

Lifting the lid on

Menwith Hill...



**The Strategic Roles & Economic Impact
of the US Spy Base in Yorkshire**



A Yorkshire CND Report 2012

About this report...

Anyone travelling along the A59 to Skipton cannot fail to notice the collection of large white spheres spread over many acres of otherwise green fields just outside Harrogate. Some may know that these 'golfballs', as they are often called, contain satellite receiving dishes, but few will know much more than that. In fact, it's extremely difficult to find out very much more because this place – RAF Menwith Hill – is the largest secret intelligence gathering system outside of the US and it is run, not by the RAF (as its name would suggest) but by the National Security Agency of America.

Such places always attract theories about what they are involved in and Menwith Hill is no exception – but over the years it has also been the subject of careful investigation and analysis by a number of individuals and groups.

The first researcher to bring the activities of Menwith Hill to the notice of the public was Duncan Campbell, whose investigations were publicised by locally based Otley Peace Action Group. Groups such as the Menwith Hill Women's Peace Camp and Yorkshire CND employed non violent direct action to draw more attention to its activities. Information obtained from inside the base proved conclusively that the US National Security Agency ran Menwith Hill and from Duncan Campbell's investigations slowly but surely the story of what goes on at the base has come to light. More information on Menwith Hill and similar bases around the world has been obtained from groups such as Citizens for Peace in Space and others linked through international networks such as the Global Network Against Weapons and Nuclear Power in Space.

Yorkshire CND has been involved in or supported all of these actions in an attempt to uncover the true nature and repercussions of the base. In addition, the Campaign for the Accountability of American Bases challenges the moral and legal standing of the base through

demonstrations, court actions and parliamentary work. Similar issues have been taken up by various members of the UK and European Parliaments but calls for further action have been smothered by statements about concerns for security and the importance of counter terrorism.

However, it is not the purpose of this report to write a history of the protest movement around the base. The object was originally to investigate the claims made by the US and UK governments of the huge financial benefits (rising to over £160 million in 2010) that the base brings to the local and wider communities. In doing so, it was necessary to develop a clearer understanding of what the base does, how it operates and how much national and local individuals, companies etc., are involved in the day to day activities. This has proved to be a difficult task without access to the detailed information held by the US base authorities, through which to make a full economic impact assessment. Nevertheless the most realistic estimates indicate that the claims made about these benefits are far from representing a true picture and seem to have been deliberately overestimated.

Menwith Hill is just one of the many US bases in the UK – this report demonstrates that not only is there a real need to discover more about the activities and impact of these bases on local communities, but they also present important challenges to the national sovereignty and international standing of the UK. It seems sensible therefore that Menwith Hill is held to account. There follows a list of recommendations for actions at various levels of community/government responsibility which need urgently to be followed if we are to discover just how much the presence of this U.S. base in Yorkshire affects us all.

Dave Webb
Chair, Yorkshire CND

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The Project Steering Group recommends the following urgent actions:

Local and Regional Level

1. That the Leaders Board of Leeds City Region Local Enterprise Partnership, made up of the eleven local authorities in the city region, and in particular the Leaders of Harrogate Borough Council, Leeds City Council and North Yorkshire County Council, commission an economic assessment of the consequences of the closure of the Menwith Hill Base and a feasibility study for its conversion and reuse as a development site of benefit to the whole city region.

2. That the main media outlets in Yorkshire - TV and radio stations and newspapers, such as, for example, BBC Leeds, BBC York, Yorkshire TV Studios, Radio Aire, Stray FM, Yorkshire Post Newspapers, Harrogate Advertiser and the Bradford Telegraph and Argus - fulfil their responsibility to their viewers, listeners and readers by ensuring that information about Menwith Hill and its role, which is published and available in the United States and elsewhere, is presented fully (and regularly updated as new developments take place) for the public in Yorkshire to see, hear and read, so that the veil of secrecy is broken and Yorkshire people cannot claim that they did not know what is going on there.

