — | — | — | — | — | 2 | — | — | — | — | 1 | — | — | — | — | Prev. Post. |
| 3. Mention of pearls or white beads. | 1 | 1 | — | 1 | 2 | 1 | 1 | — | — | 1 | 1 | — | — | — | — | — | 2 | 1 | — | Prev. Post. |
| 4. Mention of beads (colour unspecified or not white) and mention of necklace. | — | 2 | 2 | 4 | 2 | — | 1 | 1 | 1 | — | 1 | — | 1 | 2 | 3 | — | 4 | — | — | Prev. Post. |
| 5. Mention of Druids, etc., or of Balder. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | — | |

TABLE XXXIII (continued)

| Items | October | | | November | | | | | December | | | | January | | | Feb. | | March | | Prev. Post. |
|---|---------|-----|-----|----------|-----|-----|-----|-----|----------|-----|-----|-----|---------|-----|-----|------|-----|-------|----------------|----------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 | | |
| 6. Mention of holly. | — | 1 | — | — | — | — | — | — | — | 4 | 3 | — | 1 | — | — | — | — | — | Prev. Post. | |
| 7. Mention of oak tree or oak leaf, acorns or oak furniture. | — | 1 | — | 3 | — | — | 1 | — | — | — | 1 | — | — | — | 1 | — | — | — | Prev. Post. | |
| 8. Mention of golden knife or golden dagger or sword. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. | |
| 9. Mention of knife or dagger or sword other than 8. | 3 | 2 | — | — | 3 | — | 2 | — | 2 | 3 | 1 | 3 | 5 | 3 | 2 | 4 | 1 | 1 | Prev. Post. | |
| 10. Mention of Christmas or impressions directly associated with Christmas. | — | — | — | — | — | — | 4 | — | 4 | — | 11 | 1 | 1 | — | — | — | — | — | Prev. Post. | |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | | |

TABLE XXXIII (continued)

| Items | October | | | November | | | December | | | January | | | Feb. | | | March | | |
|---|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|-----|-----|-------|----|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 26 | 30 | 13 | 20 | 27 | 20 | |
| 11. Mention of leaves or ferns other than in 6 and 7. | 11 | 6 | 4 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 2 | 4 | 5 | 2 | 1 | — | — | Prev. Post. |
| | 9 | 5 | 4 | 3 | 1 | 2 | — | — | 7 | — | 5 | — | — | — | — | — | — | — |
| 12. Mention of a cluster of white flowers (small). | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 13. Mention of mistletoe. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| | — | — | — | — | — | — | — | — | — | 1 | — | — | — | — | — | — | — | — |
| Numbers of percipients | 414 | 386 | 385 | 365 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 250 | 294 | 276 | 252 | 204 | — | — |

TABLE XXXIII (continued)

14 November—(ii) 10.10-10.20 p.m. Chocolate-coloured bear of tin on hind legs carrying a pole. When wound up it rotated slowly.

| Items | October | | | November | | | December | | | January | | | February | | | March | | | |
|--|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|----------|-----|-----|-------|-----|-----|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 | |
| 1. Mention of bear ¹ with stick or bear on stick. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 | — | — | Prev. Post. |
| 2. Mention of chocolate-coloured or brown bear. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 3. Mention of any other bear (excluding 1 and 2). | — | — | — | — | — | — | — | 1 | — | — | — | — | — | — | — | 2 | — | — | Prev. Post. |
| 4. Mention of a pole or long staff. | — | — | — | — | 2 | 1 | — | 1 | — | — | — | 1 | — | — | — | 1 | — | — | Prev. Post. |
| 5. Mention of stick or walking stick or golf club or mace or long rod or cane or cue or rake or broom handle (1 excluded). | 5 | 3 | 3 | 3 | 2 | 2 | 4 | 4 | 4 | 2 | 2 | 1 | 1 | 3 | 3 | 2 | 1 | 1 | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

¹ A bear was also shown on 30 January.

TABLE XXXIII (continued)

| Items | October | | | | November | | | | December | | | | January | | | February | | | March | | Prev. Post. | |
|--|---------|-----|-----|-----|----------|-----|-----|-----|----------|-----|-----|-----|---------|-----|-----|----------|-----|-----|-------|---|----------------|----|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 26 | 30 | 13 | 20 | 27 | 24 | 31 | 1 | 8 | | 15 |
| 6. Total number of poles, sticks, rods, etc. in 1, 4 and 5. | 5 | 3 | 3 | 3 | 4 | 3 | 4 | 5 | 4 | 3 | 2 | 1 | 4 | 3 | 1 | — | — | — | — | — | — | 1 |
| 7. Mention of animal on stick or with stick (excluding 1). | — | — | — | — | — | — | — | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — |
| 8. Mention of clown or jester on stick. | 1 | — | — | 1 | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 9. Animal rampant or on its hind legs, including heraldic lion or rearing or jumping animal (lion or unicorn). | — | — | 1 | — | 1 | — | — | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | — | — | — | — |

TABLE XXXIII (continued)
 21 November—(i) 10.0-10.10 p.m. Man with scissors at rotating wheel of grindstone. Sparks flying.

| Items | October | | | | November | | | | December | | | | January | | | February | | | March | | Prev. Post. |
|---|---------|-----|-----|-----|----------|-----|-----|-----|----------|-----|-----|-----|---------|-----|-----|----------|-----|-----|-------|-------------|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 | 20 | | |
| 1. Mention of rotating wheel. | 1 | — | — | — | — | — | 1 | 1 | 1 | — | 1 | 1 | 1 | 1 | — | — | — | — | — | Prev. Post. | |
| | 3 | 2 | 1 | 1 | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. | |
| 2. Mention of wheel without rotation. | 1 | 1 | 1 | 1 | — | 1 | 1 | 3 | 1 | — | 1 | 1 | — | 1 | — | 1 | 2 | — | — | Prev. Post. | |
| | — | — | 2 | 2 | 2 | 1 | — | — | — | 3 | — | — | — | — | 7 | — | — | — | — | Prev. Post. | |
| 3. Mention of rotation other than wheels. | 2 | 4 | 1 | 8 | 3 | 1 | 4 | 1 | 3 | — | 1 | 1 | 3 | 2 | 2 | 3 | 1 | — | — | Prev. Post. | |
| | 9 | 3 | 4 | 1 | 4 | — | 7 | — | — | 5 | — | — | — | — | — | — | — | — | — | Prev. Post. | |
| 4. Mention of scissors only. | 2 | 2 | 2 | 3 | — | 2 | 1 | 4 | 2 | 1 | 1 | 1 | 5 | 1 | 4 | — | 1 | — | — | Prev. Post. | |
| | 3 | — | — | 2 | 2 | 1 | — | — | — | 2 | — | — | — | — | — | — | — | — | — | Prev. Post. | |
| 5. Showers of sparks ¹ or lights flying upwards. | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 | — | Prev. Post. | |
| | — | 1 | — | — | — | 1 | — | — | — | 1 | — | — | — | — | — | — | — | — | — | Prev. Post. | |
| 6. Mention of grindstone. | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. | |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. | |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | 204 | | |

¹ There were sparks also shown on 17 October.

TABLE XXXIII (continued)
 28 November—(i) 10.0-10.10 p.m. Three pale yellow chrysanthemums and sheets of yellow paper unrolled.

| Items | October | | | November | | | December | | | January | | | Feb. | | | March | | | |
|---|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|-----|-----|-------|-----|-----|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 | |
| 1. Mention of yellow chrysanthemums. | 1 | 1 | — | 2 | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 2. Mention of chrysanthemums other than yellow or colour unspecified. | 4 | 2 | 1 | — | 2 | 5 | 3 | 1 | 1 | — | 1 | — | — | 1 | — | 1 | — | — | Prev. Post. |
| 3. Yellow or orange flowers other than chrysanthemums. | 1 | 2 | 2 | 1 | 3 | 3 | 1 | 1 | 1 | 2 | — | — | — | 6 | 3 | 5 | 2 | 4 | Prev. Post. |
| 4. Total mentions of flowers ¹ of all descriptions (including 1, 2 and 3). | 37 | 24 | 13 | 19 | 14 | 19 | 21 | 10 | 20 | 9 | 10 | 10 | 11 | 17 | 20 | 19 | 16 | 17 | Prev. Post. |
| 5. Vivid impressions of yellow, gold and orange (including 1, 2 and 3). | 7 | 1 | 2 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 1 | 3 | 2 | 2 | 1 | 2 | 3 | 1 | Prev. Post. |
| 6. Total mentions of yellow, gold and orange (including 1, 2, 3 and 5). | 24 | 11 | 18 | 20 | 17 | 12 | 17 | 12 | 16 | 9 | 27 | 16 | 16 | 15 | 15 | 16 | 16 | 8 | Prev. Post. |
| Numbers of percipients. | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 248 | 252 | 204 | |

¹ On the dates in clarendon other flowers were the object of experiment.

TABLE XXXIII (continued)

5 December—(i) 10.0-10.10 p.m. Postcard photo of kangaroo.

| Items | October | | | November | | | December | | | January | | | Feb. | | | March | | | |
|--|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|-----|-----|-------|-----|-----|----------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 | |
| 1. Mention of kangaroo. | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 | — | — | — | — | Prev. Post. |
| 2. Mention of marsupial other than kangaroo. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 | — | — | Prev. Post. |
| 3. Mention of a rat or rabbit or squirrel or badger. | 1 | 3 | 1 | 3 | — | — | 4 | 3 | 3 | 2 | — | — | 2 | 4 | 2 | — | 5 | — | Prev. Post. |
| 4. Reference to tail of an animal. | — | 1 | — | 1 | 1 | — | — | — | — | 1 | — | — | — | 1 | — | — | — | — | Prev. Post. |
| 5. Reference to Australia or Australian associations other than 1 and 2. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 | — | — | — | Prev. Post. |
| 6. Mention of animal fighting or being trapped. | — | — | — | — | — | — | — | — | 1 | — | — | — | — | — | — | — | — | — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 248 | 252 | 204 | |

TABLE XXXIII (continued)
12 December—(i) 10.0-10.10 p.m. Photo of alligator with open jaws.

| Items | October | | | November | | | December | | | January | | | Feb. | | March | | Prev. Post. | | |
|---|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|-----|-------|-----|-------------|-------------|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | | 20 | |
| 1. Mention of alligator or crocodile. | — | 2 | — | — | — | — | — | 1 | — | — | — | — | 1 | — | — | 1 | — | Prev. Post. | |
| 2. Mention of a large fish like a pike or shark. | — | — | — | — | 1 | — | — | 1 | — | 1 | — | — | — | — | — | — | — | Prev. Post. | |
| 3. Mention of any reptile other than crocodile. | 3 | 1 | 2 | 1 | — | 1 | 1 | 2 | 1 | 1 | 2 | 5 | 3 | — | — | 3 | 3 | Prev. Post. | |
| 4. Mention of open jaw or open mouth. | 2 | 1 | — | — | — | 1 | — | — | — | 1 | — | — | — | — | — | — | — | Prev. Post. | |
| 5. Mention of rows of teeth. | — | — | — | — | 1 | — | — | 1 | — | — | — | — | — | — | — | — | — | Prev. Post. | |
| 6. Mention of fear, repulsion, horror, depression, ferocity and ideas suggesting death ¹ and danger. | 5 | 5 | 4 | 3 | 2 | 2 | 1 | 3 | 4 | 6 | 11 | 6 | 2 | 4 | 7 | 3 | 5 | 6 | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

¹ On 20 March another object suggesting death was shown—a skull.

TABLE XXXIII (continued)
 19 December—(i) 10.0-10.10 p.m. Organ grinder and monkey. Black cloth raised at 10.2 p.m.

| Items | October | | | November | | | | | December | | | | January | | | Feb. | | March | | Prev. Post. |
|---|---------|-----|-----|----------|-----|-----|-----|-----|----------|-----|-----|-----|---------|-----|-----|------|-----|-------|---|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 | | |
| 1. Mention of monkey and organ. | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 2. Barrel organ or street piano only (excluding 1). | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 3. Musical box (excluding 1 and 2). | 1 | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 4. Piano (not a street piano). | 6 | 1 | 1 | 1 | — | — | 1 | 1 | 5 | 5 | — | — | — | 3 | 5 | — | — | — | — | Prev. Post. |
| 5. A handle being turned or something wound up. | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 6. Monkey or ape only (excluding 1). | — | 4 | 2 | 3 | 1 | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 296 | 252 | 204 | | |

TABLE XXXIII (continued)

| Items | October | | | November | | | December | | | January | | | Feb. | | | March | | | Prev. Post. |
|---|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|-----|-----|-------|-----|-----|----------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 | |
| 7. Man nodding his head or moving head to and fro or rhythmic nodding of heads. | — | — | — | 2 | — | — | — | — | — | — | 1 | — | — | — | — | — | — | — | Prev. Post. |
| 8. Mention of music ¹ or singing or instruments other than in preceding. | 15 | 9 | 10 | 5 | 11 | 5 | 4 | 8 | 20 | 6 | 3 | 3 | 4 | 15 | 15 | 12 | 3 | 9 | Prev. Post. |
| 9. Single figure or man dancing or puppet dancing. | 1 | 1 | 1 | — | — | — | — | 1 | 2 | 2 | — | 1 | — | — | — | 1 | — | — | Prev. Post. |
| 10. Mention of dancing other than in 9 (groups of people). | — | 1 | — | — | — | 1 | — | — | 6 | 2 | — | — | — | 1 | 1 | 8 | — | — | Prev. Post. |
| 11. Italian impressions. | — | — | — | — | — | — | — | 1 | — | — | — | — | 1 | — | — | — | 1 | 1 | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

¹ On 24 October another object was shown suggesting music.

TABLE XXXIII (continued)

19 December—(ii) 10.10-10.20 p.m. Dog with cap and pipe and box of matches.

| Items | October | | | | November | | | | December | | | | January | | | Feb. | | | March | | Prev. Post. | | |
|---|-------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|-------------|----------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 26 | 30 | 13 | 20 | 27 | 24 | 31 | 1 | 8 | | 15 | |
| 1. Mention of any kind of dog ¹ (including 2). | 6 4 6 | 1 4 8 | 5 3 — | 3 10 — | 5 4 — | 3 4 — | 6 3 | 1 — | 5 — 7 | 2 1 7 | 1 1 7 | 2 — — | 4 — — | 2 — — | 8 — — | 9 — — | — — — | — — — | — — — | — — — | — — — | 4 — — | Prev. Post. |
| 2. Dog in any kind of hat or cap. | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | 1 — — | Prev. Post. |
| 3. Any animal dressed up other than in 2. | — — — | — — — | — — — | — — — | — — — | — — — | — — — | 1 — — | 2 — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | — — — | Prev. Post. |
| 4. Mention of a pipe (not being smoked). | 2 1 1 | 1 1 — | — — — | — 1 7 | 3 1 — | — 1 — | 2 — — | 3 — — | 2 — — | 1 — — | 2 1 — | 1 — — | 1 — — | 1 — — | 2 — — | — — — | — — — | — — — | — — — | — — — | — — — | 2 — — | Prev. Post. |
| 5. Mention of a pipe (being smoked) or pipe in mouth | 2 — — | 1 — — | — — — | — — — | — — — | — — — | — — — | — — — | 1 — — | 4 — — | 1 — — | 1 — — | 1 — — | 1 — — | — — — | 1 — — | — — — | — — — | — — — | — — — | — — — | — — — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 294 | 276 | 252 | 204 | | | | | | |

¹ On 13 February another dog was the object of experiment.

TABLE XXXIII (continued)

9 January—(i) 10.0-10.10 p.m. A red apple. Black cloth raised at 10.2 p.m. and apple revealed.

| Items | October | | | | November | | | | December | | | | January | | | | February | | | | March | | | |
|---|---------|-----|-----|-----|----------|-----|-----|-----|----------|-----|-----|-----|---------|-----|-----|-----|----------|-----|----|---|-------|----|----|---|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 | 27 | 4 | 11 | 18 | 25 | 1 |
| 1. Mention of a red apple or apples. | — | — | 1 | 1 | 1 | 1 | — | — | — | 1 | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — |
| 2. Mention of green apple or red not mentioned in description. | 2 | 2 | — | — | 1 | 1 | 1 | — | — | 4 | 4 | 4 | — | — | 1 | 2 | — | — | — | — | — | — | — | 1 |
| 3. Mention of orange or oranges. | 3 | 1 | 2 | 1 | 2 | 2 | 4 | — | 1 | — | 3 | — | 5 | 1 | 2 | 4 | — | — | — | — | — | — | — | 2 |
| 4. Mention of fruit distinct from 1, 2 and 3 or fruit unspecified. | 3 | 2 | 4 | 1 | 6 | 6 | 2 | 2 | 6 | 4 | 1 | 3 | 4 | 4 | 5 | 3 | — | — | — | — | — | — | — | 1 |
| 5. Total mention of all globular objects (including 1, 2 and 3) and all globes and balls. | 10 | 15 | 10 | 7 | 10 | 7 | 7 | 12 | 7 | 8 | 19 | 19 | 19 | 11 | 6 | 14 | 9 | 7 | — | — | — | — | — | 7 |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | — | — | — | — | — | — |

TABLE XXXIII (continued)

| Items | October | | | November | | | | December | | | | January | | | Feb. | | March | | Prev. Post. | | |
|--|---------------|---------------|---------------|---------------|---------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|----------------|-------------|----------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 20 | 13 | | 20 | |
| 5. Impressions connected with the East, (excluding any in 4 or 6). | 2 — 1 | — — 6 | 3 — 4 | 1 — 2 | 2 — 4 | 2 — — | — — 2 | 3 — — | 1 — — | — — 6 | 10 — 6 | 6 — — | 1 — — | 4 — — | — — — | 7 — — | 2 — — | — — — | — — — | 1 — — | Prev. Post. |
| 6. Mention of any Eastern vase, vessel, bowl or plate (including Chinese vase or bowl). | 1 — 3 | — — 3 | 3 — 2 | — — 1 | — — — | 1 — — | — — — | 1 — — | — — — | — — — | — — — | — — — | — — — | 2 — — | — — — | — — — | 3 — — | — — — | — — — | — — — | Prev. Post. |
| 7. Mention of tea or of drinking tea or of tea kettle, tea cosy, tea pot or tea spoon (excluding tea cup or saucer). | — — 5 | 2 — 1 | 2 — 2 | — — 3 | 2 — 2 | — — — | 2 — — | 1 — — | 3 — — | 4 — — | 4 — — | — — — | — — — | 2 — — | 1 — — | — — — | 1 — — | — — — | — — — | 2 — — | Prev. Post. |
| 8. Mention of vessel definitely used in connection with drinking (including silver cup or goblet but excluding any previous cases in 7). | 5 — 12 | 4 — 8 | 2 — 2 | 7 — 9 | 3 — 5 | 4 — 3 | 7 — — | 4 — — | 3 — — | 6 — — | 12 — — | 5 — — | 11 — — | 8 — — | 5 — — | 12 — — | 7 — — | — — — | — — — | 5 — — | Prev. Post. |
| 9. Mention of vases, jugs, bowls, pots, jars, bottles, vessels not included in the preceding. | 28 — 29 | 16 — 23 | 15 — 11 | 14 — 15 | 11 — 15 | 9 — 2 | 18 — — | 14 — — | 19 — — | 10 — — | 18 — 9 | 24 — — | 24 — — | 18 — — | 21 — — | 13 — — | 10 — — | — — — | — — — | 5 — — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | | | |

TABLE XXXIII (continued)

23 January—(i) 10.0-10.10 p.m. Postcard showing vivid dark red rose with pale green leaves and one opening bud.

| Items | October | | | November | | | December | | | January | | | Feb. | | March | | Prev. Post. | | |
|---|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|-----|-------|-----|----------------|-----|----------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | | 13 | 20 |
| 1. Mention of red (not pink) rose with leaves. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 2. Mention of red (not pink) rose and no leaves. | 3 | 1 | — | — | 1 | 2 | 1 | 1 | 1 | 2 | — | 1 | — | 1 | 1 | — | — | — | Prev. Post. |
| 3. Mention of rose other than red or colour unspecified with leaves. | — | — | — | — | — | — | — | — | — | — | 1 | — | — | — | — | — | — | — | Prev. Post. |
| 4. Mention of rose other than red or colour unspecified without leaves. | 5 | 3 | 1 | 6 | 3 | 4 | 3 | 1 | 2 | 2 | 2 | 1 | — | — | — | — | 2 | — | Prev. Post. |
| 5. Mention of any other red flowers with leaves. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 6. Mention of any other red flowers without leaves. | 5 | — | — | 1 | 1 | 1 | 1 | — | — | — | — | 1 | — | 3 | 1 | 1 | 2 | 2 | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

TABLE XXXIII (continued)
30 January—(i) 10.0-10.10 p.m. Brown furry bear¹ with pink ball between its forepaws.

| Items | October | | | November | | | December | | | January | | | Feb. | | | March | | | |
|---|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|-----|-----|-------|-----|-----|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 | |
| 1. Mention of a brown or black bear only. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 2. Mention of white bear or bear with colour unspecified. | 1 | — | — | — | — | — | 1 | 1 | — | — | — | — | — | — | — | 3 | — | — | Prev. Post. |
| 3. Mention of any animal playing with a ball. | — | — | — | — | — | — | — | — | — | 1 | — | — | — | — | — | — | — | — | Prev. Post. |
| 4. Mention of a furry animal or shaggy animal (attention drawn to fur or shagginess). | 1 | — | — | 2 | 1 | — | 1 | 1 | — | 2 | — | — | — | 1 | 1 | 1 | 2 | 1 | Prev. Post. |
| 5. Mention of fur and no animal. | 2 | — | 1 | 1 | 1 | 1 | 2 | — | — | — | — | — | — | — | — | — | 5 | — | Prev. Post. |
| 6. Mention of a ball only (excluding 3). | 4 | 7 | 4 | 4 | 2 | 2 | 2 | 7 | 5 | 2 | 10 | 3 | 7 | 4 | 0 | 5 | 3 | 3 | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

¹ Another bear was shown on 14 November.

TABLE XXXIII (continued)

| Items | October | | | | November | | | | December | | | | January | | | | February | | | | March | | | | | | | | | | | |
|--|---------|-----|-----|-----|----------|-----|-----|-----|----------|-----|-----|-----|---------|-----|-----|-----|----------|-----|-----|-----|-------|---|----|----|----|---|----|----|----|----|---|----|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 26 | 2 | 9 | 16 | 23 | 30 | 6 | 13 | 20 | 27 | 5 | 12 | 19 | 26 | 3 | 10 | 17 | 24 | 31 | 7 | 14 |
| 7. Toy animal (cat, dog, rabbit, lamb, sheep). | — | — | — | 1 | 1 | — | 4 | — | 2 | — | — | — | — | — | 3 | 2 | 1 | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 8. Mention of a globe or spherical object not described as a ball. | 6 | 8 | 6 | 3 | 8 | 5 | 5 | 5 | 2 | 6 | 9 | 16 | — | — | 12 | 7 | 6 | — | 9 | — | — | — | — | — | — | — | — | — | 4 | — | — | — |
| 9. Black or brown dog or cat. | 1 | 3 | — | 2 | — | 1 | 1 | — | 1 | — | 1 | 2 | — | — | — | 1 | 3 | — | 3 | — | — | — | — | — | — | — | — | — | 3 | — | — | — |
| 10. Gollywog. | — | — | 1 | — | — | 1 | — | 1 | 2 | — | 1 | — | — | — | — | — | — | — | 2 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 11. Total numbers of balls and spherical objects. | 10 | 15 | 10 | 7 | 10 | 7 | 7 | 12 | 7 | 8 | 19 | 19 | 19 | 11 | 19 | 11 | 6 | — | 14 | — | — | — | — | — | — | — | — | — | 7 | — | — | — |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 250 | 294 | 276 | 250 | 204 | — | — | — | — | — | — | — | — | — | — | — |

TABLE XXXIII (continued)

13 February—(iii) 10.20-10.30 p.m. Calendar with picture of Alsatian dog with brown fur splashed with white.
Red lolling tongue.

| Items | October | | | November | | | December | | | January | | | Feb. | | | March | | | |
|--|---------|--------|--------|----------|--------|--------|----------|--------|--------|---------|--------|--------|--------|--------|--------|--------|-----|-----|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 | |
| 1. Mention of Alsatian dog or wolf. | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 | — | — | Prev. Post. |
| 2. Mention of brown dog. | — | — | — | 1 | — | 1 | — | — | 1 | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 3. Mention of furry dog. | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 4. Total number of dogs ¹ of all kinds. | 6 10 | 8 5 | 5 3 | 3 10 | 5 4 | 3 4 | 6 3 | 1 — | 5 — | 2 1 | 1 1 | 2 1 | 2 1 | 4 — | 8 — | 9 — | — | 4 | Prev. Post. |
| 5. Mention of fox. | 1 | — | 1 | — | — | — | 1 | — | — | 1 | 2 | 1 | — | — | — | 1 | — | — | Prev. Post. |
| 6. Brown or red animal splashed with white. | — | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

¹ Another dog was shown on 19 December.

TABLE XXXIII (continued)

| Items | October | | | November | | | | December | | | | January | | | Feb. | | March | | Prev. Post. |
|--|---------|-----|-----|----------|-----|-----|-----|----------|-----|-----|-----|---------|-----|-----|------|-----|-------|-----|----------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 26 | 30 | 13 | 20 | 27 | 24 | 31 | |
| 7. Animal's head with protruding tongue. | — | — | — | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 8. Other mention of a tongue. | — | — | — | — | — | — | — | — | 1 | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 9. Animal with ribbon attached. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 | — | — | Prev. Post. |
| 10. Mention of red ribbon (excluding 9). | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 11. Mention of ribbon not red or colour unspecified. | 1 | — | — | 1 | 2 | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 12. Mention of a calendar. | 2 | 1 | 2 | 1 | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

TABLE XXXIII (continued)

| Items | October | | | November | | | December | | | January | | | February | | | March | | | | | |
|---|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|----------|-----|-----|-------|-----|-----|----|----|-------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 20 | 27 | 13 | 20 | |
| 6. Mention of a pecking bird. | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 | — | — | — | — | Prev. Post. |
| 7. Total number of geese, swans, ducks and water birds. | 3 | 2 | 2 | 4 | — | 2 | 1 | 1 | 1 | 3 | 1 | 3 | 1 | 3 | 2 | 2 | 3 | 1 | — | — | Prev. Post. |
| 8. Total number of mentions of birds of all descriptions. | 15 | 14 | 12 | 13 | 10 | 9 | 13 | 8 | 8 | 6 | 15 | 9 | 12 | 11 | 9 | 10 | 8 | 7 | — | — | Prev. Post. |
| 9. Mechanical bird. | 1 | 1 | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 10. Mention of feathers or quills and no bird named. | 1 | 1 | 4 | — | 2 | 1 | 2 | 1 | 3 | 1 | 1 | — | — | 1 | 1 | 3 | 1 | — | — | — | Prev. Post. |
| 11. Word "egg" or "eggs" mentioned but no birds named. | 2 | 2 | — | 2 | — | — | 1 | 2 | 2 | — | 6 | 4 | 8 | 3 | 2 | — | 2 | — | — | — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | — | — | |

TABLE XXXIII (continued)
20 March—10.0-10.10 p.m. Skull and bird.

| Items | October | | | November | | | December | | | January | | | Feb. | | March | | Prev. Post. | | |
|---|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|------|-----|-------|-----|----------------|-----|----------------|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | | 13 | 20 |
| 1. Mention of a skull only, excluding those counted in 2, 3, 4. | 1 | 2 | 1 | — | — | — | — | 3 | 2 | — | 6 | 4 | — | 2 | — | — | 2 | 1 | Prev. Post. |
| 2. Mention of a skeleton only. | — | — | — | — | — | 1 | — | — | — | — | 1 | — | — | — | — | — | — | 1 | Prev. Post. |
| 3. Skull with any object on it. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | Prev. Post. |
| 4. Skull and bird both mentioned (not associated). | — | — | — | — | — | — | — | — | — | — | 1 | — | — | — | — | — | 1 | — | Prev. Post. |
| 5. Bird ¹ perched on some object. | — | — | — | — | 1 | — | — | — | — | — | 1 | — | — | — | — | — | — | — | Prev. Post. |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 | |

¹ For the total number of birds of all descriptions see 13 March, item 8, or 31 October (i), item 8.