3. That human rights groups and faith based communities in Yorkshire consider carefully the moral and ethical implications of the military surveillance and target setting on an international scale carried out from Menwith Hill and the potential subversion of democracy through the activities of the base and the routine monitoring of personal and commercial electronic communications, both in the UK and worldwide, and take steps to make known any concerns they have to people of conscience in the region and in the UK parliament - for example, the Anglican Church can work through its bishops in the House of Lords.

4. That elected representatives from the region, local authorities, media outlets and representatives from the local community and faith organisations come together to set up a Forum of interested people (an independent, non-political Menwith Hill Forum) who will monitor developments at the base and ensure that information is made widely available and publicised.

National Level

5. That the scandal that the UK Parliament is uniformly misled by the Secretary of State for Defence about the nature of what is done at Menwith Hill be ended immediately and that a statement be delivered to the House describing the true facts about its role on the basis of known information from published sources in the UK, US and elsewhere.

6. That misleading information about the costs to the British tax payer of the base and the alleged benefits that it provides to the local and UK economy be withdrawn and that a proper analysis of the costs and economic benefits of the base be presented to Parliament by the Secretary of State for Defence.

7. That the full details of the UK/USA Cost Sharing Arrangement should be made public and an analysis made both of the historical costs to the UK of infrastructure support funding and tax exemptions for all US bases in the UK, together with a detailed breakdown of present-day costs for each base, including Menwith Hill, and that the agreement between the USA and the UK under which US bases are allowed to exist on British soil be renegotiated so that US personnel and US bases are no longer exempt from direct and indirect taxation and the UK is no longer responsible for infrastructure support costs.

8. That the News International "hacking" scandal - which has been the subject of a number of ongoing parliamentary inquiries - is insignificant in its implications for civil liberties and the future health of parliamentary democracy compared with the subversive nature of the routine espionage carried out from Menwith Hill, and that a Committee of Inquiry should be set up by Parliament or by an appropriate parliamentary committee of MPs to consider the nature of the activities carried out at the base, how the situation has been allowed to develop where Menwith performs the role that it does, and what can be done to make the base accountable to the UK parliament and to the British people, so that appropriate action can then be taken to ensure its activities conform with their wishes and with international law.

9. That given the evidence of subversive activity produced in this report and the difficulty of arriving at a true assessment of the potential economic implications of closing down Menwith Hill because the necessary data has not been made available, that Parliament itself, with or without the engagement of the local authorities in Yorkshire, commission a feasibility study for its closure, including its conversion and reuse as a development site of benefit to the whole region.

International Level

10. That the role of the Civil Liberties Committee of the European Parliament in commissioning previous studies into the activities at Menwith Hill and the work of the European Parliament's Temporary Committee on the ECHELON Interception System is acknowledged and welcomed and that a further study be undertaken to assess the impact on European business of commercial espionage carried out from Menwith Hill and the legality of this activity under European law.

11. That the failure of the UK, US and of other democratic countries to resist the expansion of the "secret state" within each democratic community, a tendency which has accelerated since the 9/11 attacks on the United States in 2001, with democratic accountability sacrificed and ignored because of the "fear" of further terrorist attacks, must be recognised, exposed and countered internationally because of the dangers that it poses in all societies, and that popular opinion and elected representatives worldwide should be challenged everywhere to find ways of making the "secret state" more accountable, of bringing it under control and, where possible, of closing it down.

Executive Summary



In response to those who challenge the existence and roles of the Menwith Hill intelligence gathering base, the economic contribution to the local community is given as one reason to justify its continued presence. This report examines those claimed benefits, as well as identifying some associated costs. However, the secrecy surrounding the activities of the base limits the extent of any cost-benefit analysis. Such analysis, in any case, needs to be understood within the broader strategic framework of the global surveillance system developed by the United States to support its military capabilities.

Operating since the 1960s, Menwith Hill is a highly-secret electronic spy base located in the UK, near Harrogate, North Yorkshire. It is run by the US National Security Agency (NSA), responsible for Signals Intelligence (SIGINT) and is an integral part of this global network. A fleet of US satellites intercept microwave transmissions from around the world which are analysed at regional, ground receiver stations, including Menwith Hill, alongside other sources.