TABLE XXXIII (continued)

| Items | October | | | November | | | December | | | January | | | February | | | March | | |
|--|---------|-----|-----|----------|-----|-----|----------|-----|-----|---------|-----|-----|----------|-----|-----|-------|-----|-----|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 |
| 6. Other impressions connected with death. | 1 | — | 1 | — | 2 | 1 | — | — | 2 | — | 1 | 1 | 2 | 2 | 4 | 2 | 1 | 2 |
| | 1 | 2 | 1 | 1 | 4 | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 7. Fear, repulsion, depression, horror, sadness, but excluding ferocity. | 3 | 3 | 2 | 3 | — | 2 | — | — | 1 | 4 | 2 | 1 | — | — | 2 | 1 | 1 | 1 |
| | — | — | — | — | 2 | — | — | — | — | — | 1 | — | — | — | — | — | — | — |
| Numbers of percipients | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 |

APPENDIX IV

(a) In the case of the 27 concrete objects I judged it unwise to ask the percipients to record only a single impression for each ten minute interval. It was obviously important that I should be able to examine all the impressions they thought it worth while to send me. On the other hand, for the purpose of scoring each individual performance it was clearly essential that all percipients should be put, as far as possible, on a common basis. Otherwise a percipient who crowded a large number of impressions into the ten minute interval would have an undue advantage over another who made only a solitary guess.

There naturally arises the question as to what is to be considered as a single impression. After some consideration it seemed that the most natural unit to take was a visualisation or sensation. In what follows I have taken as a distinct impression a group of objects that appear to have been grasped by the percipient as a single mental picture. For instance I have counted examples like the following as single impressions, even though there may be more than one object mentioned :

- (a) Small branch of holly with red berries.
- (b) High white peaks against a dark blue sky.
- (c) An elephant wearing spectacles.
- (d) Pricking sensation in right knee and arm.

In the majority of instances there was no difficulty in counting in this scheme the number of distinct impressions recorded in each ten minute period. A record like the following :

No. 509, 12 December—(i) A chubby child ; a piano ; a melon would be taken to comprise three distinct pictures or impressions. In a small percentage of cases, however, the matter was not so simple and I have had to use my judgment as to what constituted a single impression. Such an example as “ A stone archway which afterwards changed into a bright horseshoe ” I have generally counted as two distinct guesses, since there seem to have been two separate mental pictures.

In cases where a percipient recorded more than one distinct visualisation or sensation the following procedure was adopted for the purpose of allocating the individual score. Two dice (one large, one small) were shaken together in a bone cup. In the case where the percipient gave two distinct visualisations or sensations in the same ten minute interval the first of the two impressions was chosen for scoring if the large die turned up an odd number. If the percipient gave three distinct impressions in the ten minutes the first, second or third was scored, according as the large die turned up a number from the three pairs, 1, 6; 2, 4; or 3, 5. In the case of four impressions the first, second, third or last was scored, according as the pair of dice showed the combinations Oo, Ee, Oe and Eo, the letters O, o referring to the odd faces of the large and small dice respectively and the letters E, e to the even faces. In the case of five or six impressions being given in the same ten minute interval the impression chosen for scoring was determined by the number turned up by the large die. *In the case where there were two concrete objects shown on the same evening a preliminary throw of the dice was made for the purpose of deciding which of the two ten minute intervals was to be chosen for scoring the object in question. When, however, a correct impression was recorded in the same ten minute interval as that in which the corresponding object was shown, this preliminary throw was dispensed with and the guess to be scored was chosen as explained above from this same ten minute interval.* This was done in conformity with my plan to give previsual or post impressions a certain chance with the contemporary ones. Thus it might happen that the two impressions chosen for scoring, although referring to different objects, were contained in the same ten minute interval.

It must be clearly understood that the above scheme only applies to the allocation of the individual numerical scores and that *no such restrictions of choice were made* in constructing the Object Tables XXXIII. In making *these tables all the guesses were included that occurred in the same ten minute interval.* Moreover, in the sections entitled "Further consideration of the 27 objects" (p. 232) and "A few typical impressions" (p. 235) *all guesses have been taken into consideration in choosing the successes.*

In view of the fact that all impressions recorded in the same ten minutes were included in the object tables, it was necessary to make some further investigations on the *average* number of impressions recorded in a ten minute interval. There were altogether with the whole 579 percipients 8784 ten minute intervals in which impressions were recorded bearing on the 27 objects. The average number of impressions noted per ten minute interval was 1.85. The distribution of these numbers of visualisations is not at all of

the normal type. It is roughly indicated by the following percentages :

| Number of impressions per ten minute interval. | Percentage number of intervals. |
|---|------------------------------------|
| 0 | 6.3% |
| 1 | 44.3% |
| 2 | 25.2% |
| 3 | 12.2% |
| 4 | 6.3% |
| 5 | 3.0% |
| 6 | 1.5% |
| <i>Exceeding 6 impressions</i> | <u>1.1%</u> |
| | 8784 = <u>100%</u> |

The tables showing the analysis for each individual percipient have been preserved and may be examined by anyone wishing to do so. The variability of the distribution, it will be seen, is very wide (S.D. = 1.4 approximately).

The average number of impressions per ten minute interval varies considerably week by week. The highest is 2.48 on 13 February and the lowest 1.49 on 16 January and 24 October (each date). As regards the numbers given in the object tables, it will be obvious that the average guessing chance per percipient is considerably higher on say 13 February than it is on 24 October. It is therefore necessary to reduce the actual numbers of percipients who took part each week to the corresponding effective numbers as regards guessing power. We have seen that the average number of impressions per ten minute interval is 1.85. This is also the average for the week 13 March. We may take the number of actual percipients on 13 March (252) as our standard number and modify the remaining actual numbers in a proportion varying with the average weekly guessing power. We thus obtain the following table :

TABLE XXXIV

| | October | | | | November | | | |
|-----------------------|---------|-----|-----|-----|----------|-----|-----|-----|
| | 10 | 17 | 24 | 31 | 7 | 14 | 21 | 28 |
| Actual numbers - - | 414 | 386 | 385 | 355 | 327 | 311 | 342 | 313 |
| Effective numbers - - | 435 | 320 | 308 | 298 | 271 | 261 | 304 | 282 |

TABLE XXXIV (continued)

| | December | | | January | | | Feb. | March | | |
|-----------------------|----------|-----|-----|---------|-----|-----|------|-------|-----|-----|
| | 5 | 12 | 19 | 9 | 16 | 23 | 30 | 13 | 13 | 20 |
| Actual numbers - - | 333 | 278 | 288 | 269 | 261 | 250 | 294 | 276 | 252 | 204 |
| Effective numbers - - | 380 | 350 | 317 | 242 | 209 | 305 | 347 | 370 | 252 | 249 |

(b) *Additional statistics.*—I record here very briefly the results of a few other counts I have made in connection with the 374 percipients with possible scores ≥ 300 .

1. Average *possible* score for the 374 percipients = 682
160 psychics = 705
214 non-psychics = 665.

It will be seen that the psychics have done slightly more work than the remainder of the group.

2. I have worked out the average number of visualisations per ten minute interval for each of the 374 percipients on the object intervals.

The mean average per percipient = 1.64.

The distribution of the 374 averages is of the normal type with a certain skewness (S.D. = .85).

For the 160 psychics the mean of the averages is 1.97. There seems definite evidence that on the whole the psychics tend to give more impressions per ten minute interval than the remainder of the group.

3. The average number of impressions (visualisations, auditions, etc.) for the 374 percipients on the objects is 33.5 (S.D. = 20). For the men the average is 33.2 (S.D. = 21).

For the 160 psychics the average is 38.0.

Again, we see that on the 27 objects the psychics appear to have averaged more guesses than the remainder. This is a sign of keener enthusiasm among those who claim to psychic powers.

(c) *Explanation of tables.*—These preference tables are based on the 8784 ten minute intervals in which objects guesses were made, the 2705 geometrical impressions selected for scoring, and the 2394 capital letter guesses.

Let us take first the Tables A-G. The numbers given in the second column under the heading $p=1$ in are obtained by dividing 8784 by the total number of times each item is mentioned by the 579

percipients.¹ It will of course be understood that if a percipient mentioned the *same* item more than once in the *same* ten minute interval his impression would only be counted once. If, however, the percipient registered say "flowers" in two ten minute intervals on the same evening, two impressions would be contributed to the total count for Item 1 (flowers).

The number 18 in the second column opposite Item 1 for instance gives the average chance of guessing any sort of flower or flowers in a ten minute interval as 1/18.

This value 1/18, however, is merely that obtained by observing the guesses of a limited number of people (579) spread over a limited interval of time. To get the true value of p , the chance of guessing a flower we should have to experiment with a whole population at varying times of the year. The value $p=1/18$ therefore can only be considered as an approximation obtained from a sample of the population. And even this sample may not be a truly representative one. But assuming that it is a fairly representative sample we may deduce from this observed value limits between which the true value probably lies.

Let p be the observed chance (Column 2). Then if the true value of p is p^1 the observed value p obtained from N observations will not often lie outside the limits

$$p^1 \pm 2\sqrt{\frac{p^1(1-p^1)}{N}}, \text{ i.e. } p^1 \pm 2 \times \text{standard deviation.}$$

The limits for the true value are therefore the roots of the quadratic

$$(N+4)(p^1)^2 - 2(pN+2)p^1 + Np^2 = 0.$$

If N is large (say 2000) a good approximation is given by

$$p^1 = p + \frac{2}{N} \pm \sqrt{\frac{2p(1-p)}{N}},$$

and from this formula with $N=8784$ the limits between which the true value of p^1 for each item most probably lies have been calculated. These limits are given in Column 3.

In cases where the observed value of p is less than 1 in 1757 I have thought it not worth while to give either the observed value or the limits, as these would be too wide and inaccurate to be of any value. A blank has therefore been left opposite items where p works out to be less than 1/1757.

The above tables (A-G) are constructed on the assumption that on an average each percipient makes 1.85 visualisations or sensations

¹ In counting the number of mentions for any particular item in Table XXXIII the numbers in italics are omitted since they correspond to stray impressions recorded during a geometrical or three-figure test, etc.

per ten minute interval. If it is required to find what is the chance of guessing any given item with a solitary visualisation there will be no serious error if the limits in Column 3 are divided by 1.85.

In the case of Tables H and I the assumption is that each percipient makes a solitary guess at a geometrical sketch or capital letter, since where two guesses were made by a percipient only the first was chosen.

The numbers given opposite each item in the last column under the heading $-10 \log_{10} p$ are intended to be used as scores for successful guesses if this experiment is ever repeated, using the objects given in the table and under similar conditions. Such a system of scores, it is believed, will prove more rational than the arbitrary system employed in the present experiment.

In conclusion, it should be borne in mind that the present tables cannot be accepted in any sense as final. They represent merely the best I have been able to do with the material at my disposal. Many assumptions have been admitted as to the independence of the different object guesses, but such assumptions are almost unavoidable under existing circumstances.

But even with these manifold limitations it is hoped that they will enable future experimenters to give a rough estimate of the probability of an average person successfully guessing an object concentrated on by an agent.

TABLE XXXV

| Items. | $p=1$ in | The true value of p probably lies between | $-10 \times$ $\log_{10} p$. |
|--|-------------|---|---------------------------------|
| A. FLOWERS AND FRUIT, ETC. | | | |
| 1. Mention of flowers of any kind - | 18 | .05—06 | 12.5 |
| 2. Mention of red flowers of any kind - - - - - | 172 | .004—008 | 22.3 |
| 3. Mention of yellow flowers of any kind - - - - - | 149 | .006—008 | 21.7 |
| 4. Mention of any pure white flowers - - - - - | 144 | .006—008 | 21.6 |
| 5. Artificial flowers of any kind - | 732 | .001—002 | 28.6 |
| 6. Mention of poppies - - - - - | 976 | .0005—002 | 29.9 |
| 7. Chrysanthemums of any kind - | 183 | .004—007 | 22.6 |
| 8. Rose of any kind - - - - - | 122 | .0065—010 | 20.9 |
| 9. Red rose or roses - - - - - | 439 | .0015—0035 | 26.4 |
| 10. Any mention of leaves (including ferns and holly) - - - - - | 89 | .009—014 | 19.5 |
| 11. Mention of holly - - - - - | 732 | .001—002 | 28.6 |
| 12. Mention of mistletoe - - - - - | — | — | — |
| 13. Oak tree, oak leaf, oak wood, oak furniture and acorn - - - - - | 439 | .0015—0035 | 26.4 |
| 14. Berries of any kind - - - - - | 1098 | .0005—0015 | 30.4 |
| 15. White berries - - - - - | — | — | — |
| 16. Fruit of any kind - - - - - | 50 | .017—023 | 17.0 |
| 17. Apple of any kind - - - - - | 166 | .0045—0080 | 22.2 |
| 18. A red or rosy apple - - - - - | 878 | .0005—0020 | 29.4 |
| 19. An orange or oranges - - - - - | 209 | .0035—0065 | 23.2 |
| B. BIRDS, ETC. | | | |
| 20. Bird or birds of any kind - - | 30 | .030—0375 | 14.8 |
| 21. Yellow bird (including canary) - | 549 | .001—003 | 27.4 |
| 22. Water bird of any kind - - - | 187 | .004—007 | 22.7 |
| 23. Ducks, geese and swans - - - | 244 | .003—0055 | 23.9 |
| 24. Duck of any kind - - - - - | 517 | .001—003 | 27.1 |
| 25. Yellow duck - - - - - | — | — | — |
| 26. Goose or geese - - - - - | 1255 | .0005—0015 | 31.0 |
| 27. Peacock, peacock's tail and pea- cock's feathers - - - - - | 554 | .001—003 | 27.4 |
| 28. Any mention of feathers or quills | 157 | .005—0085 | 21.9 |
| 29. Mention of egg or eggs - - - | 231 | .003—006 | 23.6 |
| 29A. Bird perched on any object - | — | — | — |
| C. ANIMALS, ETC. | | | |
| 30. Dog of any kind - - - - - | 79 | .01—015 | 19.0 |
| 31. Wolf and Alsatian dog - - - | — | — | — |
| 32. Brown dog - - - - - | — | — | — |
| 33. Dog wearing hat or cap - - - | — | — | — |
| 34. Attention drawn to the fur or shagginess of a live animal - | 517 | .001—003 | 27.1 |
| 35. Bear of any kind - - - - - | 1756 | .0005—0015 | 32.5 |
| 36. Rabbits and hares - - - - - | 220 | .0035—006 | 23.4 |

TABLE XXXV (*continued*)

| Items. | $p=1$ in | The true value of p probably lies between | $-10 \times$ $\log_{10} p.$ |
|---|-------------|---|--------------------------------|
| 37. Any animal playing with ball - | — | — | — |
| 38. Any animal dressed up (wearing clothes, trappings, spectacles, etc.) - - - - | — | — | — |
| 39. Any animal with a stick or toy animal on stick - - - | 923 | ·0005—·002 | 29·6 |
| 40. Any animal rampant (including heraldic lion) and rearing or jumping animal - - - | 732 | ·001—·002 | 28·6 |
| 41. Monkey and ape - - - | 351 | ·002—·004 | 25·4 |
| 42. Horse and pony - - - | 111 | ·0075—·0115 | 20·4 |
| 43. Monkey and organ - - - | — | — | — |
| 44. Horseshoe - - - - | 799 | ·0005—·002 | 29·0 |
| 45. Blacksmith - - - - | — | — | — |
| 46. Fox - - - - | 1098 | ·0005—·0015 | 30·4 |
| 47. Any reptile (including snake, lizard, frog, toad, crocodile) - | 204 | ·0035—·0065 | 23·1 |
| 48. Snake or serpent - - - | 399 | ·0015—·0040 | 26·0 |
| 49. Crocodile or alligator - - | 1464 | ·0005—·0015 | 31·6 |
| 50. Mention of an open jaw or mouth | 1255 | ·0005—·0015 | 31·0 |
| 51. Rows of teeth or jaw with teeth | 1757 | ·0005—·0015 | 32·5 |
| 52. Kangaroo - - - - | — | — | — |
| 53. Marsupial of any kind - - | — | — | — |
| 54. Animal with ribbon attached to it - - - - | — | — | — |
| 55. Mention of bird pecking - - | — | — | — |
| 56. Any reference to an animal's tail | 1464 | ·0005—·0015 | 31·6 |
| 56A. Cat or kitten - - - - | 84 | ·010—·015 | — |
| 56B. Lion or lion's head - - - | 338 | ·0025—·0040 | — |
| 56C. Elephant or elephant's trunk - | 358 | ·0020—·0040 | — |
| D. COLOURS | | | |
| 57. Mention of yellow, gold or orange object, and of these colours themselves - - - - | 22 | ·04—·05 | 13·4 |
| 58. Mention of a red object or of colour red itself - - - | 23 | ·04—·05 | 13·6 |
| 59. Mention of a blue object or of colour blue itself - - - | 30 | ·03—·04 | 14·8 |
| 60. Mention of a green object or of colour green itself - - - | 33 | ·025—·035 | 16·2 |
| 61. Blue and green objects or colours blue and green - - - | 16 | ·06—·07 | 12·0 |
| 62. Yellow chrysanthemums - - - | 799 | ·0005—·002 | 29·0 |
| E. MUSICAL INSTRUMENTS, MUSIC, DANCING, ETC. | | | |
| 63. Mention of any musical instru- ment - - - - | 35 | ·025—·035 | 15·4 |
| 64. Any stringed instrument - - - | 122 | ·0065—·0100 | 20·9 |

TABLE XXXV (continued)

| Items. | $p=1$ in | The true value of p probably lies between | $-10 \times$ $\log_{10} p$. |
|---|-------------|---|---------------------------------|
| 65. Violin and cello - - - | 214 | ·0035—·0065 | 23·3 |
| 66. Banjo, mandolin, guitar and lute | 799 | ·0005—·0020 | 29·0 |
| 67. Any kind of musical box or barrel organ - - - - | 732 | ·0010—·0020 | 28·6 |
| 68. Any impression relating to music or singing or to any musical instrument - - - - | 27 | ·030—·040 | 14·3 |
| 69. Any mention of dancing - - | 195 | ·004—·007 | 22·9 |
| 70. Baby's rattle, police rattle or objects rattled - - - - | 1098 | ·0005—·00150 | 30·4 |
| 71. Clinking or jingling sound or sound of glass or metal - | 439 | ·0015—·0035 | 26·4 |
| F. IMPRESSIONS CONNECTED WITH FOREIGN COUNTRIES | | | |
| 72. Impressions immediately con- nected with Italy - - - - | 1464 | ·0005—·00150 | 31·6 |
| 73. Any impression directly asso- ciated with Egypt (<i>e.g.</i> Sphinx, mummy, Pharaoh, etc. - - - - - | 314 | ·0020—·0045 | 25·0 |
| 74. Any impression directly con- nected with Australia (<i>e.g.</i> kangaroo, boomerang, Maori) - | — | — | — |
| 75. Impressions directly connected with China and Japan (china pottery is excluded) - - - | 116 | ·0065—·0100 | 20·6 |
| 77. Any impression directly con- nected with the East - - - | 52 | ·018—·021 | 17·0 |
| 78. Any impressions directly con- nected with Red Indians (<i>e.g.</i> wigwam, moccasin, etc.) - | 676 | ·0010—·0025 | 28·3 |
| 79. Chinese or Japanese lantern or paper lantern - - - - | 1255 | ·0005—·0015 | 31·0 |
| 80. Head or face only of Negro, Mon- gol, Hindoo or other coloured native - - - - - | 676 | ·0010—·0025 | 28·3 |
| G. MISCELLANEOUS OBJECTS | | | |
| 81. Mention of the word "ball" - | 83 | ·010—·015 | 19·2 |
| 82. Mention of any globular object (including apples, balls, globes, etc.) - - - - - | 32 | ·025—·035 | 15·0 |
| 83. Spectacles, pince-nez, or goggles in any connection - - - - | 176 | ·0045—·0075 | 22·5 |
| 84. Any animal wearing spectacles - | — | — | — |
| 85. Any mask, grotesque face, comic face or gargoyle - - - - | 251 | ·0030—·0055 | 24·0 |
| 86. The word "mask" - - - - | 366 | ·002—·004 | 25·6 |

TABLE XXXV (continued)

| Items. | $p=1$ in | The true value of p probably lies between | $-10 \times$ $\log_{10} p.$ |
|--|-------------|---|--------------------------------|
| 87. Mention of a long, large or peculiar nose - - - - | — | — | — |
| 88. Any mention of the words "nose" or "snout" - - - | 1464 | ·0005—0015 | 31·6 |
| 89. Mention of clown or jester or jester on a stick - - - - | 1757 | ·0005—0015 | 32·5 |
| 90. Any mentions of Punch and jester - - - - | 627 | ·0010—0025 | 28·0 |
| 91. Mention of Judy, Jack-in-box and marionettes - - - - | — | — | — |
| 92. Mention of ordinary tape or of measuring tape and any men- tions of measuring land or cloth - - - - | 1098 | ·0005—0015 | 30·4 |
| 93. Rope or string or ribbon or tape, etc. being stretched or pulled out or wool, etc. being wound or unwound - - - - | 878 | ·0005—0020 | 29·4 |
| 94. Mention of any kind of ribbon - | 439 | ·0015—0035 | 26·4 |
| 95. Mention of any red ribbon - | — | — | — |
| 96. Mention of pole or long staff - | 799 | ·0005—0020 | 29·0 |
| 97. Any stick, walking stick, rod, mace, pole, cue, rake, cane, staff, handle of broom or brush, lance - - - - | 97 | ·008—013 | 19·9 |
| 98. Mention of ordinary cup and saucer (porcelain or ordinary crocery) - - - - | 338 | ·002—0045 | 25·3 |
| 99. Cup alone or saucer alone - - | 231 | ·003—006 | 23·6 |
| 100. Any impression of tea or cup and saucer or tea urn or tea cosy or tea pot or kettle - | 85 | ·0095—0145 | 19·3 |
| 101. Mention of a calendar - - - | 1255 | ·0005—0015 | 31·0 |
| 102. Mention of a tongue of any kind - - - - | — | — | — |
| 103. Mention of a bell-shaped object (<i>e.g.</i> harebell) and all men- tions of church bell, school bell and hand bell - - - - | 351 | ·002—004 | 25·4 |
| 104. A fan or fan-shaped object (electric fan excluded) - - - | 244 | ·003—0055 | 23·9 |
| 105. An explosion, burst or bang or a bomb - - - - | 627 | ·0010—0025 | 28·0 |
| 106. Fireworks of any kind, crackers, gunpowder and any mention of bonfires or 5 November and Guy Fawkes - - - - | 314 | ·0020—0045 | 25·0 |
| 107. Mention of burnt paper or burn- ing paper - - - - | 1464 | ·0005—0015 | 31·6 |
| 108. Mention of burning of any kind | 314 | ·0020—0045 | 25·0 |

TABLE XXXV (continued)

| Items. | $p=1$ in | The true value of p probably lies between | $-10 \times$ $\log_{10} p$. |
|--|-------------|---|---------------------------------|
| 109. Sparks or coloured lights from fireworks in action - - | 1098 | ·0005—·0015 | 30·4 |
| 110. Fireworks of the sparking type (whether in action or not) - | 517 | ·001—·003 | 27·1 |
| 111. Sparks or scintillations of any kind (whether from fireworks or not) - - - - | 799 | ·0005—·002 | 29·0 |
| 112. Stars of any kind (real or artificial) - - - - | 251 | ·0030—·0055 | 24·0 |
| 113. Mention of smoke or steam - | 220 | ·0035—·0060 | 23·4 |
| 114. Mention of a balloon - - | 488 | ·0010—·0035 | 26·9 |
| 115. Mention of parachute - - | — | — | — |
| 116. Paper streamers or paper flying about - - - - | 1464 | ·0005—·0015 | 31·6 |
| 117. Fragments of paper or crumpled paper but not blown about - | 1255 | ·0005—·0015 | 31·0 |
| 118. Tobacco pipe of any kind - - | 209 | ·0035—·0065 | 23·2 |
| 119. A pipe alight or in mouth - | 461 | ·0015—·0035 | 26·6 |
| 120. A yacht or ship with sails - | 220 | ·0035—·0060 | 23·4 |
| 121. A ship or boat of any sort - | 76 | ·01—·015 | 18·8 |
| 122. Any boat or ship with a human figure visible on it - - - | — | — | — |
| 123. Conical hat (<i>e.g.</i> dunce cap) - | 1255 | ·0005—·0015 | 31·0 |
| 124. A red hat or cap of any kind - | 1464 | ·0005—·0015 | 31·6 |
| 125. A paper cap or hat or a fool's cap, conical hat or Chinese hat or any comic hat - - - | 799 | ·0005—·002 | 29·0 |
| 126. A man's tall hat or silk hat - | 314 | ·0020—·0045 | 25·0 |
| 127. A cap (fool's cap or paper hat excluded) - - - - | 366 | ·0020—·0040 | 25·6 |
| 128. A head-covering of any kind (including hat, cap, helmet, turban, fool's cap, paper hat, etc.) - - - - | 74 | ·010—·015 | 18·7 |
| 129. Mention of hammer or mallet, or of blows from same - - | 586 | ·0010—·0030 | 27·7 |
| 130. Mention of scissors - - - - | 191 | ·0040—·0070 | 22·8 |
| 131. Mention of any wheel - - - | 187 | ·0040—·0070 | 22·7 |
| 132. A wheel revolving - - - - | 488 | ·0010—·0035 | 26·9 |
| 133. A handle being turned or a machine wound up - - - | 976 | ·0005—·0020 | 29·9 |
| 134. All impressions of rotation - | 102 | ·008—·012 | 20·1 |
| 135. Mention of honeycomb or cell-work or a drawing of cells, lattice-work, mesh-work or honeycomb - - - - | 976 | ·0005—·0020 | 29·9 |
| 136. Pearls, white beads, white berries | 462 | ·0015—·0035 | 26·6 |
| 137. All mentions of pearls, beads, strings of beads, berries and necklaces - - - - | 122 | ·0065—·0100 | 20·9 |

TABLE XXXV (continued)

| Items. | $p=1$ in | The true value of p probably lies between | $-10 \times$ $\log_{10} p.$ |
|---|-------------|---|--------------------------------|
| 138. Mention of any specific metal or of metal generally, or of any object well known to be made entirely of metal - - - | 20 | .045—.055 | 13.0 |
| 139. The words "iron" or "steel" - | 237 | .003—.006 | 23.7 |
| 140. Mention of knife, sword, dagger - | 166 | .0045—.0080 | 22.2 |
| 141. Mention of axe, chopper, hatchet, adze or of chopping - - - | 1464 | .0005—.0015 | 31.6 |
| 142. Mention of a grindstone - - - | — | — | — |
| 143. Mention of golf club or of a club used as a weapon - - - | 1255 | .0005—.0015 | 31.0 |
| 144. Mention of night or darkness or blackness or of a dark back- ground without mention of a light | 169 | .0045—.0080 | 22.3 |
| 145. Mention of a gollywog - - - | 676 | .0010—.0025 | 28.3 |
| 146. Skull or skeleton - - - | 231 | .0030—.0060 | 23.6 |
| 147. Impressions immediately suggest- ing death (<i>e.g.</i> mummy, skull, coffin, cenotaph, dagger) but excluding mere suggestions of fear and foreboding where the threat of death is not obvious - | 129 | .0065—.0100 | 20.7 |
| 148. All impressions of fear, horror, repulsion, depression, ferocity, foreboding of evil and all ideas obviously suggesting or sym- bolising death or danger - | 76 | .0100—.0150 | 18.8 |
| 149. Any object resting on a skull - | — | — | — |
| 150. Man nodding head or moving head to and fro or a rhythmic nodding of heads - - - | — | — | — |
| 151. Mention of any mechanical toy or working model of a machine | 237 | .0030—.0060 | 23.7 |
| H. GEOMETRICAL SKETCHES | | | |
| 152. Any simple triangle, scalene or isosceles - - - - | 6.94 | .132—.158 | 8.4 |
| 153. Two non-overlapping triangles, with a common vertex and their bases parallel - - - | 75 | .0095—.0185 | 18.7 |
| 154. A shield of David - - - - | 44 | .018—.030 | 16.4 |
| 155. Maltese cross - - - - | 104 | .0065—.0140 | 20.2 |
| 156. Triangle in a circle - - - - | 82 | .0085—.0170 | 19.1 |
| 157. Pentagon of any kind (regular or irregular) - - - - | 69 | .01—.02 | 18.4 |
| 158. Hexagon of any kind (including hexagonal prism) - - - | 46 | .017—.028 | 16.6 |
| 159. Octagon of any kind (including octagonal prism) - - - | 45 | .017—.029 | 16.5 |
| 160. Any polygon with five or more sides (including polygonal prisms) - - - - | 17 | .050—.068 | 12.3 |

TABLE XXXV (continued)

| Items. | $p=1$ in | The true value of p probably lies between | $-10 \times$ $\log_{10} p$. |
|--|-------------|---|---------------------------------|
| 161. A cone - - - - | 44 | ·018—·030 | 16·4 |
| 162. A pyramid (including tetra- hedron) - - - - | 60 | ·012—·022 | 17·8 |
| 163. Pentacle and all five-pointed stars | 193 | ·0030—·0085 | 22·9 |
| 164. Any star-drawing with more or less than five points (excluding no. 154) - - - - | 48 | ·016—·027 | 16·8 |

I. CAPITAL LETTERS¹

| Letter. | $p=1$ in | The true value of p probably lies between | $-10 \times$ $\log_{10} p$. | Letter. | $p=1$ in | The true value of p probably lies between | $-10 \times$ $\log_{10} p$. |
|---------|-------------|--|---------------------------------|---------|-------------|--|---------------------------------|
| A - | 13·7 | ·06—·09 | 11·4 | N - | 53·2 | ·015—·025 | 17·3 |
| B - | 13·7 | ·06—·09 | 11·4 | O - | 26·3 | ·03—·045 | 14·2 |
| C - | 20·5 | ·04—·06 | 13·1 | P - | 19·6 | ·04—·06 | 12·9 |
| D - | 32·8 | ·025—·04 | 15·2 | Q - | 42·7 | ·02—·03 | 16·3 |
| E - | 29·9 | ·025—·04 | 14·8 | R - | 21·2 | ·04—·055 | 13·3 |
| F - | 29·9 | ·025—·04 | 14·8 | S - | 16·5 | ·05—·07 | 12·2 |
| G - | 20·5 | ·04—·06 | 13·1 | T - | 25·7 | ·03—·045 | 14·1 |
| H - | 20·3 | ·04—·06 | 13·1 | U - | 119·7 | ·005—·015 | 20·8 |
| I - | 82·6 | ·008—·020 | 19·2 | V - | 28·8 | ·025—·045 | 14·6 |
| J - | 36·8 | ·020—·035 | 15·7 | W - | 26·3 | ·03—·045 | 14·2 |
| K - | 29·2 | ·025—·04 | 14·6 | X - | 33·2 | ·025—·04 | 15·2 |
| L - | 23·5 | ·035—·05 | 13·7 | Y - | 54·4 | ·015—·025 | 17·4 |
| M - | 17·0 | ·05—·07 | 12·3 | Z - | 36·8 | ·020—·035 | 15·7 |

¹ It must of course be clearly understood that sections H and I of this table are calculated on the basis of a single guess for each percipient per ten minute interval, and further that the percipients were told to think of a capital letter and of a geometrical sketch, respectively.



The scene revealed by the flash.

THE PSYCHOLOGY OF TESTIMONY IN RELATION TO PARAPHYSICAL PHENOMENA: REPORT OF AN EX- PERIMENT¹

BY THEODORE BESTERMAN

EXPERIMENTS in the psychology of testimony were initiated by Binet.² With a view to obtaining data illustrative of individual psychological differences and of psychological types he submitted groups of children and young people to simple tests. For instance, he displayed a picture for two minutes and then asked for a description of it. Valuable work was also done by Claparède and his pupils,³ but in recent years the most important researches in this field have been done in Germany, largely under the inspiration of Professor William Stern and of the *Beiträge zur Psychologie der Aussage* founded by him.⁴ The investigation has been given a strong legal bias, the primary object of the experiments being to inquire into the validity of testimony given in proceedings at law, particularly in criminal cases. A typical experiment is that conducted in Professor Stern's criminological seminary in Berlin. During the course of a discussion two of the participators, by private arrangement, simulated a violent quarrel. The witnesses were then asked to draw up reports of what they had seen, with a view to giving evidence in court.⁵ It is to be noted that the object of such experiments is not to test vision, perception generally, memory, observation, etc., but rather the complex of all these and other elements which go to make up the reporting of an experienced fact, in short, the giving of testimony. To achieve this the investigator reproduces as closely as possible the sort of event into the testimony concerning which he is inquiring, and then studies the reports obtained of this event.

¹ I owe grateful thanks to Mrs Salter, without whose help and encouragement this experiment would not have been carried out; and to Miss Jephson, for a valued offer of help.

² A. Binet, "Psychologie Individuelle—La Description d'un Objet," *L'Année Psychologique* (1897), iii. 296 ff.

³ E.g. E. Claparède, "Expériences collectives sur le Témoignage," *Archives de Psychologie* (1906), v. 344 ff.; Mlle H. Lelesz, "L'Orientation d'Esprit dans le Témoignage," *Ibid.* (1914), xiv. 113 ff.

⁴ The most complete book on the subject, however, is Dr François Gorphe's *La Critique du Témoignage*² (1927).

⁵ S. Jaffa, "Ein psychologisches Experiment im Kriminalseminar der Universität Berlin," *Beiträge zur Psychologie der Aussage* (1913), i. 79 ff. Cp. "Unprejudiced Testimony," *Journal S.P.R.* (1903), xi. 160-4.

All these experiments were to some extent anticipated by psychical research, in which the problem of the value of testimony was naturally one of the first to be considered. Mr S. J. Davey, an amateur conjuror, gave performances in slate-writing in imitation of those given by the medium William Eglinton, and succeeded in convincing many sitters that they had witnessed supernormal phenomena.¹ It was a valuable beginning, but curiously enough no further work on these lines has been done since that date (1886).

I had therefore for some years been anxious to make some investigations into testimony in relation to parapsychical phenomena generally. I made a beginning in June 1928, taking advantage of the presence in London of a self-avowed fraudulent medium.² It was arranged for this medium to go through his usual performance in the Society's *séance*-room. Five sitters were invited, three of whom were left under the impression that they were to witness a genuine sitting. This is the ideal form in which an experiment of this kind should be conducted, since only thus can the conditions of an ordinary sitting be reproduced subjectively as well as objectively. I was also anxious to test such points as the effect of fatigue in a long sitting and of progressive familiarity with certain phenomena in a series of sittings. It soon became clear, however, that on those lines it would be impossible to carry out the experiment on a sufficiently large scale. Eventually, in October 1931, the following letter was sent by Mrs Salter to a selected list of members of the Society :

“With the approval of the Council a series of experimental sittings is shortly to be held in the Society's *séance*-room for the purpose of investigating the most favourable conditions for observation in sittings for physical phenomena. It is proposed for this purpose to reproduce the conditions of an average sitting and to cause a few simple phenomena to take place by normal means. The sitters will then be asked to fill up a short questionnaire dealing with the events of the sitting. It is hoped to obtain in this way valuable material bearing on the conduct of sittings for physical phenomena.

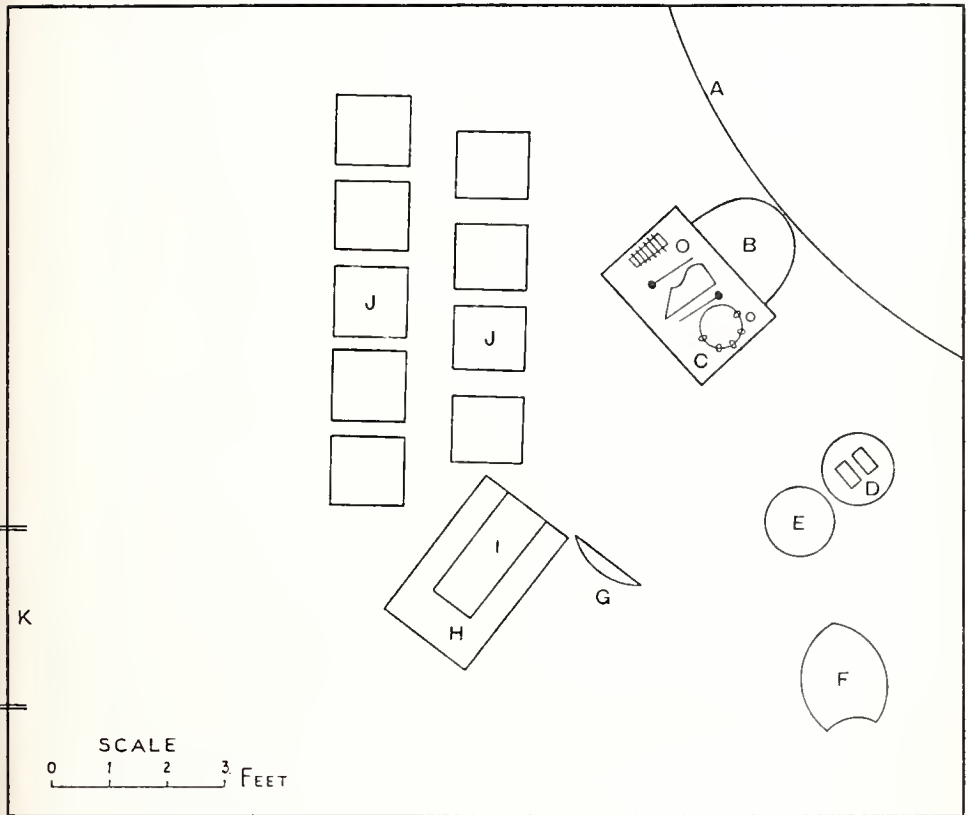
“Will you kindly let me know whether you are willing to participate in this experiment by attending one of the sittings? This would take up only an hour or so of your time. Your name will not be published without your consent. I shall be happy to send you, on request, any further information you may like to have.”

A sufficient number of members agreed to take part and six sittings were accordingly arranged, in which forty-two sitters took

¹ *Proceedings S.P.R.*, iv. 381 ff., viii. 253 ff.

² See my “Report of a Pseudo-Sitting for Physical Phenomena with Karl Kraus,” *Journal S.P.R.*, xxiv. 388 ff.

part, each attending one sitting. The procedure was exactly the same at each sitting, with one accidental exception noted below. The time-table follows.



PLAN OF SÉANCE-ROOM

- | | |
|---|--------------------------|
| A. Curtains forming cabinet. | F. Gramophone. |
| B. Medium's chair. | G. Flashlight Apparatus. |
| C. Table, with objects arranged as at beginning of the sittings. | H. Table. |
| D. Rheostats. | I. Camera. |
| E. Th. B.'s chair. | J. Sitters' chairs. |
| | K. Door. |

The sitters were shown to their seats in the *séance*-room, which was arranged as shown in the accompanying plan, and the "medium" took her place.¹ I then said,

0.0 "The sitting has now begun," closed the door with a bang, and switched off the bright wall-light, leaving full on the central

¹The part of the medium was taken by a Member who prefers to remain anonymous.

ceiling white and red lights. Moving to the "medium's" table and standing by it I said, "There is really very little to explain. A few simple phenomena will be gone through and you will afterwards be asked to answer some questions about them. These questions will relate only to facts and not to interpretations, so that you needn't worry *how* anything happens, but only try and observe carefully *what* happens. The lady in the medium's chair is not of course a real medium, but a Member of the Society who is kindly taking the part. I will now show you what lighting we have." On this I sat down and slowly reduced, extinguished, and put on again, by means of the rheostat, the white and red ceiling lights. Immediately after

0.2 I switched on the gramophone and said, "You are of course quite at liberty to talk as much as you please."

0.7 I switched off the gramophone.

0.10 There was a knock on the outside of the door. I rose and went to the door. As I put my hand on the handle of the door to open it, the "medium" put out her right hand and moved the bell from its first position (as shown on the plan) to the other end of the table, behind the tambourine (as shown on the photograph). When this was done I had begun to open the door, which I then opened wide, leaving the room and at once returning, putting a white card (5 × 3 in.) in my pocket. On returning I sat down and at once put out all the lights and re-started the gramophone. In the darkness I said, "You will see that all the objects on the table are luminous." Then the "medium" removed the drumstick which lay on the table at her left and placed it in the opening of the curtains just over and behind her head; moved the bell back to its original position; pinned a prepared cloth over her face; and took the trumpet in her hand. Unfortunately the larger opening of the trumpet then pointed by an oversight at some sittings to the "medium's" left and at others to her right. No account is therefore taken of this point in the scoring.

0.15 I said, "I ought to warn you that in a few minutes I shall make a flashlight exposure, so please observe everything as closely as you can during the flash. I will give you another warning immediately before the flash." At the same time I put on a dim red light, which threw an appreciable amount of red light on the ceiling but gave no visibility below.

0.19 I stopped the gramophone, said, "I'm now going to make the flash," and did so, immediately thereafter starting the gramophone again. The "medium" then replaced the trumpet in its original position and hid the drumstick and cloth.

0.24 I stopped the gramophone, put on the red and white lights in turn, left them on for a minute, and said,

0.25 "That's the end of the sitting, thank you. If you will now kindly follow me into another room there is a sheet with a few questions for you to answer." The sitters were accordingly shown into Miss Newton's room, where they completed the questionnaire in silence.

This questionnaire now follows, each question being followed by the correct answer and, in round brackets, by the marks obtainable :

QUESTIONNAIRE

(Please answer the questions as exactly as possible, avoiding such phrases as "about," "approximately," etc.)

1. Describe the position of your chair. [This varied from sitting to sitting; the chairs were arranged in two rows, one behind the other, with 3-5 chairs in each row. A typical reply would be "second from the left, back row."] (10).

2. How many persons were in the *séance*-room during the sitting? [The correct answer ranges from seven to eleven.] (20; a mistake of one: 10).

3. Early in the sitting there was a disturbance. Describe what happened. *There was a knock at the door* (10), *Th. B. went to the door* (10), *opened it (5) wide (5)*, *went out* (10), *and returned to his seat* (10), *putting a white card in his pocket* (30). Total (80).

4. Give a list of the articles lying on the table at the beginning of the sitting, in their order from left to right. *Xylophone*,¹ *bell*, *drumstick*, *zither*, *drumstick*, *tambourine*, *trumpet*. (10 for each article, if sufficiently described or drawn, plus 10 if it is given in its correct position. Total 140.)

5. Early in the sitting the "medium" touched an article lying on the table. What was the article? *The bell* (10).

6. With what hand did the "medium" touch it? *The right hand* (10).

7. What light was there at the time? *Medium* (10) *white light* (10). Total (20).

8. Was there silence at the time? *Yes* (10).

9. During the sitting a flashlight photograph of the "medium" was taken. What interval of time had elapsed since the beginning of the sitting? *Nineteen minutes* (for 18-20 minutes, 20; for 16-22 minutes, 10; for a time such as 20-30 minutes, one member of which falls within 16-22 minutes, 5).

10. State in full detail what you saw during the flash, in other words, everything that will appear on the photograph. *The medium's face was covered with a white cloth* (10) *on which could be seen the marks of horizontal and vertical folding* (10), *as well as thick*

¹ This object is so called, following the usual practice, although it has metal bars.

black markings forming the rudimentary (10) design of a face (10) in profile (10). The objects on the table were as stated in reply to question 4, with the following exceptions: the bell (10) was in the position behind the tambourine (10) to which it had been moved earlier in the sitting (see question 5); the trumpet (10) was now held horizontally (5) in the medium's hand (5); and the second drumstick had vanished (10). What seemed to be the head of this drumstick (10) appeared in the opening of the curtains above the medium's head (20). Total (130).

11. What light was there immediately before the flash? *Faint* (10) red light (10), but no visibility (20). Total (40).

12. What light was there immediately after the flash? *Faint* (10) red light (10), but no visibility (20). Total (40).

13. Was there silence at the time of the flash? *Yes* (10).

14. Give a list of the articles lying on the table at the end of the sitting, in their order from left to right. *The same as in reply to question 4, except that the second drumstick was still missing.* (As before, the second drumstick scoring 20 if reported as missing; sitters who said "The same as in reply to question 4," were given the same marks as they obtained in the earlier question, so far as consistent with the disappearance of the second drumstick; total 140.)

15. Add anything you wish, especially particulars of any incidents or phenomena not mentioned in the above questions. (No additional marks; grand total 680.)

It will be seen that the questionnaire combines the method of direct questions with that of spontaneous narrative. The object of this was partly to compare the two methods, but no significant results were obtained, except in so far as the notion now generally accepted by psychologists that spontaneous narrative gives better results than cross-examination was not supported by the results. In particular, as I was anxious to give the sitter every possible advantage, apart from testing the opinion just mentioned, I added Question 15 with a view to giving sitters full credit for any correct testimony given in this way, supplementing or correcting previous answers. But in the case of only one sitter was there any need to do so. On the other hand, since the questions were all simple and straightforward and related to actual facts or occurrences, there was little room for the free play of imagination, etc., in replying to them. In this connection also Question 15 was of importance, for it was here that most of the sitters' illusions came to light. We will return to these later.

It must be noted also that neither in the sitting nor in the questions was any experiment made with such misleading suggestions as fraudulent physical mediums often know how to use. There was a single exception, my remark that all the objects on the table were

luminous, which was not true of the two drumsticks. There is no clear evidence in the replies given that this false suggestion affected the testimony. In any case, it must be remembered that all the objects on the table were in full sight in medium white light for ten minutes at the beginning of the sitting, and also during the flash and for a minute in medium white light at the end of the sitting. Further, partly because it was not found possible to get the luminosity of the articles on the table uniform from sitting to sitting and from the angle of vision of each sitter, no questions were asked relating to anything that occurred in the dark. Sitters who wanted to take notes were allowed to do so, but they were so few that no distinctions have been made in the scoring and analysis.

It is only necessary to add at this point that the scoring was all done with a definite bias in favour of the sitter, who was always given the benefit of the doubt. Thus, credit was given, though not, of course, full credit, if a reply implied even indirectly a correct answer to another question. For instance, this was done if a sitter did not mention the trumpet in reply to Question 4, but later said "The medium took the trumpet from the table."

The method of scoring is far from perfect, but it is at any rate an improvement on the usual method of psychologists in experiments of this kind. They treat replies simply as right or wrong: a method which fails to distinguish between the important and unimportant elements of an event. My method was of course worked out before the answers of the questionnaire came into my hands.

The complete results are given in Table I, each sitter being given a number in the alphabetical order of his name.

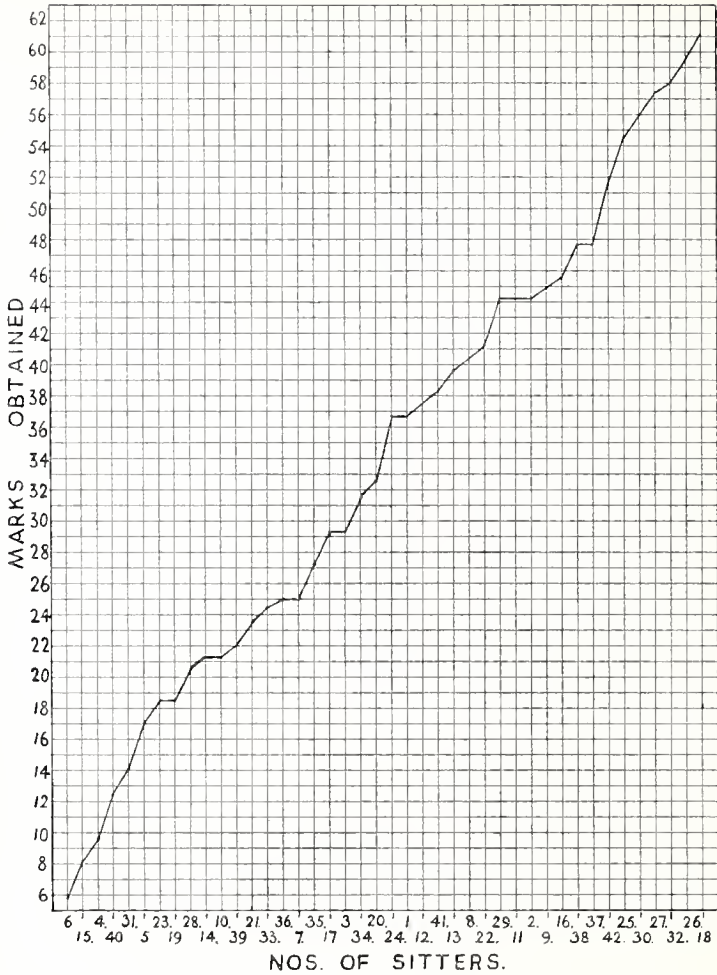
It will be seen from Table I that the sitters' testimony was correct in proportions ranging from 5.9% to 61%, averaging 33.9%. In other words, the 42 sitters as a whole gave correct testimony to the extent of only one-third. Only one sitter (no. 42, ranked seventh) obtained some success in reply to every question. Two sitters (nos. 4 and 6) secured marks in reply to only three questions. On the other hand, there was only one point that every sitter failed to report, though it transpired in conversation after the sittings that several had actually observed it. This was the drumstick-head over the "medium's" head during the flash. The absence of references to this is all the more surprising since, as can be seen from the photograph, it was brilliantly illuminated by the flash and was missing from the table after it.

TABLE I
THE RESULTS OF THE QUESTIONNAIRE.

Sitters marked * in the last column but one are bracketed with one or more other sitters.

| Question No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | Total. | % of Marks obtainable. | Rank. | Sitter No. |
|-------------------|----|----|----|-----|-----|----|----|----|----|-----|----|----|----|-----|--------|------------------------|-------|------------|
| Marks obtainable. | 10 | 20 | 80 | 140 | 10 | 10 | 10 | 20 | 10 | 130 | 40 | 40 | 10 | 140 | 680 | | | |
| Sitter No. | 1 | 10 | 0 | 85 | 10 | 10 | 0 | 10 | 0 | 20 | 20 | 0 | 0 | 85 | 250 | 36.8 | 20* | 1 |
| | 2 | 10 | 25 | 75 | 10 | 10 | 0 | 0 | 0 | 10 | 20 | 20 | 0 | 100 | 300 | 44.1 | 12* | 2 |
| | 3 | 10 | 20 | 60 | 10 | 0 | 0 | 10 | 0 | 30 | 40 | 0 | 10 | 0 | 200 | 29.4 | 24* | 3 |
| | 4 | 0 | 20 | 35 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 65 | 9.6 | 40 | 4 |
| | 5 | 10 | 20 | 0 | 35 | 0 | 0 | 0 | 20 | 0 | 20 | 0 | 10 | 0 | 115 | 16.9 | 37 | 5 |
| | 6 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 10 | 40 | 5.9 | 42 | 6 |
| | 7 | 10 | 0 | 20 | 45 | 10 | 10 | 5 | 5 | 10 | 0 | 0 | 10 | 45 | 170 | 25.0 | 27* | 7 |
| | 8 | 10 | 20 | 15 | 95 | 0 | 0 | 0 | 0 | 0 | 20 | 10 | 10 | 95 | 275 | 40.4 | 16 | 8 |
| | 9 | 10 | 20 | 45 | 100 | 0 | 0 | 0 | 0 | 10 | 20 | 0 | 0 | 100 | 305 | 44.9 | 11 | 9 |
| | 10 | 0 | 0 | 60 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 55 | 145 | 21.3 | 32* | 10 |
| | 11 | 10 | 10 | 30 | 90 | 0 | 0 | 10 | 0 | 15 | 20 | 10 | 10 | 95 | 300 | 44.1 | 12* | 11 |
| | 12 | 10 | 10 | 60 | 40 | 0 | 10 | 15 | 0 | 20 | 20 | 20 | 10 | 40 | 255 | 37.5 | 19 | 12 |
| | 13 | 10 | 20 | 50 | 50 | 0 | 0 | 0 | 0 | 20 | 30 | 30 | 0 | 60 | 270 | 39.7 | 17 | 13 |
| | 14 | 5 | 20 | 0 | 40 | 0 | 0 | 0 | 0 | 20 | 0 | 10 | 10 | 40 | 145 | 21.3 | 32* | 14 |
| | 15 | 0 | 5 | 0 | 15 | 0 | 0 | 10 | 0 | 0 | 5 | 0 | 10 | 10 | 55 | 8.1 | 41 | 15 |
| | 16 | 10 | 20 | 55 | 100 | 0 | 10 | 0 | 0 | 15 | 0 | 0 | 10 | 80 | 310 | 45.6 | 10 | 16 |
| | 17 | 5 | 10 | 0 | 35 | 5 | 5 | 5 | 0 | 35 | 20 | 20 | 10 | 50 | 200 | 29.4 | 24* | 17 |
| | 18 | 10 | 20 | 35 | 115 | 10 | 15 | 10 | 0 | 25 | 20 | 20 | 10 | 115 | 415 | 61.0 | 1 | 18 |
| | 19 | 5 | 20 | 10 | 0 | 10 | 5 | 0 | 0 | 25 | 20 | 20 | 10 | 0 | 125 | 18.4 | 35* | 19 |
| | 20 | 10 | 20 | 0 | 65 | 0 | 0 | 10 | 0 | 0 | 20 | 0 | 10 | 85 | 220 | 32.4 | 22 | 20 |
| | 21 | 10 | 20 | 0 | 0 | 0 | 15 | 0 | 5 | 30 | 20 | 0 | 0 | 60 | 160 | 23.5 | 30 | 21 |

| | | | | | | | | | | | | | | | | | | |
|---------------------|----|------|------|------|-----|-----|------|-----|------|------|------|------|-----|------|-------|------|-----|----|
| 22 | 10 | 20 | 40 | 75 | 10 | 0 | 0 | 0 | 5 | 15 | 20 | 0 | 10 | 75 | 280 | 41.2 | 15 | 22 |
| 23 | 10 | 10 | 30 | 10 | 5 | 0 | 10 | 0 | 0 | 0 | 20 | 10 | 10 | 0 | 125 | 18.4 | 35* | 23 |
| 24 | 10 | 0 | 15 | 90 | 10 | 0 | 20 | 10 | 0 | 25 | 20 | 20 | 10 | 20 | 250 | 36.8 | 20* | 24 |
| 25 | 10 | 10 | 0 | 115 | 10 | 0 | 10 | 0 | 20 | 20 | 20 | 20 | 10 | 115 | 370 | 54.4 | 6 | 25 |
| 26 | 10 | 10 | 20 | 125 | 10 | 0 | 15 | 5 | 20 | 20 | 20 | 20 | 10 | 120 | 405 | 59.6 | 2 | 26 |
| 27 | 10 | 20 | 40 | 90 | 10 | 0 | 0 | 0 | 20 | 40 | 40 | 40 | 10 | 70 | 390 | 57.4 | 4 | 27 |
| 28 | 10 | 20 | 25 | 0 | 0 | 10 | 0 | 0 | 0 | 20 | 35 | 0 | 0 | 20 | 140 | 20.6 | 34 | 28 |
| 29 | 10 | 20 | 60 | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 20 | 10 | 80 | 300 | 44.1 | 12* | 29 |
| 30 | 10 | 20 | 25 | 135 | 10 | 10 | 0 | 0 | 0 | 15 | 20 | 20 | 0 | 115 | 380 | 55.9 | 5 | 30 |
| 31 | 10 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 20 | 0 | 10 | 0 | 95 | 14.0 | 38 | 31 |
| 32 | 10 | 20 | 10 | 130 | 10 | 0 | 10 | 10 | 0 | 55 | 0 | 0 | 10 | 130 | 395 | 58.1 | 3 | 32 |
| 33 | 10 | 20 | 35 | 25 | 10 | 0 | 15 | 0 | 0 | 20 | 20 | 0 | 10 | 0 | 165 | 24.3 | 29 | 33 |
| 34 | 10 | 20 | 10 | 55 | 10 | 0 | 0 | 5 | 0 | 10 | 20 | 0 | 10 | 65 | 215 | 31.3 | 23 | 34 |
| 35 | 0 | 10 | 0 | 75 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 10 | 75 | 185 | 27.2 | 26 | 35 |
| 36 | 0 | 20 | 10 | 55 | 10 | 0 | 20 | 10 | 0 | 0 | 15 | 20 | 10 | 85 | 170 | 25.0 | 27* | 36 |
| 37 | 10 | 20 | 45 | 75 | 0 | 0 | 0 | 0 | 10 | 30 | 40 | 0 | 10 | 85 | 325 | 47.8 | 8* | 37 |
| 38 | 10 | 0 | 20 | 100 | 10 | 0 | 15 | 0 | 0 | 30 | 20 | 10 | 10 | 100 | 325 | 47.8 | 8* | 38 |
| 39 | 0 | 10 | 0 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 20 | 10 | 45 | 150 | 22.1 | 31 | 39 |
| 40 | 10 | 20 | 5 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 20 | 0 | 10 | 0 | 85 | 12.5 | 39 | 40 |
| 41 | 10 | 20 | 40 | 35 | 10 | 10 | 0 | 10 | 0 | 40 | 20 | 20 | 10 | 35 | 260 | 38.2 | 18 | 41 |
| 42 | 10 | 20 | 20 | 50 | 5 | 10 | 10 | 10 | 20 | 50 | 20 | 20 | 10 | 95 | 350 | 51.5 | 7 | 42 |
| Average | 8 | 14.6 | 21.3 | 58.8 | 4.6 | 2.4 | 4.9 | 3.8 | 3.5 | 17 | 17.7 | 9.5 | 7.9 | 56.5 | 230.5 | 33.9 | | |
| % of possible score | 80 | 73 | 26.6 | 42 | 46 | 24 | 24.5 | 38 | 17.5 | 13.1 | 44.2 | 23.7 | 79 | 40.4 | 40.9 | | | |



In the last column but one is shown the rank of the sitters, in the order of their total scores. It will be seen that only seven sitters obtained more than half marks, and that fourteen sitters obtained a quarter of the total marks or less. The sharp curve of the scores when set out in graphical form shows the wide range between the worst and best sitters; while its smoothness strongly suggests the absence of any mode, *i.e.* that there is no such thing as a typical sitter. It must be noted that the sitters who obtained the biggest scores, and therefore rank highest, are not necessarily the best sitters. This is because it was necessary under the circumstances to concentrate both the phenomena and the questions on the visual aspects of the sitting, the most important in a sitting for parapsychical phenomena. The replies suggest that in an all round test sitter no. 7 might come into her own.