Vast quantities of data from electronic communication networks and the internet are processed on site by US military and civilian intelligence personnel. These personnel have a wide range of skills in cryptanalysis (decoding encrypted signals), linguistics, and computer and satellite hardware and software, with the use of multi-billion dollar supercomputer

systems that can process data at high speed. The analysed data is transferred to the NSA's headquarters at Fort Meade, Maryland, USA, to provide intelligence that supports the United States long-term strategic objectives, underpinned by global military power projection, including access to oil supplies and other finite resources.

During the early years of the Cold War, the UK government compulsorily purchased farmland at Menwith Hill, on behalf of the United States, as an ideal location for the construction of a US spy base, to intercept the military and diplomatic communications of the former Soviet Union and its Warsaw Pact allies in Eastern Europe. At the end of the Cold War, the military focus shifted to the Persian Gulf, including intelligence support in the first Gulf War to locate Iraqi communications centres prior to military strikes.

Menwith Hill also has responsibility for the interception of commercial and business-related transmissions from other nations' satellites, reflected by the increasing number of distinctive 'golf ball' radomes (thick plastic sheeting over an aluminium frame that masks the angle of elevation and the direction in which they are pointed) on site during the 1980s and 1990s, and the expansion in personnel numbers, operations buildings and other facilities. Confidential information intercepted from foreign competitors, including European and UK-based companies, was used by US corporations to assist their bids on international tenders.

Alerted by independent research and testimony from whistleblowers on these activities, the European Parliament, in 1999-2001, conducted an investigation into the operations of NSA bases in Europe. This concluded that the NSA's commercial spying, by providing US companies with sensitive commercial information, probably damaged the interests of European companies and was also illegal under EU and international laws relating to data protection and privacy.

Over the last decade, the NSA has increased its budget substantially, to an estimated \$15 billion a year and expanded its workforce to 60,000, in order to provide comprehensive global intelligence and surveillance capabilities, including the interception of all forms of personal, electronic communications.

In Menwith Hill's case, the number of specialist personnel from the US armed services and from US arms corporations has increased from 400 in the 1960s to approximately 1,800 in 2011, and a new operations building constructed that has doubled capacity, in order to accommodate a multi-billion dollar investment programme in computing and associated satellite hardware and software. There are also now 33 radomes on site.

While nominally an RAF base since 1996 (overseen by a squadron leader with no planes and no pilots), Menwith Hill's importance as a key regional centre for the NSA has grown. Currently, the base's main roles include continued military, diplomatic and commercial intelligence gathering. Also, as part of the US Ballistic Missile Defence (BMD) programme, it is the ground receiver and relay for a new generation of Space Based Infrared Satellites (SBIRS) to provide early warning of missile launches and trajectories. Significantly, the scale of investment reflects Menwith Hill's enhanced role in 'intelligence-led warfare', whereby advances in both electronic surveillance and satellite imagery are used to support 'real-time' US military actions, including drone attacks and those carried out by special operations forces.

Secrecy surrounding its activities, together with the need for high-level security clearance reserved for US military personnel and US contractors, determines the nature of the relationship between the base and the local community. Quite simply, Menwith Hill is run as a US enclave and a dollar economy. Supplies of food and other consumables including fuel, are both flown in and shipped in from the United States and sold at heavily subsidised prices, through facilities on site that are exclusively reserved for the use of US personnel. The UK civilian workforce, totalling 390 in 2011 and who carry out ancillary functions around the base in ground maintenance, catering and administration, etc, do not enjoy access to any of these benefits. With such advantageous arrangements, US personnel have little incentive to patronise local shops and services.

Work on the multi-billion dollar investment programme in computing and satellite related equipment, one of the largest and most sophisticated high technology programmes carried out anywhere in the UK over the last ten years, has been reserved for US-based arms corporations including Lockheed Martin and Northrop Grumman, and their personnel with high-level security clearance. This can best be

described as a form of economic apartheid, effectively discouraging any significant development of a high-technology, local supplier network to the base. Only lower-value contracting opportunities are provided to local companies in general building and equipment maintenance, vehicle parts supplies, fresh produce, etc.