Table I can be analysed, for our purpose, from two points of view, with reference to the classes of sitters and with reference to the types of phenomena. Let us consider the latter first.

The replies to Question 1 obtained an average score of 8 (80% of full marks). The chief fault in the replies is lack of precision. This is illustrated by such replies as "In the centre" (for the second of four chairs), "In the front row," etc. On the whole the sitters were more successful with this question than with any other.

Question 2 provided a surprise. Although the number of persons in the *séance*-room never exceeded eleven, the scores obtained average only 14.6 (73%). Only twenty-six sitters answered correctly. Four gave no effective answer. The amount of error of the remaining sitters is shown in Table II.

TABLE II
THE AMOUNT OF ERROR IN THE INACCURATE REPLIES TO
QUESTION 2.

| No. of Sitter. | Amount of Error. | No. of Sitter. | Amount of Error. | No. of Sitter. | Amount of Error. |
|----------------|------------------|----------------|------------------|----------------|------------------|
| 1 | -3 | 15 | -3 or -1 | 26 | -1 |
| 3 | -1 | 17 | -1 | 31 | +2 |
| 11 | +1 | 23 | -1 | 35 | -1 |
| 12 | -1 | 25 | -1 | 39 | +1 |

It thus appears that there was a slight tendency to underrate the number of persons present in the *séance*-room.

With the replies to Question 3 we begin to find the more serious flaws in the sitters' testimony. The complete scores are shown in Table III (p. 374).

This Table reveals some interesting points. Of the 42 sitters 11 failed to give any account of the disturbance. The remaining 31 report more or less accurately its earliest stage, the knock on the door. But of these 31 sitters five do not mention the fact that I went to the door, 13 do not report the opening of the door, 21 do not refer to my leaving the *séance*-room, and only four sitters report the crucial point of the performance, the fact that I put something into my pocket on returning. And in connection with these four sitters it is important to note a point that is not brought out by the scoring. Two of these sitters attended the third sitting and two the sixth. On each occasion I noted that one sitter took pains to follow my actions, being observed in this, and imitated, by one other sitter. No sitter reports correctly what it was I put into my pocket, though one gets very near it. The most unexpected result,

however, is that no sitter reports the fact that I opened the door *wide*, although in doing so I admitted a good deal of additional light into the *séance*-room. The highest marks for the question as a whole are obtained by nos. 12 and 29 (ranking 19th and 12th) with 60 marks (70%). The average score for all the sitters is 21.3, equivalent to 26.6% of the possible score of 80.

TABLE III

THE ANSWERS TO QUESTION 3, OMITTING SITTERS WHO GAVE NO REPLY OR WHO OBTAINED NO MARKS.

| No. of Sitter. | Knock at door : | Th. B. goes to door : | opens it : | wide : | goes out : | returns to seat : | putting card in pocket : | Total possible marks : 80 |
|----------------|-----------------|-----------------------|------------|--------|------------|-------------------|--------------------------|---------------------------|
| | 10 | 10 | 5 | 5 | 10 | 10 | 30 | Total obtained |
| 2 | 10 | 10 | 5 | — | — | — | — | 25 |
| 3 | 10 | 10 | — | — | — | — | — | 20 |
| 4 | 10 | 10 | 5 | — | — | 10 | — | 35 |
| 7 | 10 | 10 | — | — | — | — | — | 20 |
| 8 | 10 | 5 | — | — | — | — | — | 15 |
| 9 | 10 | 10 | 5 | — | 10 | 10 | — | 45 |
| 10 | 5 | 10 | 5 | — | — | — | — | 20 |
| 11 | 10 | 10 | — | — | — | 10 | — | 30 |
| 12 | 10 | 10 | 5 | — | 10 | 10 | 15 | 60 |
| 13 | 10 | 5 | 5 | — | 10 | 5 | 15 | 50 |
| 16 | 10 | 5 | 5 | — | 10 | 10 | 15 | 55 |
| 18 | 10 | 10 | 5 | — | — | 10 | — | 35 |
| 19 | 10 | — | — | — | — | — | — | 10 |
| 22 | 10 | 5 | 5 | — | 10 | 10 | — | 40 |
| 23 | 10 | 5 | 5 | — | — | 10 | — | 30 |
| 24 | 10 | 5 | — | — | — | — | — | 15 |
| 26 | 10 | 10 | — | — | — | — | — | 20 |
| 27 | 10 | 5 | 5 | — | 10 | 10 | — | 40 |
| 28 | 5 | 5 | 5 | — | 10 | — | — | 25 |
| 29 | 10 | 10 | 5 | — | 10 | 10 | 15 | 60 |
| 30 | 10 | 10 | 5 | — | — | — | — | 25 |
| 31 | 10 | 10 | 5 | — | — | — | — | 25 |
| 32 | 10 | — | — | — | — | — | — | 10 |
| 33 | 10 | 10 | 5 | — | — | 10 | — | 35 |
| 34 | 10 | — | — | — | — | — | — | 10 |
| 36 | 10 | — | — | — | — | — | — | 10 |
| 37 | 10 | 10 | 5 | — | 10 | 10 | — | 45 |
| 38 | 10 | 10 | — | — | — | — | — | 20 |
| 40 | 5 | — | — | — | — | — | — | 5 |
| 41 | 10 | 5 | 5 | — | 10 | 10 | — | 40 |
| 42 | 10 | 10 | — | — | — | — | — | 20 |

We may take next the replies to Question 5, as the movement of the bell took place during part of the disturbance just analysed. The answers to this question could be only right or wrong. In three cases, however, the sitter has been given five marks because he indicates the bell with reasonable accuracy but describes it inadequately. Apart from these three sitters there are 18 correct answers, while 21 sitters give wrong answers or fail to reply. The average score is thus 4.6 (46%). Since the bell was moved in good light and in full sight of the sitters, this result is poor. The phenomena dealt with in Questions 3 and 5 were arranged in such a way that the sitters could witness both : the moving of the bell occupied only the time it took me to turn the handle and begin to open the door. And in fact there is no significant correlation between failure in Question 3 and success in Question 5. Of the 11 persons who completely fail in replying to the former question eight also fail in the latter. Of the 21 sitters who answer Question 5 more or less correctly, 18 also obtain some success in Question 3.

A comparison of the replies to Question 5 with those to Question 6 yields a surprising result. Of the 21 sitters who more or less accurately report the movements of the bell, only seven, or one-third, were able to say with which hand the medium had moved it. On the other hand, three sitters correctly report the hand, but fail in regard to the object moved. So that only 10 sitters were able to testify correctly to a deliberate and pronounced movement of the arm made in good light. The average score is 2.4 (24%).

The objects lying on the "medium's" table are dealt with in Questions 4 and 14. The details of the replies to these are set out in Tables IV and V.

TABLE IV

THE ANSWERS TO QUESTION 4, OMITTING SITTERS WHO GAVE NO ANSWER OR WHO OBTAINED NO MARKS.

For scoring see Questionnaire.

| No. of Sitter. | Xylo- phone. | Bell. | Drum- stick. | Zither. | Drum- stick. | Tam- bourine. | Trum- pet. | Total. |
|---------------------|-----------------|-------|-----------------|---------|-----------------|------------------|---------------|--------|
| 1 | 20 | 10 | — | 15 | — | 20 | 20 | 85 |
| 2 | 20 | 10 | 5 | — | — | 20 | 20 | 75 |
| 3 | 10 | 10 | — | — | — | 20 | 20 | 60 |
| 5 | — | — | — | — | — | 20 | 15 | 35 |
| 7 | 5 | 10 | — | 5 | — | 5 | 20 | 45 |
| 8 | 20 | 15 | — | 20 | — | 20 | 20 | 95 |
| 9 | 20 | 20 | — | 20 | — | 20 | 20 | 100 |
| 10 | 20 | 10 | 10 | — | 10 | 10 | — | 60 |
| 11 | — | 20 | 20 | 15 | 15 | 20 | — | 90 |
| 12 | 20 | — | 20 | — | — | — | — | 40 |
| 13 | — | 20 | — | — | — | 10 | 20 | 50 |
| 14 | — | — | — | — | — | 20 | 20 | 40 |
| 15 | — | — | — | — | — | — | 15 | 15 |
| 16 | 20 | 10 | — | 20 | 10 | 20 | 20 | 100 |
| 17 | 5 | 5 | — | 5 | — | — | 20 | 35 |
| 18 | 20 | 10 | 20 | 15 | 20 | 20 | 10 | 115 |
| 20 | 5 | 10 | — | 20 | — | 20 | 10 | 65 |
| 22 | 15 | 10 | 10 | — | — | 20 | 20 | 75 |
| 23 | — | — | — | — | — | — | 10 | 10 |
| 24 | 20 | 10 | 20 | — | — | 20 | 20 | 90 |
| 25 | 15 | 20 | 20 | 20 | — | 20 | 20 | 115 |
| 26 | 20 | 10 | 20 | 15 | 20 | 20 | 20 | 125 |
| 27 | 10 | 10 | 10 | — | 20 | 20 | 20 | 90 |
| 29 | 10 | 10 | — | 20 | — | 20 | 20 | 80 |
| 30 | 20 | 20 | 20 | 15 | 20 | 20 | 20 | 135 |
| 32 | 20 | 20 | 20 | 15 | 20 | 15 | 20 | 130 |
| 33 | — | 20 | — | — | — | — | 5 | 25 |
| 34 | — | 20 | — | 5 | — | 10 | 20 | 55 |
| 35 | 15 | — | 20 | — | — | 20 | 20 | 75 |
| 36 | 15 | 20 | — | — | — | — | 20 | 55 |
| 37 | 5 | 10 | — | 20 | — | 20 | 20 | 75 |
| 38 | 20 | 20 | — | 20 | — | 20 | 20 | 100 |
| 39 | 5 | 5 | — | 5 | — | 10 | 20 | 45 |
| 41 | — | 10 | — | 5 | — | 10 | 10 | 35 |
| 42 | 5 | 5 | — | 10 | — | 20 | 10 | 50 |
| Average | 9.0 | 9.0 | 5.1 | 6.8 | 3.2 | 12.1 | 13.5 | 58.8 |
| % of possible score | 45 | 45 | 25.5 | 34.0 | 16.0 | 60.5 | 67.5 | 42.0 |

TABLE V

THE ANSWERS TO QUESTION 14, OMITTING SITTERS WHO GAVE NO ANSWER OR WHO OBTAINED NO MARKS.

For scoring see Questionnaire. Sitters marked * gave some such reply as, "The same as at the beginning," sometimes with qualifications.

| No. of Sitter. | Xylophone. | Bell. | Drumstick. | Zither. | Missing Drumstick. | Tam-bourine. | Trumpet. | Total. |
|---------------------|------------|-------|------------|---------|--------------------|--------------|----------|--------|
| 1* | 20 | 10 | — | 15 | — | 20 | 20 | 85 |
| 2 | 20 | 20 | 20 | — | — | 20 | 20 | 100 |
| 6 | — | — | — | — | — | — | 10 | 10 |
| 7 | 5 | 10 | — | 5 | — | 5 | 20 | 45 |
| 8* | 20 | 15 | — | 20 | — | 20 | 20 | 95 |
| 9 | 20 | 20 | — | 20 | — | 20 | 20 | 100 |
| 10* | 20 | 15 | 10 | — | — | 10 | — | 55 |
| 11* | — | 20 | 20 | 15 | 20 | 20 | — | 95 |
| 12* | 20 | — | 20 | — | — | — | — | 40 |
| 13 | — | 20 | — | — | — | 20 | 20 | 60 |
| 14 | — | — | — | — | — | 20 | 20 | 40 |
| 15 | — | — | — | — | — | — | 10 | 10 |
| 16 | 10 | 10 | 20 | 20 | — | 10 | 10 | 80 |
| 17 | 5 | 20 | — | 5 | — | — | 20 | 50 |
| 18* | 20 | 10 | 20 | 15 | 20 | 20 | 10 | 115 |
| 20 | 5 | 20 | — | 20 | — | 20 | 20 | 85 |
| 21 | 5 | 10 | — | 5 | — | 20 | 20 | 60 |
| 22 | 15 | 10 | 10 | — | — | 20 | 20 | 75 |
| 24 | — | 20 | — | — | — | — | — | 20 |
| 25* | 15 | 20 | 20 | 20 | — | 20 | 20 | 115 |
| 26 | 20 | 20 | 20 | 20 | 20 | — | 20 | 120 |
| 27* | 10 | 10 | 10 | — | — | 20 | 20 | 70 |
| 28 | — | — | — | 10 | — | — | 10 | 20 |
| 29 | 10 | 10 | — | 20 | — | 20 | 20 | 80 |
| 30 | 20 | 20 | 20 | 15 | 20 | — | 20 | 115 |
| 32 | 15 | 20 | 20 | 15 | 20 | 20 | 20 | 130 |
| 34 | — | 20 | — | 5 | — | 20 | 20 | 65 |
| 35* | 15 | — | 20 | — | — | 20 | 20 | 75 |
| 37* | 5 | 20 | — | 20 | — | 20 | 20 | 85 |
| 38 | 20 | 20 | — | 20 | — | 20 | 20 | 100 |
| 39* | 5 | 5 | — | 5 | — | 10 | 20 | 45 |
| 41* | — | 10 | — | 5 | — | 10 | 10 | 35 |
| 42 | 5 | 10 | 20 | 20 | — | 20 | 20 | 95 |
| Average | 7·7 | 9·9 | 6·0 | 7·5 | 2·4 | 10·6 | 12·4 | 56·5 |
| % of possible score | 38·5 | 49·5 | 30·0 | 37·5 | 12·0 | 53·0 | 62·0 | 40·4 |

In Table VI these two Tables are combined.

TABLE VI
AVERAGES AND PERCENTAGES OBTAINED BY THE ANSWERS TO
QUESTIONS 4 AND 14 COMBINED.

| | Xylophone. | Bell. | Drumstick. | Zither. |
|------------------------------------|----------------|----------------|----------------|----------------|
| Question 4 - | 9 45% | 9 45% | 5.1 25.5% | 6.8 34% |
| Question 14 - | 7.7 38.5% | 9.9 49.5% | 6.0 30% | 7.5 37.5% |
| Average - - % of possible score | 8.35 41.75% | 9.45 47.25% | 5.55 27.75% | 7.15 35.75% |

| | Drumstick. | Tambourine. | Trumpet. | Total. |
|------------------------------------|--------------|-----------------|-----------------|----------------|
| Question 4 - | 3.2 16.0% | 12.1 60.5% | 13.5 67.5% | 58.8 42% |
| Question 14 - | 2.4 12.0% | 10.6 53% | 12.4 62% | 56.5 40.4% |
| Average - - % of possible score | 2.8 14% | 11.35 56.75% | 12.95 64.75% | 57.65 41.2% |

These Tables show that the degree of accuracy of the sitters' reports as between the different objects is governed chiefly by their size. The biggest of them is the trumpet (when erect on the table), which obtains 64% of the possible marks; the next biggest is the tambourine, and this comes second in the scoring also, with 56%; the two smallest objects, the drumsticks, obtained the lowest scores. The drawing of the sitters' special attention to the bell by the "medium's" movement of it also influenced the sitters' reports. Hence the bell, which would have been expected by size alone to rank after the xylophone and the zither, actually comes third, with 47%. Finally, the position of the objects apparently influenced the reports. By size alone the xylophone and zither might have been expected to obtain about the same score, and the two drumsticks (in Question 4 only) exactly the same score. Actually the xylophone obtains 41% of the possible marks against the zither's 35%, while the first drumstick scores 25% against the 16% of the second one (in Question 4 only). Both these results illustrate the tendency (in the Western world) to read from left to right.

A comparison of Tables IV and V does not yield much of interest. Two tendencies might have been expected in the replies to Question 14 as compared with those to Question 4 : on the one hand, improved results owing to the further opportunities for observation and to the fact, when answering the questionnaire, that the objects had been seen more recently in their final state ; and, on the other hand, worse results owing to fatigue. These two tendencies, if present, appear more or less to have cancelled each other out. Apart from the second drumstick there is no significant difference between the two sets of replies. It will be seen that the absence of the second drumstick at the end of the sitting was reported by only five sitters.

The highest scores obtained by the replies to Question 4 are 135 (96.4%) and 130 (92.9%), earned respectively by nos. 30 and 32 (ranked 5th and 3rd). In Question 14 the highest scores are 130 (92.9%) and 120 (85.8%), obtained respectively by nos. 32 and 26 (ranked 3rd and 2nd). For both questions together the highest scores are 260 (92.9%), obtained by no. 32 (ranked 3rd), and 250 (89%), obtained by no. 30 (ranked 5th).

There are three questions (7, 11 and 12) relating to the important matter of visibility. These may conveniently be taken together. In scoring the replies I have borne in mind that we are concerned here with a problem in psychical research and not primarily with one in psychology. Hence the greater emphasis laid on the reporting of the degree of visibility as against the actual amount of light. The replies are set out in Table VII (p. 380).

It thus appears that only 16 sitters obtain marks in Question 7, of whom only two earn full marks. The figures improve considerably for the much easier Question 11, in which such a reply as "Complete darkness" earns half the possible marks. Even here, however, the average score is only 17.7 out of 40 (44.2%). The replies to Question 12 show, as was to be expected, that after the flash the conditions of light were less accurately reported ; in this question (though such a reply as "The same as before" earns the full marks obtained in the previous question), only 23.7% of success was obtained. It is interesting to note that of the three sitters who obtained full marks for Question 11, two were quite unsuccessful in Question 12. No sitter obtained full marks for all three questions. The best reply, that is, the one most nearly approaching accuracy in all three questions, is that of no. 24 (ranked 20th). It would have been interesting to investigate the direction in which sitters tend to err in reporting conditions of light, but this was impossible in such a short sitting.

Conditions of hearing were tested by Questions 8 and 13. The gramophone played continuously from 0.2 to 0.24, with the exception of one period of over three minutes, during which came the

TABLE VII

THE ANSWERS TO QUESTIONS 7, 11, AND 12, OMITTING SITTERS WHO GAVE NO ANSWER OR WHO OBTAINED NO MARKS IN ALL THREE QUESTIONS.

| No. of Sitter. | Question 7. | Question 11. | Question 12. |
|---------------------|-------------|--------------|--------------|
| 1 | — | 20 | — |
| 2 | — | 20 | 20 |
| 3 | — | 40 | — |
| 5 | — | 20 | — |
| 7 | 10 | — | — |
| 8 | — | 20 | 10 |
| 9 | — | 20 | — |
| 11 | — | 20 | 10 |
| 12 | 15 | 20 | 20 |
| 13 | — | 30 | 30 |
| 14 | — | — | 10 |
| 15 | — | 5 | — |
| 16 | 10 | — | — |
| 17 | 5 | 20 | 20 |
| 18 | 15 | 20 | 20 |
| 19 | 5 | 20 | 20 |
| 20 | — | 20 | — |
| 21 | 15 | 20 | — |
| 22 | — | 20 | — |
| 23 | 10 | 20 | 10 |
| 24 | 20 | 20 | 20 |
| 25 | — | 20 | 20 |
| 26 | 15 | 20 | 20 |
| 27 | — | 40 | 40 |
| 28 | — | 35 | — |
| 29 | — | 20 | 20 |
| 30 | — | 20 | 20 |
| 31 | — | 20 | — |
| 32 | 10 | — | — |
| 33 | 15 | 20 | — |
| 34 | — | 20 | — |
| 35 | 15 | — | — |
| 36 | 20 | 15 | 20 |
| 37 | — | 40 | — |
| 38 | 15 | 20 | 10 |
| 39 | — | 20 | 20 |
| 40 | — | 20 | — |
| 41 | — | 20 | 20 |
| 42 | 10 | 20 | 20 |
| Average - - | 4.9 | 17.7 | 9.5 |
| % of possible score | 24.5 | 44.2 | 23.7 |

disturbance and movement of the bell, and another period of three seconds, during which the flashlight exposure was made. Questions 8 and 13 relate to the first and second of these periods respectively. The answers are set out in Table VIII.

TABLE VIII

THE ANSWERS TO QUESTIONS 8 AND 13, OMITTING SITTERS WHO GAVE NO ANSWER OR WHO OBTAINED NO MARKS.

| No. of Sitter. | Question 8. $\frac{1}{2}$ | Question 13. |
|---------------------|---------------------------|--------------|
| 1 | 10 | — |
| 3 | 10 | 10 |
| 5 | — | 10 |
| 6 | — | 10 |
| 7 | 5 | 10 |
| 8 | — | 10 |
| 11 | 10 | 10 |
| 12 | — | 10 |
| 14 | — | 10 |
| 15 | 10 | 10 |
| 16 | — | 10 |
| 17 | 5 | 10 |
| 18 | 10 | 10 |
| 19 | — | 10 |
| 20 | 10 | 10 |
| 22 | — | 10 |
| 23 | 10 | 10 |
| 24 | 10 | 10 |
| 25 | 10 | 10 |
| 26 | 5 | 10 |
| 27 | — | 10 |
| 29 | — | 10 |
| 31 | 10 | 10 |
| 32 | 10 | 10 |
| 33 | — | 10 |
| 34 | 5 | 10 |
| 35 | — | 10 |
| 36 | 10 | 10 |
| 37 | — | 10 |
| 38 | — | 10 |
| 39 | — | 10 |
| 40 | — | 10 |
| 41 | 10 | 10 |
| 42 | 10 | 10 |
| Average - - | 3.8 | 7.9 |
| % of possible score | 38 | 79 |

This result is rather surprising. The question relating to the period of silence of three seconds is more than twice as successfully answered as that relating to the period of over three minutes. The former period, it is true, was more sharply defined and the sitters were more definitely on the *qui vive* owing to the warning given just before. But the stopping of the gramophone was partly masked by the sound of the flash, almost immediately after which the music was started again. While the termination, at any rate, of the longer period, was also strongly marked by the simultaneous complete turning out of the lights. And in any case the outstanding fact is that the less successful period was 60 times longer than the more successful one. It seems difficult to find an adequate explanation of the marked superiority of the replies to Question 13.

In Question 9 the sitters were asked what interval of time had elapsed between the beginning of the sitting and the flash. Both points were very distinctly marked : the beginning by my statement that the sitting had now begun, by the banging of the door, the switching off of the wall light, and the starting of the gramophone ; the end, of course, by the flash. Yet, the actual time being 19 minutes, the replies obtained were as shown in Table IX.

TABLE IX

THE ANSWERS TO QUESTION 9, OMITTING SITTERS WHO GAVE NO EFFECTIVE ANSWER.

| No. of Sitter. | Answers in Minutes. | No. of Sitter. | Answers in Minutes. | No. of Sitter. | Answers in Minutes. |
|----------------|---------------------|----------------|---------------------|----------------|---------------------|
| 1 | 10 | 15 | 25 + | 30 | 15 |
| 2 | 5 | 17 | 15 | 31 | 25 |
| 3 | 15 | 18 | 15 | 33 | 8 |
| 5 | 20 | 20 | 15 | 34 | 10 |
| 6 | 15 | 21 | 20-30 | 36 | 15 |
| 7 | 20-30 | 22 | 15-20 | 37 | 16 + |
| 8 | 15 | 24 | 10-15 | 38 | 15 |
| 9 | 15 | 25 | 20 | 39 | 15 |
| 11 | 30 | 26 | 20 | 40 | 20 |
| 12 | 40 | 27 | 18-20 | 41 | 10 |
| 13 | 25-30 | 28 | 7 | 42 | 20 |
| 14 | 40 | 29 | 25-35 | | |

The average estimate of the 35 sitters who replied effectively is 18.5 minutes, a close approximation to the correct time. But this close approximation is not due to a general but small degree of error. On the contrary, the average score obtained by all the

sitters in reply to this question is 3.5, a percentage of only 17.5 of full marks. In fact, the replies range from 5 to 40 minutes. There is thus both a tendency greatly to underrate and greatly to exaggerate, these tendencies cancelling each other out. No sitter gave the correct time, but the reply of no. 27 (ranked 4th), who gave 18-20 minutes, is practically correct. This sitter was the only one who hit upon the obvious method of calculating the passage of time by counting the number of times the gramophone record was played. For the method of awarding marks, see the Questionnaire above. Full marks were obtained by only six sitters, even though the nearest round figure, 20 minutes, fell into this period. Contrary to expectation the most popular figure was easily 15 minutes, and not the nearest round number. The ten marks given for a reply falling within 16-22 minutes were earned by only one sitter.

Finally, we have the sitters' reports (in reply to Question 10) of the scene photographed at the moment of the flash (see the accompanying plate). The replies are set out in Table X (p. 384).

The replies to this question are the worst of all. A fair number of sitters report the presence over the "medium's" face of a white cloth or paper; a few also mention the marks of folding on it; but beyond this there is very little success. The presence of a design on the cloth, the nature of that design, the changes on the table, all these remain substantially unreported. The disappearance of the second drumstick from the table is reported by only one sitter, while the presence of the head of this drumstick in the curtain over the "medium's" head is not mentioned by a single one. Yet it formed a brilliant circular white disc, 21 mm. in diameter (see photograph). It must also be remembered that the flash was not made unexpectedly: two warnings were given and the sitters were particularly asked to observe carefully during the flash. Further, the flash itself was of longer duration and brighter than is usual in normal photographic work. It was produced by the fusing of a length of .008" (no. 33, Birmingham wire gauge) pure aluminium wire, in the Society's electrical flashlight apparatus.

Let us now turn to a brief consideration of the sitters themselves. A total of 42 sitters does not justify us in going into great detail, but we may compare the results obtained by a few obvious groups. Thus the scores of men and women have been compared and so have those of Spiritualists and non-Spiritualists. In neither case has any significant difference been found. No comparison could be made between age-groups, as most of the sitters were middle-aged. In Table XI are compared the results obtained by sitters with previous experience of physical phenomena and inexperienced sitters. The figures would be suggestive if the numbers were larger. As it is

TABLE X

THE ANSWERS TO QUESTION 10, OMITTING SITTERS WHO GAVE NO ANSWER OR WHO OBTAINED NO MARKS.

| No. of Sitter. | Medium's face covered with cloth | showing marks of folding | and thick marks forming a rudimentary design of a face | in profile. | The bell | was behind the tambourine. | The trumpet | was held horizontally | in the medium's hand. | The second drum-stick had vanished. | The head of it | was in the curtain above medium. | TOTAL. | |
|------------------------------|----------------------------------|--------------------------|--|-------------|----------|----------------------------|-------------|-----------------------|-----------------------|-------------------------------------|----------------|----------------------------------|--------|---------------|
| | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 5 | 5 | 10 | 10 | 20 | 130 | |
| 1 | 5 | — | — | — | — | 5 | — | 5 | — | — | — | — | 20 | |
| 2 | 10 | — | — | — | — | — | — | — | — | — | — | — | 10 | |
| 3 | 10 | 10 | — | — | — | 10 | — | — | — | — | — | — | 30 | |
| 4 | 10 | — | — | — | — | — | — | — | — | — | — | — | 10 | |
| 7 | — | — | — | — | — | 10 | — | — | — | — | — | — | 10 | |
| 9 | — | — | — | — | — | 10 | — | — | — | — | — | — | 10 | |
| 10 | 10 | — | — | — | — | — | — | — | — | — | — | — | 10 | |
| 11 | 10 | — | 5 | — | — | — | — | — | — | — | — | — | 15 | |
| 12 | 10 | — | 10 | — | — | — | — | — | — | — | — | — | 20 | |
| 13 | 10 | 10 | — | — | — | — | — | — | — | — | — | — | 20 | |
| 14 | 5 | — | — | — | — | — | — | — | — | — | — | — | 20 | |
| 16 | 10 | 5 | — | — | — | — | 10 | — | 5 | — | — | — | 15 | |
| 17 | 10 | 10 | — | — | — | 5 | 10 | — | — | — | — | — | 35 | |
| 18 | 10 | — | 10 | 5 | — | — | — | — | — | — | — | — | 25 | |
| 19 | 10 | — | 5 | 10 | — | — | — | — | — | — | — | — | 25 | |
| 21 | 10 | — | 10 | 10 | — | — | — | — | — | — | — | — | 30 | |
| 22 | 10 | — | 5 | — | — | — | — | — | — | — | — | — | 15 | |
| 24 | 10 | 10 | — | — | — | — | — | — | — | — | — | — | 25 | |
| 25 | — | — | — | — | — | — | 10 | 5 | 5 | — | — | — | 20 | |
| 26 | 10 | 10 | — | — | — | — | — | — | — | — | — | — | 20 | |
| 27 | 10 | 10 | — | — | — | — | 10 | 5 | 5 | — | — | — | 40 | |
| 28 | 10 | 10 | — | — | — | — | — | — | — | — | — | — | 20 | |
| 30 | 10 | 5 | — | — | — | — | — | — | — | — | — | — | 15 | |
| 31 | 10 | 10 | — | — | — | — | — | — | — | — | — | — | 20 | |
| 32 | 10 | — | 10 | 5 | — | — | 10 | 5 | 5 | 10 | — | — | 55 | |
| 33 | 10 | 10 | — | — | — | — | — | — | — | — | — | — | 20 | |
| 34 | 10 | — | — | — | — | — | — | — | — | — | — | — | 10 | |
| 37 | 10 | — | 10 | 10 | — | — | — | — | — | — | — | — | 30 | |
| 38 | 10 | — | — | — | — | — | 10 | 5 | 5 | — | — | — | 30 | |
| 41 | 10 | — | — | — | — | 10 | 10 | 5 | 5 | — | — | — | 40 | |
| 42 | 10 | — | 10 | 10 | — | — | 10 | 5 | 5 | — | — | — | 50 | |
| Average % of possible score. | 6.4 | 2.4 | 1.8 | 1.2 | 0 | 1.2 | 0 | 2 | 0.83 | 0.95 | 0.24 | 0 | 0 | 17 (13.1%) |
| | 64 | 24 | 18 | 12 | 0 | 12 | 0 | 20 | 16.6 | 19 | 2.4 | 0 | 0 | |

we cannot draw any definite conclusion. Of the ten sitters with scores over 45%, the 1st, 2nd, 5th, 6th, one of those bracketed 8th, and the 10th, had had previous experience.

TABLE XI

COMPARISON OF SITTERS: EXPERIENCED AND INEXPERIENCED SITTERS.

| | Average Marks. | % of possible marks. |
|--|----------------|----------------------|
| 15 sitters with previous experience of parapsychical phenomena (nos. 1, 5, 7, 11, 13, 15, 16, 18, 19, 25, 29, 30, 32, 33, 37). | 263 | 38.7 |
| 27 without such experience. | 212.4 | 31.2 |

Thirteen sitters experienced illusions of one kind or another. In view of the small number of cases involved I here use the term "illusion" to include all such phenomena, ranging from extreme instances of mal-observation to true hallucinations.

Sitter no. 1 reports both the bell and the trumpet as bottles. No. 17 three times describes the bell as a glass bottle, but finally writes of a "bottle which now appeared opaque and like a hand bell." No. 42 twice refers to the bell as a glass of water, but finally writes of "a bell in place of the original glass of water." In this last case the illusion was so persuasive as to resist retrospectively even the final recognition of the object for what it actually was.

No. 10 twice refers to a candle on the table, presumably for the trumpet, which was, however, $13\frac{1}{2}$ inches in height. No. 33 refers to a "tray of pens" on the table, no doubt for the xylophone.

Two sitters, nos. 17 and 37, report holes in the cloth over the "medium's" face.

No. 20 writes that he saw the xylophone "glowing with a pink colour for some time." No. 39 reports that "a small, narrow, vertical light . . . seemed to hang vertically in the air." The same sitter adds a description of the coloured lights she usually sees in the dark.

Sitter no. 16 heard "a slight noise which appeared to come from behind the curtain." No. 17 writes that "There was a bang on the wall [the knock on the door?] and later a noise behind the gramophone." No. 25 reports that "Two raps were heard on ceiling, the first louder than the second—both sounded metallic in quality." No. 38 twice states that I spoke at the door on answering it.

Finally, there is an interesting series of illusions of movement. Sitter no. 12 writes, "Immediately after the flashlight photograph four objects jerked up and down twice, not in parallel pattern, but in zig-zag pattern, the ends of the objects nearer to each other being

depressed simultaneously." No. 20 reports that "The whole of the articles on the table appeared to move slightly before the flash, but always in a block, *i.e.*, they did not change their relative positions." One or two passages from the answers of no. 26 (a psychologist, ranked 4th) are worth quoting in full. In reply to Question 10 he writes: "The table in front of the medium seemed not to be in the same position but higher from the floor than before, *i.e.*, higher up or nearer to the medium's head . . . than at the beginning of the session. The table seemed inclined so that the edge nearest to the figure was higher than the edge nearest to the audience. I have however the impression that this was an optical illusion due to the sudden alteration of the light." In reply to Question 15 this sitter writes in part: "The 'lights' from the right hand percussion instrument with slats [this is intended for the zither] were obscured by an opaque object moving between it and my eyes. I only noticed this once. Twice I thought the table swayed from right to left and back." No. 38 twice reports a slight movement of the table or "medium's" chair. No. 39 writes that "the table *appeared* to shake."

Table XII compares the 13 sitters who experienced illusions with the remaining sitters. The result is rather surprising, but again inconclusive because of the small number of sitters.

TABLE XII

COMPARISON OF SITTERS: SITTERS WHO EXPERIENCED ILLUSIONS AND THE REST.

| | Average Marks. | % of Possible Marks. |
|--|----------------|----------------------|
| 13 sitters who experienced illusions (nos. 1, 10, 12, 16, 17, 20, 25, 26, 33, 37, 38, 39, 42). | 266.9 | 39.2 |
| 29 remaining sitters. | 214.1 | 31.5 |

I think that this experiment justifies us in drawing the following tentative conclusions. It must be noted that the words "under the conditions of this experiment" are understood before each conclusion.¹

¹ A supplementary sitting was held in February 1932 to test certain points. Six of the sitters who obtained the best results in the present experiment attended. It is not proposed at present to report on the additional sitting, in view of the possibility of further experiments.

1. There is a slight tendency to underrate the number of persons present at a sitting.
2. Sitters largely ignore disturbances that appear to be irrelevant to the sitting.
3. Sitters are to a considerable extent unable to report with which hand a movement has been performed.
4. The degree to which sitters correctly report the objects used in a sitting is primarily governed, apart from special circumstances, by the size of these objects.
5. Sitters are able only to a very limited extent to report under what conditions of visibility a phenomenon took place.
6. Sitters' reports of auditory conditions at the time of a phenomenon are untrustworthy and erratic.
7. There is a tendency greatly to underrate and greatly to exaggerate a short period of time.
8. Sitters are almost entirely unable to report correctly the scene revealed by a flash.
9. Of the illusions that occur the most extreme are those of movement.

THE HISTORY OF GEORGE VALIANTINE ¹

BY MRS W. H. SALTER

GEORGE VALIANTINE is held by those who accept his phenomena as genuine to be a remarkable example of "direct voice" or trumpet mediumship. It is claimed that in the presence of certain specially endowed persons, of whom Valiantine is one, communicating spirits are able to speak in their own recognisable voices; the power whereby they do this is derived from the medium, but his vocal organs are not brought into play; the voice we hear is the voice of the spirit. The purpose of the trumpet which usually figures in records of this phenomenon is to increase the power of these spirit-voices, which might otherwise be inaudible.

I do not propose to discuss the evidence for the "direct voice" in a general way; I will only mention that this particular phenomenon appears to have become much more frequent in recent years, although a claim for its occurrence was made at least as far back as 1872 in the case of Stainton Moses.

Turning now to Valiantine—we may consider his mediumship in two aspects, physical and mental; on the physical side is it possible to substantiate his claim to supernormal powers as shown by direct voices and telekinetic movements of the trumpet, which is said to be wafted about the room without any human agency; on the mental side is there anything in the content of the words uttered by the spirit-voices which seems to give evidence of knowledge supernormally acquired? It will not always be convenient to keep these two threads absolutely distinct, but so far as possible I propose to disentangle them and to consider the physical aspect first.

I should perhaps at this point meet the possible objection that in devoting time and attention to a medium whom some may think to be so thoroughly discredited as Valiantine, I am beating a dead horse, which in one of the famous *Margery*-Valiantine cross-correspondences we are told that no one ever stops to do. To that objection I have two answers to make: (1) even those who are ready to dismiss all Valiantine's claims to genuine mediumship may derive pleasure and profit, as I have done myself, from a study of the psychological aspects of the case; (2) the discrediting of Valiantine is by no means complete. In a review of Mr Dennis Bradley's book *And After* in the *Times Literary Supplement* (22 October 1931, p. 815) the writer, while accepting Mr Bradley's "conclusive demonstration" of fraud,

¹ Read at a Private Meeting of the Society, 30 December 1931.

speaks of the "evidence of Valiantine's supernormal faculties which no sceptic, as it seems to us, can reasonably call in question." The reviewer's identity is unknown to me, but the *Literary Supplement* is a paper of good standing, in no way pledged to a belief in psychical phenomena; many readers will therefore be inclined to accept its verdict as justifying them in the conclusion that Valiantine is still among the great mediums of the day.

I do not claim to have made an exhaustive study of the records of Valiantine's mediumship; he appears to have been well known for some years in America (his native land) before he came much to the notice of any one in this country. The earliest record I propose to quote is of some test-sittings which took place in 1923 under the auspices of *The Scientific American*. The persons responsible for the conduct of these sittings were Dr Walter Prinee, Dr Hereward Carrington, and the famous conjurer Houdini, Mr Malcolm Bird, then of the *Scientific American* and afterwards of the American Society for Psychical Research, being associated with them. I have not seen the full report published in *The Scientific American*, but the following abstract appeared in the *Journal* of the A.S.P.R. (1923), xvii. 586:

"In the columns of the magazine which had the tests in charge a full account of the results may be found, and only the briefest summary is necessary here. At the final sitting on May 26th, special apparatus were installed. There was an electrical connection with the chair in which the medium sat, so arranged that it ceased the moment his body was lifted from it, whereupon a light in an adjoining room went out. There was also a dictograph, and stenographers in the adjoining room took down all that was uttered and also established the relation in point of time between the acts of the supposed spirits and the periods when the lights vanished. It was determined that the medium left his chair fifteen times, sometimes for as long as eighteen seconds, and that these periods corresponded with those when persons present were touched at a distance from the chair. The subsequent claim of the medium that it was the shifting of his body in the chair which caused the light to go out will be seen to be ludicrous by anyone who will try shifting in such a manner as to relieve the chair of his weight for eighteen seconds by the watch."

It is clear from this statement that there was in the opinion of these investigators a strong presumption at least of fraud, and a point to which I wish specially to call attention is that it is not possible to maintain, as Mr Bradley tries to do, that Valiantine pursued a path of strict, blameless rectitude for many years and has only recently been led astray by the excessive adulation and generosity of his supporters. As long ago as 1923, perhaps longer, Valiantine's phenomena were suspect and they have been suspect on more than one occasion since.

It was in the same year, 1923, that Mr Bradley, still one of the principal witnesses for the defence of Valiantine in spite of his own recent disclosures, had his first sitting at the house of Mr De Wyckoff, Arlena Towers, New Jersey. If any of my readers are inclined to think that in anything I say here I am a little hard on Mr Bradley, I would remind them that he has not minced his own words. He has publicly accused the Officers of this Society of every sort and kind of crass incompetence, and that after all is a game that two can play at! Of the personal evidence Mr Bradley believes himself to have obtained through Valiantine I shall not say much, partly because it is so inadequately recorded that its value cannot be properly estimated, but I will refer briefly to a passage from the report of his first sitting (*Towards the Stars*, p. 8) for the light it throws on Mr Bradley's mentality and his claim to be a critical observer. After describing how he came to attend the sitting at Mr De Wyckoff's invitation, and emphasising his own scepticism in regard to anything that was likely to occur, he tells us that a woman's voice addressed him, saying, "I love you I, love you"; this voice gave the name Annie and claimed to be his sister. Upon this evidence Mr Bradley at once accepted the communicator's identity, and a long and intimate conversation followed, of which no details are given.

Now this was Mr Bradley's first contact with the medium and it should therefore have been obvious to any competent investigator that it was essential to record accurately everything that was said on either side. And yet what do we find? Mr Bradley had fifteen minutes' conversation with a voice claiming to be his sister, and all he tells us of what took place is that the conversation was of things which only these two could have known and they were "things of wondrous joy." How completely Mr Bradley gave himself away in that fifteen minutes is left to our imagination and a sceptic can hardly be blamed if he suspects the worst. We may also note that although Mr Bradley subsequently tells us that his sister had a distinctive voice and manner of speech which were accurately reproduced at the sitting, he did not recognise the voice until the name Annie was given; he searched his memory and "could find no clue." Mr Bradley's identification of the voice would have been more impressive if it had been immediate.

The resemblance of the voices heard at Valiantine's sittings to those of the communicators purporting to be present is a point often insisted on by Mr Bradley and others. I think it likely that an important part is played here by suggestion, helped out by the distortion and indistinctness of utterance consequent on the use of a trumpet, and I am strengthened in this belief by the observation of two experienced investigators, Una, Lady Troubridge and Miss Radclyffe Hall (see below, p. 407).

A few months after this series of sittings at Arlena Towers Valiantine seems to have been detected in fraud by Mr De Wyckoff himself. An account of this episode is given in *Towards the Stars*, p. 111 : Valiantine brought Mr De Wyckoff some notes alleged to be the "direct writing" of Bert Everett and Dr Barnett, two of his habitual Controls, and relating to a suggested visit by Valiantine and Mr De Wyckoff to Guiana. These notes were submitted to a handwriting expert together with a specimen of Valiantine's own writing, and he pronounced them to be by Valiantine's own hand. Valiantine denied this accusation and Mr De Wyckoff said he would give him another chance. A test-sitting was held at Arlena Towers at which Valiantine was tied up with a rope ; no phenomena occurred. Mr Bradley dismisses this episode as of no importance, but the reasons for this seem to lie in his own prejudice rather than in the facts of the case.

In the following year, 1924, Valiantine came to England and gave a series of sittings at Mr Bradley's house, Dorincourt. Various members of Mr Bradley's family and a number of his friends took part in these sittings, which he describes in *Towards the Stars*. Little or no attempt was made to impose any control on the medium and the records are again inadequate. I shall not therefore discuss them, except for one curious episode of which I shall have something to say later.

In 1925 Valiantine was again in England and the Society tried to arrange for a series of test-sittings in our own *séance*-room. This plan fell through largely owing to the attitude taken up by Mr Bradley (for an account see Dr Woolley's report in *Proceedings*, xxxvi. 52, 53). A few sittings, however, were held at Dorincourt at which representatives of the Society were present. These sittings are described by Lady Troubridge and Miss Radclyffe Hall in *Proceedings*, xxxvi, and I shall discuss their report later. For the moment it will be convenient to turn to a series of sittings held in 1929 in Berlin. I take these German sittings out of their order in time because I want to refer to some observations made at Berlin in discussing a point raised by Lady Troubridge.

The report of the Berlin investigations is not to my mind very satisfactory or conclusive (I can well imagine that the investigators laboured under many difficulties), but it includes a number of observations which are very suggestive if we consider them in conjunction with observations made elsewhere. The report will be found printed in the *Zeitschrift für Parapsychologie* (1929), lvi, under the title "Valiantines Entlarvung," by Dr Walther Kröner. With regard to the question of controlling the medium it is noted (p. 595) that a suggestion was made that Valiantine should wear luminous bands on his wrists. He objected on the ground that if he wore bands, all the sitters must wear them also and then there would be too much

light. Mr Bradley in his report on the first sittings he had with Valiantine at Arlena Towers mentions (*Towards the Stars*, p. 7) that Valiantine wore luminous bands; he makes, however, no statement as to how they were attached. This point is of importance, for if they were detachable by Valiantine during the sitting, so far from being helpful, they might actually confuse the issue, by producing in the minds of the sitters the illusion that the medium's hands were on his knees, when in point of fact one hand at least was free to move about in the dark and handle a trumpet.

The trumpet used at Berlin was of the type habitually employed at sittings with Valiantine, a metal trumpet in three sections painted with a luminous band at the broad end. Scattered through the report are a number of observations strongly suggesting that Valiantine had at his disposal a non-luminous trumpet. For instance (p. 603), Frau Kröner, sitting on the medium's left, raised her foot in front of her (an action by the way which is strictly forbidden to Valiantine's sitters) and felt "a metallic object" apparently held in the medium's hand. Baroness von P. (p. 650) was touched by a hard object on her knee. She put out her hand and touched something which seemed to be of hollow tin and gave out a metallic sound; she called out that it must be the trumpet. The ostensible trumpet (with a luminous band) had, however, remained motionless in the middle of the circle. Baroness von P. is positive there was a second trumpet.

Frau von Dirksen, who was Valiantine's hostess in Berlin, and appears at the outset to have been well-disposed towards him, had a private sitting at which she alone was present. This sitting was held as usual in darkness, but Frau von Dirksen alleges that there was a little light coming through a crack in the door, and against this light she saw Valiantine lean forward to speak into the trumpet standing on the floor, that is, the usual *séance*-trumpet with a luminous band at the broad end. She also saw, she asserts, a second (non-luminous) trumpet, silhouetted against the light, and this trumpet was raised or lowered according as the voice of the Control seemed to come from the floor or the ceiling (p. 604.)

Another sitter, Dr Quade, notes (p. 654) that at the first sitting he had with Valiantine on 2 May 1929 he painted the trumpet with luminous paint at its narrow end round the mouth-piece, and on this occasion the usual sweeping movements of the trumpet did not occur. At his second sitting on 11 May 1929 the luminous ring round the mouth-piece had faded and movements of the trumpet did occur.

It is interesting to observe what Mr Bradley has to say about Dr Quade's report. Mr Bradley is exceedingly angry with anyone who professes to have exposed Valiantine before he himself exposed him, and he pours the vials of his wrath and contempt on all the Berlin

circle except Dr Quade, of whom he speaks more kindly. He asserts (*And After*, p. 166) that Dr Quade refrained "from making any allegations of fraud whatever against Valiantine" and supports this statement by an alleged quotation from Dr Quade's report, as follows: "By my placing a luminous ring on the small end of the trumpet one should have been able to observe a hand touching that portion of the instrument. The darkening of this luminous band by the touching of a hand was *not* observed during the sitting, although the trumpet was wafted round in a very wide circle."

This is what Dr Quade actually says: "As a result of this upper band of luminous paint it must have been observable if a hand had grasped the top of the trumpet. The darkening of this band by the interposition of a hand did not occur at the sitting, but neither did the widely sweeping movements of the trumpet, which were habitual at other sittings and in the absolute darkness of the room might be fraudulently produced by someone seizing the trumpet, and turning and moving it about."¹

I present this to my readers as an example of Mr Bradley's accuracy of mind and consequent reliability as a witness.

So far as I have been able to discover, this sitting in Berlin was the only occasion when the trumpet was painted *at the mouth-piece*; Mr Bradley records several occasions when it was painted for a certain distance up one side, but not within nine or ten inches of the top. Dr Hans Driesch (p. 653) comments on the fact that at the sitting he attended the trumpet had a luminous ring only at the wide end; the addition of a luminous ring at the mouth-piece was refused. He suggests that Valiantine may have detached the upper non-luminous sections of the trumpet and used them to speak through, leaving the lower luminous section standing on the floor, where it would be visible to the sitters and produce an illusion that the trumpet had not moved from its place. I have never myself had an opportunity of handling Valiantine's trumpets, but on p. 93 of *And After* I came upon a statement which seems to imply that they are so constructed that the upper sections are easily detachable from the lower sections. This statement occurs in some observations by Mr C. V. L. Hooman, a believer in the genuineness of Valiantine's phenomena. He remarks: "Several times during the sitting the spirits, when replacing the trumpets, seemed to lose control, with the result the trumpets fell over, the upper movable ends becoming detached."

¹ *Z. f. Paraps.* lvi. 655: "Infolge der Anbringung des oberen Leuchtstreifens hätte man bemerken müssen, wenn die Trompete an der Spitze von einer Hand angefasst worden wäre. Eine Verdunkelung durch eine Hand erfolgte in der Sitzung nicht, aber auch nicht die weit ausholenden Bewegungen der Trompete, die bei anderen Sitzungen die Regel waren und künstlich in dem vollkommen dunklen Raum dadurch ausgeführt werden könnten, dass jemand die Trompete ergriff und drehend herumführte."

I had occasion to write to Dr Driesch about these German sittings and in his reply he remarked: "It was the greatest swindle I have ever seen. All those who were present at this *séance* (and twelve others) were of the same opinion—even convinced spiritualists."

In this same year, 1929, some sittings were held in Italy at the house of the Marquis Centurione Scotto. The Marquis is himself alleged to be a powerful medium. An account of his mediumship was given by Mrs Kelley Hack in *Modern Psychic Mysteries, Millesimo Castle, Italy*, and a review of this book was printed on our *Journal*, xxvi. 10 ff. These Italian sittings with Valiantine are described by Mr Bradley in *And After*.

At one of them which took place on 18 May 1929 (*op. cit.*, p. 179) special test-conditions were imposed; Valiantine was bound to his chair and the sitters were tied to one another. On p. 190 appears an account by Signor Bozzano, who was responsible for the tying, of the method used. His report does not seem to me satisfactory, it leaves several important questions unanswered; but the point I wish to make here is that the tying together of the sitters could certainly have been made nugatory by collusion between any two of them, and probably by *mala fides* on the part of any one sitter. In these circumstances it is essential that we should know who all the sitters were, but no complete list is given. According to Signor Bozzano's report the various cords by which Valiantine was tied were found unbroken at the end of the sitting.

Another sitting was held next day, also "under complete control;" we are not told in detail what the conditions of control were on this occasion, but are left to assume that they were similar to the conditions obtaining at the earlier sitting. At the end of this second sitting "it was found that the cords [that is the cords binding the medium] with the exception of those round Valiantine's left leg had been rent," ostensibly by the spirits.

Only a few days later one of these Italian investigators, Signor Rossi, alleged that he "had placed his hand on the back of Valiantine's right arm and shoulder, and found that Valiantine was leaning forward" to speak into the trumpet (p. 187), and at the same time what was tantamount to an accusation of fraud was brought by one of this group of sitters against another, when Dr Castellani alleged that he had caught hold of Mrs Bradley's hand which was touching his head. I am not concerned here with the truth of Dr Castellani's imputations, but if sitters begin to question one another's integrity, they cannot wonder at other people's questioning. Incidentally this is not the first time that an accusation of fraud has been brought against a sitter in Mr Bradley's circle. In 1924 a sitting at which Valiantine was not present took place at the house of some friends of Mr Bradley's; the circle consisted of nine persons, including Mr

and Mrs Bradley. The trumpet was wafted about in the usual way and two days later one of the sitters alleged that she had put out her hand in the darkness and had felt another hand holding the end of the trumpet. The only moral to be drawn from such incidents is that investigations of this kind, if they are to serve any useful purpose, must be carried out by a carefully constituted group of investigators who trust each other and whom the public is likely to trust; the sittings should be so conducted that the validity of the conclusions does not depend on the good faith of any one sitter. It is fatal to give any reasonable grounds for the question: *quis custodiet ipsos custodes?*

I turn now to the report published in vol. xxxvi of our *Proceedings* by Lady Troubridge and Miss Radclyffe Hall. The sittings in question took place at Dorincourt in the presence of Mr and Mrs Bradley, and Lady Troubridge comments on the fact that no attempt was made to control the medium in any way, which makes it difficult to estimate the phenomena; she suggests, however, that Valiantine "did on several occasions speak from his chair so immediately after a voice had spoken through a trumpet or at the other side of the circle or high up in the far corner of the room, as in our opinion to preclude the possibility of his having spoken in these positions and regained his chair," and she thinks that "the total phenomena produced at this sitting were beyond what could have been obtained by the fraudulent efforts of the medium unaided by any accomplice" (pp. 55, 56). I doubt myself whether the difficulty of producing such phenomena as Lady Troubridge describes without the help of an accomplice is as great as she suggests. It appears from a later statement in her report (p. 57) that many of the voices heard did not ostensibly use a trumpet. There were two trumpets available at the sittings, both in three sections, and one having no illumination beyond a band at its broad end. Has Lady Troubridge sufficiently taken into account the possibility raised at the German sittings that Valiantine was using the upper sections of one of the trumpets without the knowledge of the sitters? I think in this way, with the help perhaps of some knowledge of the art of misdirection, he might produce the illusion of a voice speaking at some distance from himself.

The question of an accomplice is not one I can usefully discuss, but the following comment is, I think, permissible. Mr and Mrs Bradley—according to Mr Bradley's own report—have obtained very remarkable "direct-voice" phenomena by the power of their own joint mediumship. Either these phenomena are genuine, or they are not. If they are not, the question as to a possible accomplice is answered; if they are genuine, then obviously Mr and Mrs Bradley are not suitable people to take part in sittings designed to test the powers of another medium for physical phenomena; it is a

case of "too many cooks." The same objection applies to sittings which took place in the presence of the Marquis Centurione Scotto.

Lady Troubridge and Miss Radclyffe Hall also describe a daylight sitting they had with Valiantine at Dorincourt. The procedure on this occasion was that Valiantine sat with his back to the window holding a trumpet in his hands, the broad end towards himself; the sitter sat facing him and held the narrow end of the trumpet to her ear. The phenomena consisted in small taps on or in the trumpet and a whispering voice. The taps were heard by both sitters simultaneously, the voices were only heard by one or other of them sitting alone, a suggestive circumstance.¹ Both Lady Troubridge and Miss Radclyffe Hall record the fact that they heard a voice at a time when they could see the medium's face and could detect no movement of his lips; it is evident, however, from what they say that the speech was often indistinct, and it does not seem at all certain that with practice a man might not produce all the effects they observed without any movement of the face that would be apparent to a single sitter partly occupied in listening to the sound of the voice.