Claims made by the US authorities that Menwith Hill provides significant economic benefits to the local community, peaking at over £163 million annual expenditure in 2010, are grossly exaggerated.

Aggregate figures that rely on US salaries for 50% of this total, take no account of the proportion of those salaries repatriated to the United States, nor that spent on subsidised US goods and services purchased inside the base, within the dollar economy. Also, a large proportion of contracting work on the new operations building, paid for by the US authorities and classed as local expenditure, has been allocated to companies outside the local area.

The base's main contribution to the local economy includes the renting of accommodation by US personnel who reside locally, and spending by both the US and the UK workforce in local shops, pubs, restaurants, etc. But, even allowing for indirect expenditures generated from this initial spending, a more realistic estimate is that the total yearly expenditure in the local, Harrogate district economy, is around half of that claimed by the US authorities.

Nor does this supposed economic benefit reflect the true costs to the UK of servicing US bases like Menwith Hill. These are confidential under a national Cost Sharing Arrangement between the UK and the United States that applies to all US bases. However, Freedom of Information (FoI) answers have revealed that infrastructure support work at Menwith Hill is paid for by the UK Ministry of Defence (MoD), including drainage, road surfacing, electrical

cabling, etc. Over the last five years, the cost to the MoD has been over £7 million to support the construction programme for the new operations building and the upgrading of other facilities used exclusively by US personnel. Under this Cost Sharing Arrangement, Menwith Hill is run as a tax-free zone.

The UK government forgoes normal tax revenues, including customs and excise duties and VAT on supplies, as well as business-rate council tax for the range of public services provided to the base.

US DoD military and civilian personnel are also exempt from personal tax and council tax. The substantial number of US civilian contractors working for private sector, US arms corporations at the base - over 500 in 2011 - are classed as government personnel and enjoy the same exemptions. Although difficult to quantify, these foregone taxes will be substantial, running into tens of millions of pounds a year, at a time when the public services provided by the UK taxpayer, and from which US personnel benefit, are facing serious cuts in funding.

Other costs to the UK taxpayer include armed-police vehicle patrols around the base by the North Yorkshire police force. The figure remains confidential but will be a minimum of £500,000 a year, at a time when the police authority is facing a cut of £21 million in its budget over the next four years and a freeze in recruitment. Harrogate Borough Council incurs costs in planning applications for Menwith Hill's construction programmes and for legal expenses. Also, US personnel enjoy free use of the NHS and educational facilities.

Finally, there are the issues of the 'ecological footprint' of the base, importing supplies from the United States that could be sourced locally, and using diesel fuel to generate electricity on a comparable scale to that of a small town. The full costs of environmental remediation will have to be met by the UK when the base is closed.

Serious issues are raised about the expansion of the NSA, and the role of Menwith Hill in new forms of warfare. The NSA sits at the apex of a Military Industrial Intelligence Complex (MIIC) with the capacity now, to carry out the surveillance of all forms of electronic communications, while operating in total secrecy. This extraordinary accumulation of power and resources by US intelligence agencies and arms corporations, coupled to emergency domestic security legislation in the war on terror, provides the framework for anti-democratic and authoritarian forms of political control.

Menwith Hill is a key regional centre in the US intelligence architecture that, far from enhancing UK and international security, can only undermine it. A comprehensive BMD system utilising the base's SBIRS role, and which the United States plans to fully deploy by 2025 at the cost of trillions of dollars, will inevitably lead to the further militarisation of space and a new and dangerous arms race. The ability to destroy other countries' missiles will be perceived by their political and military leaders as the means for a first-strike capability, which can only be neutralised by increasing the number of deployed missiles in order to swamp any BMD system.

Menwith Hill's provision of integrated intelligence is already being used to support a range of 'real-time' military operations, including remote-control, drone attacks that have led to the deaths and injuries of thousands of civilians.

The fact that such intelligence-led US operations are supported from a UK-based facility, and involve what are effectively acts of war, carried out without any formal declaration of war, serves to expose a massive democratic deficit at the heart of Menwith Hill. There is no accountability through the UK Parliament and, because of the total secrecy under which the base operates and the covert nature of these growing new forms of warfare carried out by the United States, little debate

on the legality and strategic rationale of such operations.