Two interesting questions are raised by Lady Troubridge in her final comments: "The first point is why, in view of the fact that at the dark *séances* the trumpets are used with the wide end towards the sitter's ear and the narrow or mouthpiece end towards the supposed communicators, the reverse should be the case at the daylight sittings? . . .

"The second point is: In view of the fact that we were told it was important to concentrate darkness within the trumpet, why does Mr Valiantine sit so that the wide end of the trumpet—the least easy to cover—should be towards the strong light of the window? . . . Also the wide end of the trumpet being towards the medium tends to collect extraneous sounds such as the movements of the medium, rustling of his clothes."

One might also add that it would collect the medium's extraneous utterances, should he make any, and direct them to the sitter's ear. That the medium sat with his back to the window (the day we are told was sunny) must have made observation of his face more difficult.

This report by Lady Troubridge and Miss Radclyffe Hall, which is refreshingly free from the obscurity and superficiality of most reports on Valiantine, is the nearest approach I have found to evidence for his possession of supernormal physical powers, and I am sure the writers would be the first to admit that it does not give

¹ Dr Woolley and Mr E. J. Dingwall, each of whom has had a daylight sitting with Valiantine, agree that it is impossible for a sitter with his ear to the trumpet to keep a continuous and close watch on the medium's face. And see also the observations made by Lord Charles Hope, p. 416.

us much to weigh in the balance against a heavy presumption of fraud.

I have mentioned that a curious episode occurred at the sittings held at Dorineourt in 1924. Before turning to Valiantine's final exposure by Mr Bradley I will briefly describe this episode, which took place on 3 February 1924 and is described in *Towards the Stars*. It happened that contrary to instructions a strong light was turned on in the garage-yard during the *séance* and some light "came through the windows over the top of the curtains, and in sufficient quantity for one to see dimly the faces of the sitters." A trumpet was seen in the air "without visible means of support," but as it fell to the ground at the moment the light came on it is obvious that there may have been some support which the sitters did not have time to see. Valiantine appeared to be distressed and complained of his stomach; after about ten minutes Mr De Wyekoff got up to turn on the light, when the voice of Bert Everett was heard in great agitation asking him not to do this.

"De Wyekoff went to Valiantine's assistance and said that Valiantine was enveloped in a whitish sort of film. Mr Caradoc Evans then crossed over and later described this substance as a slimy, frothy bladder 'into which you could dig your finger but through which you could not pierce.' I felt the face and hands, and they were dead cold."

After sitting in the dark for another half-hour Valiantine apparently recovered sufficiently to be put to bed. There he remained next day and a doctor was called in. On the following day "with the exception of a black bruise on his stomach, measuring about two inches by three—evidently caused by the shock of the returning ectoplasm—he was quite well."

In the absence of any further evidence this incident is likely to remain unexplained. Mr Bradley himself, who accepts the ectoplasmic theory in general, and at that time accepted Valiantine's *bona fides* without reserve, has no difficulty in explaining it; but I do not find myself able to follow Mr Bradley. Even if we assume that some persons have a faculty of extruding ectoplasm from their bodies, we have, so far as I can see, no adequate ground for supposing that Valiantine possesses this faculty. The convenient hypothesis that if one supernormal phenomenon occurs in a medium's presence, every other kind of supernormal phenomenon may occur, and the less likely a thing is to happen the better reason for believing it did, is one I do not find myself able to accept. It is true that there is talk now and again of materialised spirit-hands at Valiantine's sittings, but so far as I have been able to ascertain, no adequate steps were ever taken to prove that they were not his own. Frau von Dirksen (*Z. f. Paraps.* lvi. 605) states that at her private sitting, to which

reference has already been made, she saw what was alleged to be a materialised hand about a yard away. Owing to the light coming through the crack in the door she could see the sleeve of Valiantine's coat attached to this hand. She describes this episode as a piece of "shameless" trickery.

If we assume, as on the evidence of Valiantine's frequent recourse to trickery I think we are bound to assume, that at the moment when the garage light was so inconveniently turned on, he was trying to deceive his sitters, just what was he "up to"? The "whitish sort of film" in which he appeared to be enveloped may have been an illusion. As I noticed myself in the sittings I had with Eva C., in almost complete darkness curious illusions of luminosity do occur, especially when the eyes become fatigued. But what of the frothy bladder? What part was this destined to play? What would the sitters have seen if Mr De Wyckoff had not been dissuaded by Bert Everett from turning on the light? Was the bruise on Valiantine's stomach genuine, and, if so, what caused it? These questions must, as the evidence stands at present, remain unanswered.

I now turn to the evidence of fraud obtained by Mr Bradley against Valiantine in 1931. I do not propose to describe this evidence in full; it should be studied in Mr Bradley's own detailed and documented report (*And After*, p. 287 ff.). Briefly, it was shown beyond any reasonable doubt that at a series of sittings held at Dorincourt Valiantine had made use of various parts of his own body, fingers, toes and elbow-joint, to produce on wax and on smoked paper imprints of what were alleged to be spirit-hands. But there is one point in connection with this evidence which is worth careful consideration: Mr Bradley, who is deeply committed to a belief in the genuineness of Valiantine's earlier phenomena and especially the genuineness of the "spirit-voices," is much concerned to dissociate these voices so far as he possibly can from phenomena which he admits to be fraudulent. The shifts and evasions to which this attempt reduces him illustrate the troubles which beset a man who prides himself on his honesty, when he refuses to face an unpalatable truth.

The truth of the matter is that Valiantine's spirit-voices committed themselves to the genuineness of Valiantine's spirit-imprints time and time again. The evidence for this is worth giving in some detail, as it has an important bearing on our final estimate of Valiantine's mediumship.

At the sitting of 20 February 1931, the first of the finger-print series, the following voices took part: Dr Barnett, one of Valiantine's regular controls; Honey, the spirit-guide of another medium, Mrs Barkell; Conan Doyle, who said, "I am trying to give an imprint"; George Gregory, a friend who had "manifested" at one of Mr Bradley's private sittings when Valiantine was not present; Dan

Bradley, Mr Bradley's father, of whom he says on this occasion, "His 'voice' was characteristic and recognisable." At this sitting two imprints on smoked paper were obtained, one of which was afterwards found to be the imprint of Valiantine's big toe.

At the sitting of 21 February Conan Doyle was again said to be trying to get an imprint through; Mr Jaquin, a sitter who played a very important part in obtaining proof of fraud, said, "Sir Arthur, would you try to give an imprint of your index finger instead of a thumb?" To this the "Doyle" voice replied, "I will try to do so." Another imprint was obtained at this sitting, which also proved to be made by Valiantine's right great toe.

At the sitting of 22 February only Mr and Mrs Bradley and Valiantine were present, and the voices were extremely fluent. Dr Barnett asked that the modelling wax should be made softer. He was questioned concerning a little blood which Valiantine had brought up in a fit of coughing after the sitting of 21 February, and said that the blood had been used for making the imprints and had not been completely re-absorbed into the medium's body. He was also asked why Valiantine had sweated freely during the sittings of 20 and 21 February and said that the medium's sweat-glands had been used to make the imprints. The "late Lord Dewar" spoke in a faint whisper and said he had "tried to get his index-finger on the wax."

At the sitting of 23 February "Lord Dewar" again spoke in a whisper. On this occasion two imprints were obtained on smoked paper and one on wax. After the sitting impressions were taken of the big toes of all present. A similarity was observed between the imprints obtained at the sitting and the imprints of Valiantine's left big toe. In the case of one of these imprints the identification is confirmed by ex-Chief Inspector Bell, of the Finger-Print Department, Scotland Yard.

At the sitting of 25 February several members of the Doyle family were present and Conan Doyle was alleged to communicate. These communications appear to be accepted as genuine by the family. Three imprints were obtained, two of papillary ridges (which have not been traced), and one apparently of an elbow-joint.

For the sitting of 27 February some special wax had been prepared impregnated with methylene green (a fact unknown to Valiantine). At the beginning of the sitting Valiantine as usual said the Lord's Prayer, upon which Mr Bradley comments that "in view of what transpired this seemed a somewhat ironic procedure." On another occasion when a fraudulent medium, to whose *bona fides* Mr Bradley was in no way committed, did exactly the same thing, he calls it "a nauseating blasphemy."

Mr Bradley, wishing, as I have said, to dissociate voices and fraud, comments on the fact that at this sitting very few voices were heard

and the sitting seemed "dead." That things did not "go with a swing" on this occasion seems to me amply accounted for by the fact that Valiantine had been made aware of an atmosphere of suspicion (although the sitters did their best to reassure him) and was probably nervous. But the voices were not entirely silent. "Pat O'Brien," being asked whether spirits could see in the dark replied, "To be sure, or how could they see to give imprints?" The voice of Bert Everett asserted that the imprint obtained that day was that of the late Sir Henry Segrave. "Abraham Wallace" also said a few words.

At the conclusion of the sitting two imprints were found on smoked paper and one on the special wax. The imprints on paper are almost certainly identifiable with the right side of the middle finger of Valiantine's left hand. The imprint on wax was apparently of an elbow-joint. Valiantine was stripped then and there and a strain of methylene green was found on his left elbow-joint.

Finally it is worth noting that the production of these fraudulent imprints was not confined to the particular sittings which Mr Bradley reports. At a sitting held a month or so earlier at the house of a certain "Mr X" an imprint was obtained which was alleged to be that of Walter Stinson, *Margery's* Control. This imprint was identified with the middle finger of Valiantine's left hand. Moreover in 1925 some imprints were obtained at Mr Bradley's house, which in the light of subsequent discoveries are highly suspect. These will be found discussed in *The Wisdom of the Gods*.

Now it seems to me established beyond all possible denial that in these sittings of 1931 Valiantine's spirit-voices committed themselves irretrievably to the production of fraudulent phenomena. But some of these voices, Dr Barnett's, for instance, and Bert Everett's, have played a leading part in Valiantine's mediumship for many years, and taken as a whole these later manifestations, associated with fraud, differ in degree perhaps, but not in kind from the earlier manifestations in which Mr Bradley still asks us to believe. Moreover, as I have shown, suspicious circumstances have again and again been observed at Valiantine's sittings, and we have reason to believe that at least as far back as 1923 he was resorting to fraudulent practices. That being so, and taking into account the very unsatisfactory conditions which habitually obtain at his sittings, we are bound to conclude that the whole of Valiantine's mediumship in its physical aspect is suspect, and his claims to supernormal physical powers unproven. There remains only one hope for Valiantine; it might be possible to establish that the content of these spirit-messages was supernormal, in other words, that Valiantine possesses genuine mental powers of a supernormal order, which he habitually ekes out by physical fraud. To the mental aspect of his mediumship I will therefore turn.

One of the most remarkable of the mental phenomena alleged to occur at sittings with Valiantine is "speaking with tongues"; it is said that the spirit-voices converse fluently in a great number of languages with which Valiantine himself is quite unacquainted. Among the languages cited are French, German, Italian, including a Sicilian dialect, Spanish, Basque, Portuguese, Welsh, Russian, Hindustani, Arabic, Japanese, and last, but not least, "archaic Chinese," the communicating spirit in this case being Confucius himself. For this remarkable linguistic range there appears at first sight to be a great wealth of testimony, but on a closer inspection this wealth dwindles to a few poor farthings, and these, I suspect, are brass.

When I was reviewing the available evidence one point which struck me as curious was that there is a much better *prima facie* case for knowledge of such a remote language as ancient Chinese—as to which not above two or three of all the people who have ever sat with Valiantine are capable of forming an independent judgment—than for such widely known languages as French and German, and it would almost seem as though the better the sitters understand any particular language the less are the spirits who come to that sitting able to speak it.

It is impossible without being tedious to discuss all the occasions upon which foreign languages are said to have been spoken, but I will give a number of typical examples, from which it is possible to form a general estimate of the evidence, taking the various languages one by one.

French. The evidence for any knowledge of this language, probably after English the most widely known among Valiantine's sitters, seems to be very scanty. On p. 389 of *The Wisdom of the Gods*, it is said that Countess Ahlefeldt-Laurvig had a daylight sitting, at which she alone was present, and her brother communicated with her in French. There is no first-hand statement by the sitter and no record of what was said; it is therefore impossible to form any judgment as to the value of this incident.¹

Spanish. At a sitting held at Arlena Towers in 1923 (*Towards the Stars*, p. 33) a Spanish cook of Mr De Wyckoff's was present. It is said that her husband spoke with her in "a mixture of Basque and corrupt Spanish." It is also said that he spoke "in good Spanish" to Mr De Wyckoff. All this is given at second-hand; Mr Bradley does not himself know Spanish, and not a word of any conversation is quoted in the original. The cook is obviously a bad witness, very emotional and excited.

At Dorincourt in 1924 (*Towards the Stars*, p. 197), Lady Grey of Fallodon and Mr William Archer being present, we are told that

¹ Cf. Lord Charles Hope's observations, below, p. 415.

“ at a later stage a spirit endeavoured to hold a conversation with Lady Grey and Mr Archer in Spanish.” From the use of the word “endeavoured” we may infer that these two sitters, whose joint testimony would have carried considerable weight, did not find the spirit very fluent or intelligible on this occasion.

Italian. At Dorincourt in 1924 (*Towards the Stars*, p. 218), Senator Marconi being present, “the voice spoke to him in Italian—a language I [Mr Bradley] cannot follow—and addressed him as ‘Guglielmo.’ The voice was rather indistinct, but Senator Marconi kept the conversation going for over ten minutes, and he was answered throughout in the Italian language. Senator Marconi afterwards said that the spirit voice announced itself as his father, but he had not been successful in acquiring sufficient evidence to establish his identity.” It is interesting to be told that *Senator Marconi* kept the conversation going for over ten minutes, but no one is likely to question *his* knowledge of Italian. We are not told what impression the spirit-voice made on him beyond the fact that it spoke indistinctly and he was not satisfied with the evidence of identity it offered.

On another occasion (*The Wisdom of the Gods*, p. 368) Mr Harry Price reports that at a sitting at which he was present in 1925 Italian was spoken, and he quotes a few short phrases. The best evidence for the speaking of Italian at Valiantine’s sittings is to be found in the reports published in the spiritualistic magazine *Luce e Ombra*, of the sittings held in Italy (see, for example, *Luce e Ombra*, xxx. 27 ff.). If the integrity of the sitters can be assumed—I have no grounds for doubting it, but the point is essential, for it would have been perfectly easy in the darkness of the *séance*-room for any one of them to act the part of a supposed communicator—it would certainly appear that a fair knowledge of conversational Italian was shown. Voices are said to have spoken in Sicilian and Piedmontese dialects, but no quotations are given. It is also said (p. 33) that Imperator, whom “some called Peter and some Malachi,” communicated and “intoned a liturgical chant in Latin” which greatly impressed his hearers. On being asked to repeat it slowly, in order that it might be written down, he said he would give it in Italian, as follows :

“Un Mondo d’argento sarà pieno di spiriti. Cristo non vuole più guerra. Cristo vuole che gli spiriti vengano sempre per stabilire comunicazioni colla terra.”

It is unfortunate that Imperator did not realise how much more valuable a record of his liturgical Latin would have been.

The difficulty of assessing the value of these reports in *Luce e Ombra*, written of course in Italian, is increased by the fact that it is not always made clear in what language the voices actually spoke.

On p. 28, for example, Bert Everett is represented as saying, "Ogni cosa è squisita." Did Bert Everett speak in Italian? "Exquisite" is one of his regular catch-words.

Of all foreign languages Italian seems the one most likely to be known conversationally to Valiantine, for it is widely spoken in America by Italian immigrants. Mr Bradley tells us (*And After*, p. 165) that from his own "absolute knowledge" he can assert that Valiantine does not speak Italian. But how can he tell us this from his own knowledge, when he has told us more than once that he does not himself speak Italian? Incidentally it is very much easier to discover that a man does not know a language when he is pretending he does, than to discover that he does know it when he is pretending he does not. I think many of Valiantine's sitters have been much too ready to take his simplicity and ignorance for granted, for if he is fraudulent, an appearance of simplicity and ignorance will obviously be a part of his stock-in-trade.

German. In *Towards the Stars*, p. 193, we are told that at a sitting held at the British College for Psychic Science in February 1924 an Austrian lady, Miss Eisner, was present and a spirit communicated purporting to be her grandmother. "The conversation opened in English and drifted into German. Later the Austrian lady's mother came and conversed with her also in German." No details of the conversation and no quotations are given. With this statement may be compared the evidence obtained at the Berlin sittings:

On one occasion (*Z. f. Paraps.* lvi. 503) we are told that "a whispering voice, hardly intelligible, said several times to Frau von Dirksen, 'Dein Mann, ja, ja, sehr gut.' To every question put by Frau von Dirksen the answer was, 'Ja, ja, sehr gut.' . . . A similar voice spoke later to Princess Y. The communications were just as poor as in Frau von Dirksen's case, and also in the case of every other German-speaking intelligence which manifested in the course of the enquiry."

With this we may compare Frau von Dirksen's report of the private sitting she had with Valiantine (p. 604). Her husband purported to communicate and spoke in English. Valiantine having ascertained, as she tells us, that he could speak English when alive. For the first time the communications were intelligible and coherent, although nothing evidential was said.

On p. 599 we are told that a voice addressed a nephew of Frau von Dirksen's and spoke the words "Vater, Mutter"; they were pronounced "Vatter, Motter." Both this young man's parents were living. Dr Driesch (p. 653) testifies to the fact that in his hearing only one or two words of German were spoken. Dr Quade (p. 655) notes the foreign accent: "Ich sprekkke Deutsch."

Russian. In *Towards the Stars*, p. 219, we are told that at a

sitting in February 1924 "a voice talked to Mrs Mollo, in what sounded like Russian. . . . The voice, during the conversation, addressed Mrs Mollo as Anna Gregorievna and stated that it was the son of her husband. I [Mr Bradley] ascertained afterwards that Mrs Mollo's husband had a son by a previous marriage and he had passed away. This stepson had always addressed Mrs Mollo as Anna Gregorievna." Here again no quotations are given and no first-hand corroboration, so that the value of the incident cannot be assessed.

Welsh. In *Towards the Stars*, p. 210, Mr Caradoc Evans reports a conversation he had during a sitting at Dorincourt with a communicator purporting to be his father. A quotation is given which, if it is accurate, indicates that some knowledge of Welsh was shown. But is it accurate? As the sittings take place in complete darkness, one assumes in the absence of any statement to the contrary, that no notes were made at the time. When were the notes of the conversation made: that is, how long after the sitting? This we are not told, and in a case where verbal accuracy is the whole root of the matter, it is a point of great importance. Mr Bradley's own standard in such matters may be judged from some criticisms he passes (*Towards the Stars*, p. 314) on a report by Mr Malcolm Bird of the sittings held under the auspices of the *Scientific American*. "He [Mr Bird] says that 'even with a poverty of phenomena, we could not remember the sequence of the sitting sufficiently well.' Why could he not remember the sequence? Any intelligent mind can not only record a short sequence of the occurrences of two hours, but can memorize the gist of a dozen conversations practically word for word."

I will make so bold as to say that I believe the accuracy of my memory to be at least equal to Mr Bradley's, but I would not undertake without the help of contemporary notes to record a complete sequence "of the occurrences of two hours," or "the gist of a dozen conversations practically word for word."

As to Mr Caradoc Evans's testimony, it is perhaps mere prejudice on my part, but I should attach more weight to it if he had not asserted (*The Wisdom of the Gods*, p. 40) that at a private sitting at Dorincourt, at which neither Valiantine nor any other professional medium was present, Mrs Leonard's Control, Fedra, sat on his knees "substantially" and kissed him with "lips that were warm with the warmth of life." To make such a statement on such evidence as Mr Caradoc Evans had, seems to me to argue either unlimited credulity, or a complete indifference to truth!

An Indian Dialect. At a sitting in 1925 (*The Wisdom of the Gods*, p. 238) at which two Indians were present, a voice was heard speaking "a foreign language." The Indian sitters addressed this voice in an "Indian dialect," but they could not understand the answers.

Japanese. At a sitting in March 1925 (*The Wisdom of the Gods*, p. 274) the Japanese poet Gonnoske Komai was present. A voice addressed him in what was alleged to be Japanese. Mr Komai said that the voice volunteered certain names and places, and also said that the speaker had committed "hari-kari." In a polite letter of thanks to Mr Bradley Mr Komai says, "I greatly regret that I could not recognise the gentleman who tried so hard to communicate with me in my native tongue." We may infer from this guarded statement that the attempt was not in Mr Komai's opinion successful.¹

Chinese. This is *prima facie* the most remarkable example of speaking in a foreign language which has been reported at Valiantine's sittings. A communicator who represents himself to be Confucius, is said to have conversed fluently and intelligently "in archaic Chinese." Now it is first to be observed that the evidence for this phenomenon depends on the testimony of only one witness whose opinion is of any value at all, Dr Neville Whymant, who attended a number of sittings with Valiantine in New York and has published a report of his observations entitled *Psychic Adventures in New York*. It is obviously impossible for any one who was not present at these sittings and who has absolutely no knowledge of Chinese to dispute with Dr Whymant, but in view of the startling claims he makes it is certainly unfortunate that he offers so little but his own assertions to support them; there is no attempt to set out in detail the evidence upon which these assertions are based. Attempts to obtain the corroborative testimony of other scholars have failed. For example, at a sitting held in London Lord Charles Hope obtained a gramophone record of a voice speaking in what purports to be Chinese. This record, though it bears a general resemblance in sound to Chinese, is untranslatable, a fact which Dr Whymant himself admits (see below, p. 419). To attribute this fact to bad recording is to beg the question at issue.

Without in any way impugning Dr Whymant's good faith one may question whether he has made sufficient allowance for the liability of the ear to be deceived when straining to catch the indistinct whispers of which these trumpet communications mainly consist. My own impression that suggestibility may have played a considerable part in the conclusions to which Dr Whymant has come is strengthened by the observations made by Lord Charles Hope in the Phoenix sittings (see below, p. 427). It there appears that Dr Whymant believed himself to have heard a number of words in various Oriental languages on occasions when Mr Yih, a Chinaman from the School of Oriental Studies, "could not catch a single word of any language except English." In the case of Phoenix also recourse to fraud has been clearly proved.

¹ See also Lord Charles Hope's report below, p. 415.

The whole crux of the matter in Valiantine's case is the question whether the voices displayed any accurate or scholarly knowledge of Chinese such as is alleged by Dr Whyman. That Valiantine should be able to produce a passable imitation of Chinese, including perhaps a few actual words of the language, would not be remarkable in view of the fact that America is full of Chinamen.

Turning now to another aspect of Valiantine's mental phenomena, we are told that through his mediumship a great multitude of communicating spirits have given evidence of their personal identity. Here again, as in the case of foreign languages, the enquirer finds himself confronted by an immense amount of paper currency, but very little hard cash; he is reminded of those disastrous consequences of inflation to which our attention has been lately called. I will not assert dogmatically that Valiantine has no supernormal powers at all, for I cannot prove a negative; it may be that he has, but the fact has yet to be established. In this matter, as in every other, Mr Bradley's records are so superficial as to be all but useless. Lady Troubridge, in the report from which I have already quoted, discusses some communications received by Miss Radclyffe Hall and herself in which knowledge was shown which it did not seem likely Valiantine would normally possess. At the same time it was not impossible for him to obtain it by judicious enquiry, and one or two mistakes were made which are easily explained on the supposition that Valiantine was using information obtained from normal sources, but not likely to have been made by a genuine communicator. On one occasion, for example, a communicator announced her intention of going home with Lady Troubridge and said she had often been with her in Sterling Street. Lady Troubridge had left Sterling Street about a year before the sitting, *although she still appeared in the telephone book as resident at that address*; the purporting communicator had never visited Lady Troubridge at Sterling Street and would have been unlikely to speak of going home with her, there or anywhere else, since her personal acquaintance with Lady Troubridge was slight. Generally speaking, Lady Troubridge and Miss Radclyffe Hall do not seem to have been favourably impressed with what we may call the psychological atmosphere of the communications, and contrast them unfavourably in this respect with communications received through Mrs Leonard (*Proceedings*, xxxvi. 56 ff.).

One other point in this report is worth noting, for it shows the need of caution in regard to the resemblance so frequently claimed between the trumpet-voices and the living voices of the persons said to be communicating. At one of the sittings at which Lady Troubridge and Miss Radclyffe Hall were present Mrs Leonard's Control, Feda, purported to speak, as she often does at sittings with Valiantine. "The other sitters . . . exclaimed that the 'Feda-Valiantine'

voice was exactly like its prototype," but neither Lady Troubridge nor Miss Radclyffe Hall thought that "the voice or accents bore any resemblance to the 'Feda' voice familiar to [them] at Mrs Leonard's."

A suggestive point in regard to the recognition of voices is also to be found in one of the reports in *Luce e Ombra* to which I have already referred. In vol. xxx, p. 212, there appears a "declaration" signed by a number of sitters concerning phenomena obtained at some sittings held at Venice in 1929. Signora Nunes-Vais did not sign this declaration "perche, pur essendosi dichiarata entusiasta dei risultati ottenuti, fece una riserva sulla 'voce' di suo Padre che non ha riconosciuto"; that is to say, Signora Nunes-Vais was enthusiastic about communications from persons she did not know well; in regard to communications from her own father she reserved her opinion, because she did not recognise his voice!

I have said that Mr Bradley's records are inadequate for any scientific purposes; I will justify this statement by an example, taken from *The Wisdom of the Gods*, p. 211. At the same sitting at which Welsh is said to have been spoken, Mr Harold Wimbury, a journalist by profession, was present, and a voice addressed him, speaking a word which he did not at first catch. Another member of the circle said the word sounded like "Walter." A conversation followed in the course of which, according to Mr Wimbury's report, the communicator said that Mr Wimbury had known him twenty years ago in Birmingham and that his other name was "Downing." Mr Wimbury tells us that he had in fact been on very friendly terms with a fellow-journalist called Walter Downing, since dead, in Birmingham many years before the sitting. In reply to the question, "Do you remember Sally?" the communicator said, "Yes, remember me to him and all of them." Asked whether he could say where he and the sitter had lived together, he replied, "Over the hotel." Both these answers were correct. Sally was "the nickname for a man name Sanders—not a female," and Mr Wimbury had at one time shared a room with Walter Downing over the Crown Hotel, Birmingham.

Now this incident affords some *prima facie* evidence for knowledge supernormally acquired, but, as reported by Mr Bradley, it constitutes a case for further enquiry and nothing more. As in the case of the conversation in Welsh, we are not told how long after the sitting Mr Wimbury made his notes, nor are we told whether any other sitters can corroborate his statement as to the answers given to his questions or the form in which these questions were asked; in particular we are not told whether the name "Downing" was clearly heard by any one to whom its relevance was not known, an important point, in view of the indistinctness with which on Mr

Bradley's own admission these trumpet-voices often speak.¹ Nor—and this is perhaps the most important point of all—are we given any means of assessing the probability that Valiantine might have derived the knowledge shown at the sitting from some normal source. Will students of psychical phenomena never learn that we have no right, scientifically speaking, to claim a supernormal origin for an occurrence until we have established the improbability of any normal origin?

Whether in view of Valiantine's proved trickery any further enquiry into his phenomena on the mental side is likely to be worth the trouble it would entail may be open to doubt, but one thing is certain: if such an enquiry is to serve any useful purpose, it must be held under the most rigid test-conditions; there must be an accurate record of all that is said at the sittings, and the anonymity of the sitters must be assured.

There remains yet one aspect of Valiantine's mediumship to consider: the part he played in the cross-correspondences with *Margery*, for in several of the most striking cases his co-operation was essential to the result. I cannot here attempt to describe or discuss these cross-correspondences in detail; I will only remind my readers of two important points:

(1) It was claimed in Dr Richardson's report that the evidence was not dependent for its value on the good faith of the mediums concerned, but upon the fraud-proof technique used in the selection of the subject-matter of the cross-correspondences. Dr Richardson explicitly admits that apart from this technique they "could have been a matter of pre-arrangement between the mediums" (*Psychic Research*, xxii. 355).

(2) The technique as described by Dr Richardson has been criticised by Mr Besterman (*Proceedings*, xxxviii. 399 ff.), who shows that it is far from being fraud-proof, and therefore the good faith of the various people concerned is a vital element in the case. Another cross-correspondence between *Margery* in Boston and Valiantine in Venice, which Mr Bradley reports in *And After* is open to the same objection.

What are we to think of these phenomena in the light of Valiantine's record as a medium in other fields? The cross-correspondences, if genuine, argue supernormal powers of an astonishingly high order; in their perfect precision of result they stand unrivalled. Can we suppose such powers to have been shown on some half-a-dozen occasions by a man who has unquestionably resorted to fraud in the production of physical phenomena, and whose claim to the possession of any supernormal powers, apart from the cross-correspondences, can be shown to rest upon a most unstable foundation?

¹ Cp. Lord Charles Hope's observations on this point below, p. 413.

If we answer this question in the negative, it follows that the knowledge necessary to Valiantine's part in the cross-correspondences must have been obtained from a normal source. We are then faced with a further problem as to the source from which it was obtained ; and upon that reflexion I will close.

APPENDIX

REPORT ON SOME SITTINGS WITH VALIANTINE AND PHOENIX IN 1927 ¹

BY LORD CHARLES HOPE

I

THE usual conditions at the Valiantine sittings held in my flat, were as follows : the medium sat on an ordinary chair at one end of the room, which was narrow but fairly long, and a rough circle was completed by the sitters. On an average there was about two feet and a half clear between the chairs, sometimes rather less. Two aluminium trumpets spotted with luminous paint were usually placed on the floor some few feet from the medium. The aluminium trumpets were made in three segments one fitting inside the other, and were thus collapsible. They had been brought by the medium from America.

The circle of sitters was arranged so that the backs of at least two chairs were each hard up against a wall, making it impossible for the medium to get round outside the circle, although there was a clear space of about two feet behind his own chair, and it would usually have been possible for him to have stood behind the chairs of the two sitters directly next to him. Behind the sitter immediately opposite him there was a considerable clear space.

The darkness was complete, as any light filtering in through the window or under the door was at once remarked upon by the medium or on one or two occasions by the "voices" and deemed to inhibit the "phenomena."

No one, as far as I know, held hands with the person next to him.

After I had had my first two sittings with Valiantine, these being held at Mr Bradley's house, I suggested to Mr Bradley that some kind of test sittings should be held. Mr Bradley became considerably disturbed and informed the medium of my request. I was told that Valiantine considered he had got past the stage when such tests could be thought necessary and that the nature of the mental evidence given at the sittings was a sufficient guarantee in itself.

I was disappointed, but as I had returned from abroad specially for the experience of sitting with Valiantine I was naturally loath to miss the opportunity.

¹ Abridged from a paper read at a Private Meeting of the Society, 30 March 1932.

I will not attempt to go into details about each sitting, but I will endeavour to give examples of the best and the worst of the phenomena experienced.

First of all, I should say, the "voices" attributed to various "guides" of the medium were usually loud and fairly clear, whereas the communicating "voices," attributed to other spirits (the friends and relations of the sitters) were usually very low and indistinct. This was unfortunate as it was from these communicators that evidence for survival could be expected.

The first phenomenon which occurred at the sittings was in almost every case the voice of "Dr Barnett," Valiantine's chief guide, which seemed to come from a trumpet still placed on its big end on the floor in front of the medium. This voice was usually loud and clear and had a distinct Scottish accent, although the accent was not always constant, sometimes lapsing into Americanisms. This, I was told, was to be expected, as "Dr Barnett" had come with his family to America from Scotland as a small boy.

I will now endeavour to give some idea of the most impressive communications received at the sittings I attended. I quote from notes either written by me immediately after the sitting, or taken down at the time by a professional notetaker.

During my first four Valiantine sittings three names of guides were given. These names had been given to me previously, one at a private sitting and the other two by professional mediums. This was a point distinctly in favour of Valiantine's mediumship, provided, as he afterwards assured me, he had had no normal knowledge of these names. Unfortunately the subsequent history of these alleged guides was not satisfactory, although *that* would not rule out a telepathic explanation of my having received these names through Valiantine's mediumship.

I will divide the phenomena into five sections, taking favourable and unfavourable examples of each. The first is my own personal evidence. As I have already stated three names of alleged "guides" were given correctly. Also at my earlier sittings a communicator spoke, purporting to be an Aunt of mine. The name given at first was a common one but conveyed nothing to me until I remembered I had had an Aunt of that name who was always called by another name. To encourage this "voice" I spoke, giving the name by which my Aunt had really been called. This was immediately accepted by the "voice" which continued to speak at most of the subsequent sittings. Unfortunately, although this voice gained in strength and assurance, nothing of an evidential kind was ever given although I supplied many opportunities for it to do so. Before the end of my Valiantine sittings I felt I could have got this "voice" to acquiesce and repeat any nonsense I cared to suggest, but I did not

do so, as I wished to give the "voice" the fullest chance to make good. A Father and a Grandfather voice also spoke, but absolutely nothing which could be considered evidential was said to me.

One point of interest I noticed in connection with these alleged voices of my relations was that they gradually grew in strength and volubility, and when presented in a more developed form, so to speak, to some relations of mine who came to some later sittings, created quite a good impression. Only *I* could see that this improvement was really due to my former conversations with these "voices." Names which I had mentioned during the sittings, the address abroad of a near relative to whom I was constantly writing, and one or two names I had mentioned to the medium, all came out quite "pat," and this of course impressed me unfavourably. A name, however, was mentioned suddenly one day by a voice which purported to be the Aunt of a girl whose name was given. It stated correctly that this girl was at the moment in India with some relations of mine and said it wished to speak to her when she returned. There again, it was impossible to be sure the medium had not overheard some one mention this name casually before a sitting, although I certainly had not done so myself.

Now to turn to communications made to other sitters. It was of course in those cases harder for me to judge of their value. One lady, a foreigner, came several times and received messages which favourably impressed her. These were usually given in French and sometimes in Russian but, to be candid, I felt uneasy lest she might have thought she was hearing more than was actually the case, inasmuch as the voice was weak and she a little deaf.

On one occasion she carried on quite a long conversation in English with an entity purporting to be a friend of hers, and I was told the replies given to her questions were quite satisfactory. The communications in French and Russian, on the other hand, were very brief and disjointed. Although most of the communications to other sitters also were of a fleeting order one or two things were said which, if heard correctly, would point to at least some telepathic power being possessed by the medium.

A Christian name and surname were given to a sitter which were in fact the names of a likely communicator. The sitter was unknown to the medium and there seemed no likely normal means by which the medium could have learnt this name. Here again the question arises whether or not the sitter really did hear the name given correctly or whether a two-syllabled murmur merely gave him the idea of that name which he was half expecting.

Several other sitters were also favourably impressed but when I later endeavoured to learn what facts or names had been volunteered, the evidence furnished seemed always to have been of the slenderest kind.

Fathers and Grandfathers predominated among the list of alleged communicators, and unfortunately, as the medium had usually been introduced by name to the sitters just before the sittings, references to "Father *Smith*" or "Grandfather *Smith*" were not evidential.

One sitter at his one and only experience of Valiantine's mediumship was addressed by a voice claiming to be his father. He asked this voice to give its own Christian name. Reply, "You know it very well." The sitter agreed, but said he required it as a proof of identity. The voice, "I can give it, but is *that* all you have to say to me? Your brother is here." The sitter replied, "Do you mean my brother Arthur?" The father voice then said the brother would speak later.

Towards the end of this sitting the trumpet went over to this sitter and was laid on his head. A voice then loudly said, "Arthur. Why can't you say something to me?" The sitter became agitated and the sitting had to be closed, and it was not until I pointed it out later that he remembered that he had himself furnished the name "Arthur" as being that of his brother.

I am making a point of this particular case because I think it is a good example of how an inexperienced sitter can so easily be much impressed for no good reason. This sitter was a medical man, and I should say well above the average in intelligence.

Now for "foreign-speaking voices." As I have already mentioned the so-called guide voices were much louder and clearer than the other voices. The outstanding case of a foreign-speaking voice was the guide "Christo di Angelo" who spoke loudly in Italian. I think there is no doubt that some Italian really was spoken by this voice although, not knowing the language, I cannot personally vouch for it.

On one occasion a friend of mine whose knowledge of Italian is considerable but not profound, carried on quite a long conversation with this voice which said he, "di Angelo," had been born near Palermo, had been 80 years old when he died, and *that* had been 44 years previously. My friend translated to us what had been said, and the trumpet again rose and one detail was corrected—showing the intelligence at work had been listening.

A seeming attempt was made in this communication to give the exact locality in which this Italian guide was supposed to have lived but, as far as I know, nothing has ever been done to try and verify this statement. It would obviously be difficult to do so after so long, and even if the statement were verified, the possibility of the medium having gained information normally about a real personage could not be ruled out.

There were at least two guide "voices" who were said on occasion to speak in American Indian dialects, but unfortunately no one

was ever present who was capable of checking these languages. Mostly they confined themselves to war whoops and other loud and terrifying noises.

Several times a voice spoke saying it was "Martin Luther." This voice, although it spoke in English, was in a way impressive, inasmuch that the words could easily be distinguished and the accent showed no trace of American, and was indeed quite unlike the medium's ordinary voice and also unlike the guide "voices."

On my asking this Martin Luther voice whether he had spoken English during his earth life, he replied, No, he had learnt it since. He said he had spoken German and Latin. I asked this voice to speak German to a lady present (the same lady to whom the Russian had been spoken), and she afterwards assured us it was good German of an old-fashioned type.¹

At one sitting there were present a Dutchman, his wife and daughter, who had come over specially to sit with Valiantine. They were, they told me, convinced spiritualists. No voice spoke at this sitting and they were very much disappointed. The medium then offered to sit for them again later that day, when I was not able to be present.

By this later sitting they seem to have been favourably impressed, but I gathered that four unconnected words of Dutch were all they claimed to have heard.

A Japanese gentleman, Mr Komai, who had sat previously with Valiantine at Mr Bradley's house, came three times to my sittings. At the first a voice spoke telling him, so he afterwards said, that he should return to see his family in Japan. Actually he had not been back for fourteen years. Mr Komai was undoubtedly favourably impressed with what he had heard. At his next sitting no voice spoke to him, but it is only fair to say that he was told his brother was waiting to speak. Actually the sitting came to an abrupt end owing to an electric recording machine with which I was experimenting, having gone wrong in a particularly noisy fashion.

At his third sitting again no voice spoke to Mr Komai. Few phenomena occurred that day. We were told the medium had been overworked and the power was low. A few words were spoken to a Dane one day. He thought he caught one or two Danish words, and he then tried German and heard "Grandmother" and "Brother is here."

The few words I heard spoken in French did not impress me favourably. They were disjointed and badly pronounced.

A voice on two occasions spoke what was said to be Portuguese. No one present on either occasion knew any Portuguese.

¹ Compare with this the almost complete inability to speak German shown at the Berlin sittings, above, p. 404. Ed.

Apart from the question of the gramophone records, with which I will deal later, these cases complete my experience of foreign languages spoken at Valiantine's sittings.

The next section includes physical phenomena, seeing in the dark, daylight sittings, approps and direct writing.

It was impossible to vouch for any of the physical phenomena owing to the complete lack of control of the medium. The movements of the trumpets, however, were on occasions very impressive and on one occasion a trumpet spotted with luminous paint seemed to rise very high and strike something sounding like the ceiling, which was 11 feet 6 inches from the floor. Sometimes two trumpets were in the air at the same time.

If the effects were obtained by normal means the medium's sense of direction must have been exceptionally good. On one occasion something which felt like a large hand was placed on my head without any preliminary fumbling. Another time I bent forward to set up a trumpet which had fallen over and having done so I was lightly touched on the face by something not a trumpet.

The gramophone was slowed down on several occasions when it had been placed at a considerable distance from the medium's chair, and on one occasion the table on which the gramophone stood was moved quite a foot from a position where it would have been very difficult for the medium to have reached it.

One day a lady brought a large sea shell which she had got in China. Shells like these, I was told, are sometimes used as horns to blow. This shell was certainly blown through ostensibly by a Chinese "spirit." Some of us tried afterwards and could not make a sound with it, but the medium may have been more skilled.

I did not have sufficient opportunities to test the claim of some of the voices that they could see in the dark. There was a distinct resistance to that kind of test as there was indeed to any kind of test.

I had one daylight sitting, but the fact that the small end of the trumpet was held to the sitter's ear while the medium held his hand over the big end was not conducive to good observation.

Later, acting on a remark of the medium's, I placed a looking glass opposite the sitter when Valiantine one day gave daylight sittings to three of my friends, one after another. These sitters were favourably impressed although the communications were not of an evidential nature. Another day a lady who is a keen observer was not favourably impressed. Her account follows :

"Mr V. and I sat and talked for some time about his forthcoming visit to Italy and other matters. After about five minutes he put the trumpet to my ear, and after a few seconds asked me if I did not hear sounds. I then heard gentle murmurings. I asked various questions, if I knew the 'spirit' etc., and so on, and got 'yes' quite clearly.

At intervals I asked for a name, but never got more than a two-syllabled murmur. I tried quite genuinely to catch the name and to help by keeping the conversation going. Then V. said 'Doesn't it sound like father' and I said, 'Yes, I believe it does,' whereupon I got 'Father' quite clearly down the trumpet. I went on talking and was asked to give a message about being happy. I asked who the message was for but got no name until I suggested it was for Mother, when at once I got 'Mother' quite clearly down the trumpet. I asked 'Father' if he was alone and he said no, he was with —— and then a double-syllabled murmur. I said I knew names were hard to get through and found out it was a man who was with 'Father,' but got no name. I asked various questions and then tried again for the name. Mr V. suggested the next murmur I got was 'Ada' (the name which was right for a lady at our last sitting) but I reminded him it was a man speaking and so the name did not come through the trumpet. There seemed no hope of getting more than a murmur unless I helped, so after a bit I said, 'Is it Harry who is with you?' and at once got the clear reply 'Yes, Harry, he wants to speak to you.' I then carried on some sort of conversation and was again told there was a message for me to give. Again the same murmur when I asked for a name, so after a bit I said, 'It sounds like Morley but I can't believe you really want to send a message to Morley, so do say the name very clearly if Morley is right.' At once "Yes, Morley," came down the trumpet as clear as a whisper can be. Both Harry and Morley are pure inventions. I have never heard of either of them. During the sitting I could see V.'s face in the looking glass but nearly all the time my view of his mouth was blocked by the wide end of the trumpet. I said my arm ached, and shifted my position once, but still failed to get a continuous view of his mouth."

This lady's father was at that time alive and in good health.

After that I got another lady to have a sitting while I was in the room, and I then pointed out to Valiantine that his hand was not completely covering the big end of the trumpet and so letting in the light. I gave him a small bit of black cloth to cover it over with. No voice was heard by this sitter but only a few indistinct sounds which might have been caused by the medium's nails scratching the surface of the trumpet.

The medium seemed to be "off" daylight sittings after that experience.

There were four so-called apports, but these were quite inconclusive.

There were two cases of writing done at sittings held in the dark. On one occasion a small block of writing-paper was moved, during a sitting, from the lower ledge of the table on which stood the gramophone and some Oriental characters were drawn on two pages. These

were later translated by Mr Komai and read "BAN-ZAI" and "10,000," "8" and "16th day of the . . . month." The characters, so he told me, were well formed but some seemed incomplete.

Some days later a similar incident occurred. A page of the same block of paper, the first sheets of which I had previously numbered in case they were required for taking notes, was found on the floor almost covered with Oriental characters.

I had numbered these sheets of paper just before this sitting, and it seems improbable the medium could have substituted another similar piece of paper, as the piece used had my numbering on it and that numbered page was missing from the block. At the same time this block was the same one that had been used on the previous occasion and it is just possible that the medium might have secreted a page from it. The characters, therefore, were probably written in complete darkness during the sitting. An expert at the British Museum afterwards told me he did not think he could have done it himself in the dark, but then of course he had never attempted to do so, or practised doing so, which the medium might have done.

The translation of these characters ran "Outline of the History of the Middle Kingdom," which sounds like the title of a book. The expert looked up a list of Chinese books but could find no such title.

I must not forget to touch on the important question of whether or not the "voices" ever overlapped either each other or the normal voice of the medium. No definite answer can be given. Some people said "yes," some "no." I *thought* I heard overlapping two or three times, but was doubtful. At one sitting one very keen observer concentrated on that one point and later wrote to me to say he was sure it had *not* taken place that day although several people had remarked on it as *having* occurred that day.

The special sitting for recording the voices was held in the usual room in my flat. There were present the medium, Mr and Mrs Bradley and myself. Six records in all were made by the Columbia Gramophone Company, but of this number we were only allowed to choose the four we considered most interesting.

On one record the guide "Bert" sang, and "Blackfoot" and "Kokum"—two American Indians—spoke (presumably) in their different dialects. On the second record "Confucius" spoke a few words, and at the end of the record there was a short sentence from "Dr Barnett."

The next record began with a voice supposed to be my guide speaking in Hindustani and Sanskrit, and this was followed by "Christo di Angelo" the Italian guide voice, making a short oration in Italian. On the fourth record were snatches of song and a sentence or two from "Shung Wee," another Chinese voice. He was supposed

to be a modern Chinese and on one occasion had spoken in rather unconvincing pidgin English.

A copy of the "Confucius" record was in the possession of Dr Whyment for some time. He told me he found it impossible to make a full translation although he thought he could catch a few words here and there. He seemed to think it took the form of a greeting spoken in archaic Chinese and he even wrote down provisionally a few sentences, but I do not feel justified in quoting these as Dr Whyment assured me at the time that owing to the imperfection of the recording any full translation would be guesswork.

That completes my experiences with Valiantine. I was disappointed at the lack of evidence for survival which the voices had given me. I was left uncertain whether Valiantine was a genuine medium or not.

My position was that I had been somewhat impressed by the so-called physical phenomena, but owing to the complete lack of any kind of test conditions permitted by the medium, and the complete darkness insisted upon by him, I had only my impressions to go upon, and no proof whatsoever that the phenomena in question were genuine.

II

I will now pass on to some experiences I had with another "voice" medium, Mr William Phoenix of Glasgow.

Previous to my Valiantine sittings I had had three sittings with Phoenix at his house in Glasgow, and had been favourably impressed by the loudness and clarity of the "voices" and the good accounts I had heard of this medium's powers from other sitters, although I had not myself obtained anything of evidential value. I had also been told he had given satisfactory sittings at the British College of Psychic Science in London. He was, and is still, I understand, a professional medium although he also had other employment.

The conditions pertaining at Phoenix's sittings were similar to those at Valiantine's except that there was no luminous paint on the trumpet. I made some guarded inquiries from some of Phoenix's regular sitters and was told he would not submit to "tests," but that the mental phenomena alone were sufficient to carry conviction.

One of this medium's guides was supposed to be an Italian who had been an ice-cream vendor in Glasgow. I was assured he had spoken Italian on occasions and that there had been several other instances of languages unknown to the medium being spoken at the sittings.

After reading of Dr Whyment's startling experiences in New York with Valiantine, and after my subsequent experiences with the same

medium in London, I was anxious to see whether Dr Whymant would have similar experiences with another medium.

Dr Whymant kindly consented to travel to Glasgow and I met him there, having previously arranged with Phoenix to give us two sittings. I merely told him I was bringing a friend who was much interested in "voice" phenomena. It is possible that Phoenix may have recognised Dr Whymant from having seen a photograph of him published in connection with the Valiantine sittings in New York. If so there was no sign of any such recognition.

There were present at this first sitting the medium, his wife and two lady friends, besides Dr Whymant and myself. I will confine myself chiefly to reporting what was said to Dr Whymant.

At first there were several attempts by "voices" to speak to him in English. These were not at all satisfactory—one voice was represented by a guide voice as having been his wife, who in point of fact was alive.

A "voice" then spoke, muttering some unintelligible words. This was greeted as being Phoenix's Hindu guide. I asked that this "voice" should speak again and suggested that my friend might be able to understand what was said even if I could not. The "voice" and Dr Whymant then spoke in some language I could not understand.

I will now quote from Dr Whymant's own account. I am quoting in full that part which concerns the speaking of foreign languages.

"Suddenly a voice addressed Lord Charles, the 'voice' of an Indian guide of the circle. He suggested that the Indian came to me speaking in his own tongue. The 'voice' swerved in my direction and rapped out a sentence which I did not catch. I asked for it to be repeated, and then came the words, 'Dost Bidam' (I am a friend). This was not a repetition of the first sentence. I asked 'Chi-chiz-ast?' (Who art thou?) and the voice replied 'Biradar-Bidam' (I am thy brother)—this being a greeting—not intended as a literal statement of fact. I then asked from what part of the world came the speaker, and the force failing, caught only the word 'Hind-I . . .' The voice seemed to be that of an Indian attempting to speak a variety of Persian."

I was naturally encouraged by this result and expressed the hope to Dr Whymant that at our next sitting we might get better results, but at the same time I warned him that at this same sitting I had received a very unsatisfactory communication from a "voice."

At our second Phoenix sitting held two days later (7 September 1927), attempts to speak in foreign languages were again much the most notable phenomena. I will quote Dr Whymant's own account from his notes taken during the sitting :

From the beginning I was obsessed with a feeling that I had to speak in Italian; even when Luke and another voice spoke to me in English I felt that Italian was on my lips. More voices than before (5/9/27), addressed me definitely and the voices seemed to come from under my feet. Not all, of course. Some indeed seemed to originate from some height above my head. There was much singing and a few attempted communications which I did not catch. There seemed an indefiniteness about all the voices on this occasion although there was a great effort made to indicate something or other. I had some numbered pages of a writing pad on my knee and from time to time made notes of the actual words spoken in foreign tongues (I made no notes of the English communications). Frequently during the sitting the pencil was tugged very strongly and I noticed two efforts to get the paper away from me. Once this was heard by the other sitters (the rustling of the paper as it was suddenly seized).

Towards the end of the sitting a voice spoke in Italian but I could get nothing from it at all. Although the voices were quite unsatisfactory in that they told nothing, they definitely gave the impression of working up to a good conversation of real import when the power failed. There seems to be little doubt that some real efforts at conversation were being made, as the following records of words spoken will show:

The modern Greek words heard were:

(The Voice): *πῶς εἶσθε*; How are you?

(My reply): *Μετρίως. Ἐ' ὄνομα σας*; Fairly well. What is your name?

(The Voice): *Εννοεῖτε*; Do you understand?

(I): *Ναί, τελείως, ποῖος εἶνε*; Yes perfectly. Who's that?

(The Voice): *χαίρω βλέπων ὑμᾶς*; I am happy to see you.

(I): *Εὐχαριστῶ, τ' ὄνομα σας*; I thank you. What is your name?

(The Voice): *Ἄλλην φοράν*; Another time.

It is only fair to say that this voice said several things at the beginning which I did not catch as I was not conscious of the fact that modern Greek was being spoken.

The Persian voice was very little more explicit than on the previous occasion (5/9/27). The words easily distinguishable were:

(The Voice): *Safā avurdid*. You have brought happiness.

(I): *Ahval-i sherif chi tur ast?* How are you?

(The Voice): *Al Hamdu l'Illah*. I thank you. Well!

(I): *Ism-i tu chi chiz ast?* What is thy name?

(The Voice): *'Eib na-darad*. It does not matter.

There were isolated words or short phrases rapidly spoken which I could not hear. The above takes in all that was heard definitely.

The Chinese voice was that of a scribe or commentator apparently. He had little to say. It is impossible to represent in Roman transcription the words used, but my version is as follows :

Is the honourable first-born ¹ well ?

Yes, this unworthy one is in good health. What is your honourable name ?

This uncultured menial wrote characters for the wise ones and copied their work. (No name given.)

Is this the voice of him I heard aforetime in a distant city ? ²

No ; he will come again . . . about a moon from this time. . . .

I did not clearly understand. What is your honourable name ? (No answer.)

A Japanese voice spoke in the modern tongue, but died away as soon as greetings had been exchanged, and names asked.

(Voice) : *Anata loa Donata sama desh ha ?* What is your name ?

(I) : *Boku was Ō-bun-shi to moshimasu. Anata no namae wa ?*

My name is, Ō Bunshi. What do men call you ?

(Voice) : *Watakushi . . . tokoro in . . . no toki ni* I . . . in (the) place . . . at the time of

The Italian voice said *Buona sera* but I do not know whether this was heard generally. I replied with the same greeting and asked *Ed il tuo nome ?* without any result at all. There was some hurried chatter of which I merely understood enough to know that there was no name in it. After another *buona sera* the voice ceased.

NEVILLE WHYMANT.

Although these Glasgow sittings had not resulted in any communications of the order of importance of Dr Whymant's experience in New York, they *had* apparently established a strong ease for the speaking of languages unknown to the medium.

I thought, therefore, it would have been a pity to leave the experiment unfinished, and so at considerable expense I arranged that Phoenix should come, together with his wife, to give a longer series of sittings in London.

These took place in September and October 1927 and were six in number. Dr Whymant attended four of these. Of these four sittings Mr Gonnoske Komai attended one and a Mr Yih of the School of Oriental Studies (a Chinaman) attended the other three.

¹ A polite form of the second person pronoun.

² This was a test question. I knew the voice was not the same.

I will now quote Dr Whyment's account of the first of these sittings :

After the lights had been put out the Lord's Prayer was said, and there was much singing.

Lord Charles played several pieces on the gramophone and lights in the form of balls floated about freely. . . .

A voice then burst in rapidly, speaking so quickly and with apparent breathlessness, that it was impossible at first to recognise even the type of speech. Then I recognised it as Chinese, and at the same moment, Gonnosuhe Komai, sitting almost opposite me, called out, "Oh yes! Very clear. That is Chinese all right." I asked him if he understood anything of what was said, but unfortunately he did not. The voice was still very hurried and spoke so rapidly that my questions in Chinese passed unheeded, and I cannot truthfully say that I gathered anything at all from this voice. It seemed to be over-anxious to tell me something and probably the keenness of its desire prevented its being understood.

Shortly after this another voice was heard, and on being questioned by Komai as to whether it wished to speak with him, gave three raps. He then spoke in Japanese as follows :

Donata : Who (is it) ? repeated several times.

Molto hakkiri hanashite kudarai : Please speak a little more clearly. (This also was said twice or thrice.)

The voice gave the name Ōki, but this is all. Komai said he could get nothing out of what was said. Nor could I understand anything.

Other voices struggled for expression without achieving more than whisperings and trumpet taps. Then came a voice speaking a queer idiom ; it sounded almost like a jargon of some kind, and I called out that it sounded like an Indo-Chinese border dialect—later getting the impression that it might have been badly spoken Yunnanese. The voice gave bugle calls of a military nature easily recognised, and several people suggested that he might have been a soldier.

The word *Singgapura* (pronounced like that) was repeated several times and I tried to draw the voice into Malay speech. This failed and I used one or two dialect forms of the Federated Malay States languages, also without success. There seemed to be no rapport between us, and I offer the following notes (on what I *think* was said) with great diffidence.

It seemed to me that the voice was that of a Straits Chinese who had lived in Singapore. He had travelled in Northern India, China, Burma and some parts of Europe. I distinctly heard the sound Fa-koo (France), but although I asked a question on this repeatedly, I could get no answer. This voice also spoke to Komai, but he could make nothing of it at all. . . .

NEVILLE WHYMENT.

I will quote the part of Dr Whymant's account of the sitting of 3 October which had to do with the speaking of foreign languages :

It seemed, soon after this, as though two voices were talking together in some foreign tongue immediately in front of me. I tried hard to gather something from it but could not pick up a single word. The voices then just died away. Again a voice addressed Mrs A. who was disappointed. This was followed by an unmistakable invocation—I have heard it too many times to be mistaken on the point. It was part of an invocation used in India and Persia and was intoned. The words were not always distinct but the rhythm and tone were there. Then a voice spoke in an Indo-Iranian dialect similar to the Gujarati language, but of its purity or academic accuracy I cannot speak, as I do not know the language well enough. . . .

After this a very soft voice came, reminiscent, after a time, of one I had heard in the Valiantine sittings in New York. I listened carefully and heard the word ' Odoi.' This is an uncommon surname in Japanese, so I replied in that language, but was not answered.

Extracts from Dr Whymant's notes on sitting of 4 October 1927 :

Then came a voice speaking in the same type of language as that mentioned in the notes of the 3 October sitting : a quasi-Persian idiom which was yet not Persian nor any dialect thereof unless it were one of the Northern Indian dialects with which I am not familiar. This voice both spoke and sang, but I could glean nothing from either activity. Then came a voice speaking *Kore-Kure* (in Japanese—this, this); and answering in the same tongue I said, ' What this ? ' but no satisfactory answer was forthcoming. The name *Rissho* which is a Japanese personal name, was given, but again my inquiries elicited no response.

A peculiar point about the above voices is this. Whenever I addressed any words at all to these voices using foreign tongues, the voices began talking again, beginning with the last few syllables I had used. None but one acquainted with the languages could appreciate how inappropriate (and occasionally ridiculous) this proceeding is.

Then a voice addressed Mr Yih. He answered but did not understand a single word. He sang a Chinese song reminiscent of the Chinese theatre to encourage any lurking voices, but his effort was not rewarded. Then a voice came speaking what at first sounded like Greek.

I asked: " 'Ομιλείτε "Ελληνικά" " (Do you speak Greek ?), but could get no intelligible answer beyond the first word which was in each case " "Ελληνικά."

NEVILLE WHYMAN.

This completes Dr Whymant's accounts of his experiences with Phoenix. Mr Komai had unfortunately not been able to understand any of the apparent attempts to speak to him in foreign languages, but on the occasion on which he attended, Dr Whymant did not hear any Japanese spoken.

Unfortunately, try as he might and apparently did, Mr Yih could not catch a single word of any language except English.

By this time I had become convinced that, at any rate on most occasions, the medium left his chair before "voices" spoke to the sitters. I had sat next to the medium on several occasions and had distinctly heard sounds like a creaking boot. After the sitting at which I had first heard these sounds I noticed that one of the medium's boots creaked as he walked. The sounds were similar.

At subsequent sittings I heard this sound on several occasions. One of my friends also heard it, and one sitter reported being bumped into by something as though the medium was walking about in the circle of sitters and had lost his sense of direction. As the full number of sittings arranged for had been almost completed, I decided to try and find out definitely whether or not my suspicions were well founded.

A friend of mine, Mr Noel Jaquin, whose knowledge of finger prints is very considerable, had been at several of these Phoenix sittings held in London. It was the same Mr Jaquin who helped Mr Bradley to test Valiantine with the result already known.

At a previous sitting with Phoenix we had already obtained a promise from the "voices" to co-operate in an experiment for the making of fingerprints.

I will now quote from my notes made directly after this final sitting. A lady whom I shall call Mrs B. was a friend of the medium's but I feel sure had no part in producing the phenomena and entertained no suspicions of him. I could not have excluded her from the sitting without the risk of alarming the medium.

The cabinet mentioned in the notes had not been prepared for the sitting but was in the corner of the room at the back and well to the left of the medium's chair. It consisted of two curtains across the corner of the room.

Phoenix Sitting No. 6 and Last.

6 October, 11.30 to 1.45. Conditions—All sitting free, total darkness, and no luminous paint on the trumpets. Left to right: the Medium (Mr W. Phoenix), Lord Charles Hope (worked gramophone), Mrs Phoenix, Mr Noel Jaquin, Mrs B., the Medium.

I had already informed Mr Jaquin of my suspicions. He brought several pieces of smoked paper for imprints and these, with the

permission of the medium, were placed on the floor; the medium suggested that one which was immediately in front of his chair should be moved to one side.

While the "Luke" voice was speaking from the middle of the circle I cautiously put out a folded newspaper and felt that the medium's chair was empty. I then felt with my hand to make sure. During the sitting I put my hand quite six times in his chair and about two-thirds of the way through the sitting, acting on a sudden impulse, I removed the cushion from the chair. Later, thinking it would be better to leave things to take their normal course, I placed the cushion against the front of the chair so that the medium should think it had fallen accidentally. Later I felt again and found that it had been moved. . . . About half way through the sitting we heard movements of the cabinet curtains in the corner behind Mrs B. and then quite loud sounds as though someone was moving about in the cabinet. Mrs B. remarked on this, and we all encouraged the "spirits." I put my hand in the medium's chair while this was going on and found it empty. No "voices" spoke in the circle while this was going on. . . . During the sitting a luminous hand which was seemingly on some flat surface was shown to each sitter in turn, and we urged that this should be pressed on a piece of smoked paper, but we were told that "they" had not succeeded in doing this. . . . "Luke" (the medium's guide) now as usual closed the sitting with an oration and a well worded prayer, and the medium "came back" and the light was put on.

We then found some rather smudged fingerprints on one piece of paper in the circle, and on another piece of paper in the cabinet the clear imprint of the toes and ball of a naked human foot. We then got Mr and Mrs Phoenix and Mrs B. to make their fingerprints on the other pieces of paper. I then asked Mrs B. to leave the room and told Phoenix that he had been out of his chair during a great part of the sitting and said I had felt repeatedly in his chair while the "voices" were being produced and had also removed the cushion in his absence. He professed great surprise and said he had been "under control" all the time and therefore had no idea of what had taken place. . . . I then suggested that he should turn out his pockets to prove that he had not got any appliances with which to produce the "psychic" lights (which appeared at each sitting). He refused this suggestion. . . . After the medium and his friends had left we found a good fingerprint on the piece of paper on which the foot imprint had been made, and this imprint, and also one of the partly smudged imprints on the other paper, coincided with the medium's own fingerprints made after the sitting. Mr Jaquin informed me after the sitting that at one moment while a "voice" was speaking to Mrs B. he had caught hold lightly of the coat tails

of the medium who must have thus been standing almost facing his own chair. Later the same day I requested Phoenix to come and make imprints of his own feet to prove, if possible, their dissimilarity to the imprint found on the smoked paper. He refused to comply with my request. Some days later I made a similar request to some friends of his, but without success.

I have gone to considerable length in describing the results obtained with Phoenix because in my opinion they tend to show a certain susceptibility on the part of Dr Whymant to the suggestive conditions pertaining to *séances* held in complete darkness.

Reluctantly I had to come to the conclusion that Phoenix was at least in part a fraud.

Could he have been in part a true medium? That is the question we must ask ourselves. Could he in a trance have spoken words of several languages which he could not normally have known? Or, could Dr Whymant who knows so many languages, both ancient and modern, have been deluded into thinking he heard certain snatches of conversation coming from a trumpet held near him in complete darkness? Could the sounds he heard have been really indefinite sounds produced by the medium, in the hope that they would be mistaken for real words?

I cannot say—but judging from my experience of what sounds I have heard other people accept as being detailed messages given in English, whereas to me they seemed only incoherent murmurs—I do *not* think it is impossible.

In this case, too, we must remember Dr Whymant did not know what language he might be expected to hear, and that must have very considerably increased the difficulty of his task.

On the other hand in his sittings with Valiantine in New York, after the first sitting, he knew that ancient Chinese was the language he might be expected to hear, and therefore too close a parallel should not be drawn between his experiences with Valiantine and his subsequent experiences with Phoenix. Perhaps, too, the startling nature of the conversations he held with the “Confucius” voice may have made him more ready to accept such experiences as possible and so rendered him more liable to self-deception.

THE MEDIUMSHIP OF RUDI SCHNEIDER

BY THEODORE BESTERMAN

THE time has not yet come for a critical account of Rudi Schneider's mediumship, since it is still in active progress, but the publication of an important report of recent sittings in Paris with this medium makes it desirable briefly to survey his previous history. This is done below, and a review of the French report follows in the second section.

I

According to Rudi Schneider's own account the mediumship of his elder brother Willy was accidentally discovered in 1918. The father of these two mediums, Josef Schneider, is a compositor in the little Austrian frontier town of Braunau, about 70 miles due east from Munich. Officers of the Braunau garrison came to the printing works at which he was and still is employed, to buy sheets of paper. They explained that these were wanted for planchette-writing. In this way members of the Schneider family were led to try planchette-writing for themselves, and it was discovered that Willy succeeded in producing results under the purporting Control of "Olga Lintner." Gradually various physical phenomena developed and early in 1919 Willy first went into trance. One evening in March ¹ no phenomena occurred and Olga said that she wanted Rudi, at that time eleven years of age. He was brought in and phenomena began. Since that time Rudi has been a medium, producing phenomena similar to those of Willy, who secured a new Control, Mina, while Rudi took over Olga.² Rudi's trance resembles Willy's in every respect. So far Rudi's own account.³

In 1919 Baron von Schrenck-Notzing first sat in Braunau and no doubt then made the acquaintance of Rudi. But for the next few

¹ According to Mr Harry Price, *Rudi Schneider* (1932), p. ix, this occurred in November 1919, though possibly a different sitting is referred to. Elsewhere (*Journ. Amer. S.P.R.* [1926], xx. 20, 642), Mr Price gives 1921 as the date of the beginning of Rudi's mediumship. According to Captain F. Kogelnik, in *Journ. Amer. S.P.R.* (1926), xx. 146, Rudi was only eight years of age in 1919.

² This point is confirmed by Baron von Schrenck-Notzing, *Materialisations-phaenome* ² (1923), p. 548, according to whom, however, the beginning of mediumship in Rudi, and the transfer of the Control, occurred when Rudi was thirteen, that is, two years later.

³ As printed in Dr Eugène Osty and Marcel Osty, *Les Pouvoirs inconnus de l'esprit sur la matière* (1932), pp. 16-18.

years the Baron was occupied by the study chiefly of the mediumship of Willy Schneider. Reports of his investigation of Rudi have not yet been published (though it is understood that records of 88 sittings are in the possession of Baroness von Sehrenek-Notzing),¹ but his regular sittings with this medium do not appear to have begun until about 1924. In the meanwhile Rudi had given a great many sittings to others, both at Braunau and elsewhere. He first went to Vienna at the end of 1922,² and for some years thereafter gave numerous sittings in various parts of Austria, before spiritualistic societies, in haunted houses, and privately, including a series under the conduct of Herr Erieh von Czernin-Dirkenau,³ as well as at the (since defunct) Metapsyehologisches Institut.⁴

I will now give a summary account of the specific sittings of which printed reports are known to me (ignoring newspaper accounts).

On 26 January 1924 Rudi gave a sitting in the house of Major von Baranski, in Vienna. Among those present were Professors Karl Przibram and Stefan Meyer. They were not impressed by the phenomena and thought that they could imitate them by normal means. They apparently did so in February, with Professor Przibram as medium.⁵ This was announced in the newspapers as an exposure, but it is hardly necessary to point out that, failing a detailed account of the conditions at both sittings, the incident is of no particular significance.

According to Prof. Meyer, Rudi was also exposed at this time by Dr Lothar Lenkei.⁶ No particulars are available.

There is an affirmative report of four sittings between 21 and 27 July 1924, at Braunau, at which a variety of phenomena occurred.⁷

On 6 September 1924 Rudi gave a sitting at Baron von Sehrenek's house in Munich, of which we have two reports, one non-committal⁸ and the other rather aggressively affirmative.⁹

¹ *Zeitschrift für Parapsychologie* (1931), lviii. 33.

² *Zeitschrift für psychische Forschung* (1927), p. 48

³ *Psychische Studien* (1924), li. 261. See also Wilhelm Keinzl, *Meine Lebenswanderung* (1926), p. 220.

⁴ *Psych. Stud.* (1924), li. 171.

⁵ "Die angebliche 'Entlarvung' des Mediums Rudi Schneider in Wien," *Psych. Stud.* (1924), li. 171-5; Erwin Reinhold, "'Entlarvungen' und kein Ende," *Ibid.*, li. 261-7; *Journ. Amer. S.P.R.* (1925), xix. 690-1.

⁶ Prof. Stefan Meyer, in Gulat-Wellenburg, Klinckowstrøm, Rosenbusch, *Der physikalische Mediumismus* (1925), p. 453.

⁷ Prof. Richard Hoffman, "Vier Sitzungen mit dem Medium Rudi Schneider," *Z. f. ps. Forschung* (1927), pp. 48-55.

⁸ Dr Carl Bruck, "'Prinzipielle Betrachtungen' zu den Phänomenen Rudi Schneiders," *Z. f. Paraps.* (1930), lvii. 743, 744.

⁹ Dr Paul Süner, "'Prinzipielle Betrachtungen' zu einer Sitzung mit Rudi Schneider," *Z. f. Paraps.* (1931), lviii. 33-42.

There is a brief affirmative report of a sitting in October 1924 in the house of Prof. R. Hoffmann in Vienna.¹

In the autumn of 1925 Mr Dingwall witnessed some "interesting and suggestive phenomena" in Braunau.²

To this period possibly belongs an undated sitting, reported anonymously, but introduced and therefore presumably authenticated by Dr Hans Rosenbuseh. In this sitting an object had been secretly painted, it was levitated, and the medium's hand afterwards bore traces of the paint.³

In March 1926 Rudi was in Prague, where he gave five sittings.⁴ During a sitting on the 21st an interesting form of control was tried. The medium's right hand was tied to the left hand of his right-hand neighbour with a silk cord bearing three luminous balls, and his left hand was controlled in a similar way. Unfortunately we are not told how and in what position the cord was tied to the medium's hand, nor given the names of the sitters. Numerous phenomena occurred.⁵

On 28 and 29 April there were two sittings at Braunau, of which we have two more or less independent affirmative reports.⁶

Between 30 July and 19 August 1926 Mr W. J. Vinton had six sittings with Rudi in Braunau, four at the house of the Schneiders and two at the Hotel Mittendorfer. In his report he attributes the phenomena to conspiracy between various members of the family.⁷ This allegation was replied to by Baron von Schrenck,⁸ whose remarks were criticised by Graf von Klinekowstroem.⁹

In the spring of 1927 we have another report of a sitting, this time non-committal.¹⁰

Dr Priene had ten sittings, 12-24 August 1927, at the home of

¹ Prof. Hans Thirring, "Psychical Research in Vienna," *Journ. Amer. S.P.R.* (1925), xix. 694-6.

² *Journ. S.P.R.* (1926), xxiii. 19.

³ "Protokoll einer Entlarvung Rudi Schneiders," *Zeitschrift für kritischen Okkultismus* (1928), iii. 93-6.

⁴ *Journ. Amer. S.P.R.* (1926), xx. 312.

⁵ Prof. Oskar Fischer, "Ueber eine einfache Bindungskontrolle der Medien," *Z. f. Paraps.* (1926), liii. 516-9.

⁶ Harry Price, "The Phenomena of Rudi Schneider," *Journ. Amer. S.P.R.* (1926), xx. 641-65; E. Clephan Palmer, *The Riddle of Spiritualism* [1927], pp. 55-65.

⁷ Warren Jay Vinton, "The Famous Schneider Mediumship," *Psyche* (April 1927), pp. 55-65.

⁸ Freiherr A. von Schrenck-Notzing, "Vintons angebliche Entlarvung der Braunauer Medien," *Z. f. Paraps.* (1927), liv. 705-24.

⁹ "Neues von den Medien Willy und Rudi Schneider," *Z. f. krit. Ok kult.* (1928), iii. 89-91.

¹⁰ René Sudre, "A Séance with Rudi Schneider," *Journ. Amer. S.P.R.* (1927) xxi. 395-403; cp. *Mercure de France*, 15 September 1927.

Herr Rudolf Lambert, Stuttgart.¹ Between 1 and 6 September he had three further sittings at Braunau.² Dr Prince's conclusion is expressed by him in these words: "I could not truthfully express any belief in the genuineness of the phenomena."³ His report aroused much interest. It is only necessary to mention a detailed criticism by Dr Gerda Walther,⁴ the replies of Dr Prince⁵ and Herr Lambert,⁶ which Dr Walther in turn answered,⁷ and a commentary by Graf Klinekowstroem.⁸

We have a superficial account of an unspecified number of sittings in the autumn of 1927 at Baron von Sehrenek's.⁹ Unfortunately the writer was as much impressed by the fraudulent Osear Schlag as by the Schneider brothers.

On 11 October 1927 Mr Bird had a sitting in Braunau, of which he gives us a detailed account.¹⁰ He attributes the phenomena to fraudulent conspiracy and this conclusion led to a discussion with Miss May Walker,¹¹ Major Kalifius,¹² and Dr Gerda Walther.¹³

We have a brief account of a sitting in Braunau on 29 April 1928, directed to show that Mr Vinton's theories are untenable.¹⁴

During October 1928 four representatives of the S.P.R. had several completely negative sittings at Baron von Sehrenek's.¹⁵

Later in the same month I had three further sittings there, which were also entirely negative.¹⁶

¹ [Dr W. F. Prince], *Experiments with Physical Mediums in Europe* (Boston S.P.R., Bulletin VII, 1928), pp. 6-61.

² *Ibid.*, pp. 62-70.

³ *Ibid.*, p. 70.

⁴ Dr G. Walther, "Die angebliche Entlarvung des Mediums Rudi Schneider durch den Untersuchungsbeamten der Boston S.P.R. Dr W. Prince," *Z. f. Paraps.* (1928), lv. 403-15.

⁵ Dr W. F. Prince, "Hyperkritik und Fehlmethodik," trans. R. Lambert, *Z. f. Paraps.* (1929), lvi. 85-95.

⁶ R. Lambert, "Nachwort," *Ibid.*, lvii. 95-9.

⁷ Dr G. Walther, "Schlusswort," *Ibid.*, lvi. 99-104.

⁸ Graf C. von Klinekowstroem, "Die Erfahrungen von Dr Walter Franklin Prince mit dem Medium Rudi Schneider," *Z. f. krit. Okkult.* (1928), iii. 96-108.

⁹ Florizel von Reuter, "Experiments in the Laboratory of Baron Dr von Sehrenek-Notzing," *Quarterly Transactions of the British College of Psychic Science, Ltd.* (1928), vii. 22-32.

¹⁰ J. Malcolm Bird, "The Current Status of the Schneider Mediumship. II. A detailed Account of my Seance with Rudi, in Braunau," *Psychic Research* (1929), xxiii. 407-27.

¹¹ *Ibid.*, xxiii. 606-23.

¹² *Ibid.* (1930), xxiv. 19-22.

¹³ *Ibid.*, xxiv. 22-7.

¹⁴ Florizel von Reuter, "A Sitting with Rudi Schneider in Braunau," *The British Journal of Psychological Research* (1928), ii. 43-51.

¹⁵ *Journ. S.P.R.* (1929), xxv. 2-3.

¹⁶ Theodore Besterman, "Report of a Four Months' Tour of Psychological Investigations," *Proc. S.P.R.* (1929), xxxviii. 433-4.

On 21 March 1929 Mr Price had a fairly successful sitting in the home of Rudi's friend Karl Amereller, in Munich.¹

Between 12 and 22 April 1929 Rudi gave five sittings at the National Laboratory of Psychical Research, London. At these sittings Baron von Schrenck-Notzing's method of electrical control of the medium was extended to all the sitters.² Unfortunately this method is very defective and deprives the series, and that next mentioned, of much, though by no means of all, their value. This method of control was criticised by Count Perovsky-Petrovo-Solovovo³ and Dr Woolley,⁴ and defended by Professor Schiller⁵ and Mr Price.⁶

Between 14 November 1929 and 20 January 1930 Rudi gave a further series of twenty-one sittings at the National Laboratory.⁷ Mr Price's book includes various independent reports, of which only two need be mentioned, those of Captain F. McDermott⁸ and of Lord Charles Hope.⁹ Dr Bruck has published some theoretical considerations arising out of these sittings.¹⁰

Between 10 October and 14 November 1930 Rudi gave a series of sixteen sittings at the Institut Métapsychique, Paris, where he also spent the whole of 1931, with intervals, giving seventy-four further sittings. These ninety sittings form the subject of the valuable report¹¹ which is reviewed in the following pages.

On 31 July 1931 Mr Price and others had a sitting at Braunau. All the doors and windows were sealed and numerous phenomena occurred.¹²

¹ Harry Price, in *Psychic Research* (1929), xxiii. 288a; *Rudi Schneider* (1930), pp. 4-5.

² *Id.*, *Rudi Schneider*, pp. 7-48.

³ *Journ. S.P.R.* (1929), xxv. 163-4.

⁴ *Ibid.* (1930), xxvi. 125-6, 140-1.

⁵ *Ibid.* (1929), xxv. 175-6.

⁶ *Ibid.* (1930), xxvi. 139-40.

⁷ Harry Price, *Rudi Schneider*, pp. 49-228.

⁸ *Ibid.*, pp. 128-31.

⁹ *Ibid.*, pp. 193-205.

¹⁰ Dr Carl Bruck, "Prinzipielle Betrachtungen zu den Phänomenen Rudi Schneiders," *Z. f. Paraps.* (1930), lvii. 742-7.

¹¹ This report, by Dr Eugène Osty and his son Marcel Osty, first appeared in the *Revue Métapsychique* (1931), pp. 393-427; (1932), pp. 1-59, 81-121. It was then re-issued in book form under the title *Les Pouvoirs inconnus de l'Esprit sur la Matière* (Paris: Félix Alean, 1932; price 25 fr.). All the references below are to the book.

¹² Dr Gerda Walther, "Neue Versuche von Harry Price mit Rudi Schneider," *Z. f. Paraps.* (1932), lix. 193-5.

II

The sittings at the Institut began very properly with a series of preliminary sittings "pour voir." Nothing of special interest occurred during the first thirteen sittings, with the following exception. At the third sitting Dr Osty observed coming towards the *séance*-table from the direction opposite to that of the medium, a thick greyish fog about 30 centimetres wide. When this fog reached the edge of the table top the table moved slowly for more than 20 centimetres. Dr Osty, bent over this phenomenon, clearly observed that the moment the table stopped moving the fog-like mass became instantly invisible (p. 25).

During the fourteenth sitting was first accidentally made the discovery which eventually directed the entire course of this series of sittings. For purposes of control Dr Osty (for the sake of brevity I will abstain from saying each time Dr Osty and his collaborators) had installed an apparatus which will be familiar to most readers from its use during the recent international exhibitions at Burlington House. Across the space to be guarded an infra-red (and hence invisible) ray is directed at a suitable cell, which is placed in an electrical circuit with, for instance, a bell, in such a way that if the invisible ray ceases to impinge on the cell, as by the interposition of one's hand, the circuit is completed and the bell rings. The same apparatus can be connected with, for instance, a camera and flashlight, so that an interruption of the beam causes the flashlight to be set off, thus exposing a previously prepared plate. Such a ray Dr Osty caused to be directed over the *séance*-room table, on which a handkerchief had been placed with a view to obtaining telekinetic phenomena. It would thus have been impossible to obtain normal access to the handkerchief without interrupting the ray and thus revealing the fraud or accident.

Under these circumstances was held the fourteenth sitting, the cell being connected with the photographic apparatus. On two occasions during this sitting two sets of photographs (four cameras were in use) were automatically taken by the interruption of the infra-red ray. But when the eight negatives were examined nothing in the least abnormal was observed on them. In other words, the cause of the production of the instantaneous photographs was non-photographable. The conclusion was inevitable that on these two occasions a "substance" had been present on the table, which "substance," though not photographable, was capable of absorbing or refracting not less than 30% of the infra-red ray, this being the degree of absorption or refraction necessary to put the apparatus into operation (pp. 31-5). For the sake of brevity only absorption

will be spoken of; but, in fact, probably both refraction and absorption were at work.

This important discovery naturally opened the way to various lines of investigation. The first was to ascertain whether the absorption of the infra-red ray was really due to the presence of a non-photographable substance. This was achieved by connecting the cell with a bell which would ring during the whole time that 30% or more of the ray was absorbed. The photographic apparatus was placed in a self-contained circuit so that a flash could be made at will. During the fifteenth sitting, under these conditions, the bell rang repeatedly for various periods up to 100 seconds. Photographs were taken during these periods (that is, during the interruption of the infra-red ray), without anything abnormal being recorded on the plates. Another point was established during this sitting: that the medium has a degree of control over the entry of the substance into the ray. He repeatedly announced that the force (as he calls it) was about to operate, and these announcements were usually followed by ringing (pp. 36-41).

The next step was to register graphically the disturbances of the infra-red ray. This was achieved in the following manner. In the electric circuit producing the ringing there was inserted a small electric lamp which was directed at a narrow slit in a box, behind which slit there passed continuously a roll of photographic paper. Accordingly, whenever 30% or more of the infra-red beam was absorbed a circuit was completed which at the same time rang a bell and lit the lamp, which thus produced a line on the photographic paper. This amplified apparatus was put into use in the sixteenth sitting, and the previous results were confirmed. Again an additional point was established: that the substance in question is invisible, for a part of the sitting was held in good red light, during which the usual disturbances of the infra-red ray occurred without anything been seen (pp. 41-8).

I now propose to pass over a long series of sittings, during which various experiments were conducted, some satisfactory, others inconclusive, with a view to localising the substance, measuring the duration of its presence in the ray, and its density or volume, studying the influence on it of various kinds of light, and the mental control over it of the medium. The account of these experiments should be read at pages 51-110 of the report under review.

I proceed to the experiments in which it was discovered that the substance does not usually enter into the infra-red ray, absorb a certain percentage of it, and remain constant, but rather that, during its presence in the ray, the substance as a rule oscillates very rapidly. This was established by the use of a sensitive galvanometer, which records minute changes in the electric current set up

by the absorption of the infra-red beam. It was found that the oscillations of the substance in the infra-red ray range from 120 to 420 per minute (pp. 111-6).

Next a pneumograph was installed to measure and record the medium's rate and volume of respiration. The volume showed nothing very exceptional. The rate of respiration, which, even without instruments, must have struck everyone who has sat with Rudi, showed itself to be very remarkable. Whereas Rudi's ordinary rate of respiration is 12 to 14 per minute (which is quite normal), in trance the rate is usually between 120 and 300 per minute, rising as high as 350. These two instruments, measuring the rate and vibration of the substance in the infra-red ray and Rudi's rate of respiration, were then connected with a single recording apparatus, so that they became available on one roll as parallel graphs. This led to a very striking discovery: that the rate of vibration of the substance in the infra-red ray is always exactly double the medium's rate of respiration. And as each respiratory cycle comprises two muscular acts (inspiration and expiration), it follows that the vibration of the substance in the infra-red ray synchronises with the medium's muscular action in respiration (pp. 117-30). This fact clearly opens the way to a vast field of research.

I have so far said nothing about the evidential standing of these results, nor do I propose to say much. MM. Osty describe at length in their report the precautions taken against fraud and accident (as by the use of a fixed screen between medium and sitters on the one hand and the apparatus on the other), and it is quite clear that fraud in the ordinary sense may be ruled out. There remains the possibility that Dr Osty and his collaborators are engaged in a fraudulent conspiracy. I have carefully examined the report under review from this point of view and I have also had the opportunity of inspecting the apparatus *in situ* and of putting a series of questions to Dr Osty. As a result I am quite satisfied that even if Dr Osty and his collaborators were engaged in a fraudulent conspiracy (an assumption it is a little difficult to discuss seriously) they would not have been able, under the conditions of these sittings, to reproduce the results obtained. To take only one example, it would appear to be to all intents and purposes impossible for the ordinary person to maintain for hours on end (with short intervals) a rate of respiration in the average fifteen times greater than normal. In congratulating MM. Osty on this contribution of capital importance to the study of parapsychical phenomena, I should like to thank them and Miss Galloy, who took the notes at the sittings, for the kind and courteous way in which they answered all my questions.

If it is not improper to end on a personal note, I should like to put it clearly on record, as I have not hesitated to express myself in

print on several occasions in terms very critical of all paraphysical phenomena, that I am satisfied, *failing the discovery by the investigators of unforeseen circumstances*, that the medium Rudi Schneider did during the sittings under review extrude under partial mental control an invisible and non-photographable substance capable of partly absorbing and/or refracting an infra-red ray and of oscillating in it at a rate double that of his rate of respiration. At the same time, in view of the revolutionary nature of the discovery, it would be as well to suspend a final judgment until MM. Osty have had an opportunity of completing their investigations, and until the necessary control experiments have been carried out.

PROCEEDINGS

OF THE

Society for Psychical Research

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For the sake of brevity such qualifications as "supposed," "alleged," etc., are omitted from this index. It must, however, be understood that this omission is made solely for brevity, and does not imply any assertion that the subject-matter of any entry is in fact real or genuine.

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PRINTED IN GREAT BRITAIN
BY ROBERT MACLEHOSE AND CO. LTD.
THE UNIVERSITY PRESS, GLASGOW