Menwith Hill should be closed down because its activities are illegal under international law, have never been democratically accountable to the British people and because it serves a broader US power projection strategy that seriously damages international security. Under a renewed international disarmament programme that involved the closure of all overseas bases, substantial savings from reduced military spending could be used to support civil investment programmes, including indigenous, renewable energy systems that provided skilled manufacturing work, while reducing the West's dependency on foreign oil supplies.

Closure of the base would involve a transitional period for the local economy in which there would be reduced demand and expenditure and, as the base was run down and equipment dismantled, the loss of an estimated 300-350 full-time equivalent jobs locally. But previous base closure exercises, including those of bases closed down by the NSA at Bad Aibling in Germany and Edzell in

Scotland, demonstrate that a base reuse programme can provide a range of new industrial and commercial work on site, and compensatory employment in a broader range of skilled manufacturing and service work.

Harrogate, is a relatively prosperous local economy by regional standards, with a low level of dependency on military spending - calculated at less than 1% of the district's overall Gross Value Added (GVA) - and is typical of local districts that have successfully absorbed base closures within a short time scale.

All too often, the US base authorities, supported by the MoD, use economic arguments as a public-relations exercise to promote a benign view of the base and its relationship to local communities. But there is also a thinly-disguised threat that closure would bring severe economic disruption, so discouraging any critical analysis of the base, locally, for fear of unemployment and loss of income. Such arguments are deeply flawed and should not deflect us from raising fundamental questions about the strategic roles played by Menwith Hill and the strong case for its closure.



Introduction

This report is divided into two sections. Section One (Chapters 1-3) considers the role of Menwith Hill as a regional electronic spy base run by the US National Security Agency (NSA). The main focus is to clarify what contribution Menwith Hill makes as a highly-secret regional collection and analysis centre for signals intelligence (SIGINT). Section Two (Chapter 4) is concerned with the economic impact of the base and provides a critical assessment of the US authorities' claims that Menwith Hill makes a substantial economic contribution to the local area through the expenditure of base personnel, employment of UK citizens and local contracting.

Chapter One

Chapter One provides a brief review of the expansion of US overseas bases during the 20th century, with the strategic objective of consolidating the United States' position as the dominant economic and military power in the world, and to secure access to strategically vital resources of oil and other resources. More recent trends are analysed, including the US base realignment programme to provide more flexible options for military operations and to utilise the technological capacity for integrated intelligence and communications. The United States is now in a position to carry out a full range of military operations, from conventional warfare to special operations, anywhere in the world.

Chapter Two

Chapter Two's focus is on the growth of the NSA since the 1950s and the creation of a highly-secret global SIGINT network. Independent research and the European Parliament investigations are highlighted for providing the first public exposure of the NSA's activities in Europe. These included Menwith Hill's military and commercial electronic spying through satellite interception of microwave communications. Also emphasised is the NSA's expansion after the September 2001 terrorist attacks and the emergence of a Military Industrial Intelligence Complex (MIIC) comprising intelligence agencies and major arms corporations.

Chapter Three

Chapter Three clarifies the main roles of Menwith Hill, tracing the historical development of the base in monitoring the military and diplomatic communications of the former Soviet Union and intelligence support in the first Gulf War. The base also has a continuing role in commercial spying through the interception of communications from civil satellites. More recent functions include the provision of an early-warning and tracking capacity for Ballistic Missile Defence, as well as intelligence-led warfare that provides combined imagery and telecommunications surveillance for 'real-time' military operations. The expansion of Menwith Hill's roles is reflected in the growth in personnel numbers, operational facilities and a secret, multi-billion dollar investment in high technology equipment.

Chapter Four

Chapter Four provides a critical evaluation of the US authorities' claims that Menwith Hill makes a substantial contribution to the local economy. Serious problems are identified including the function of the base as a US economic enclave with goods flown in from the United States. Also assessed are the hidden costs to the UK, including the provision of tax concessions to the base and to US personnel. The potential impact on the local economy of the base's closure is analysed and evidence from previous base reuse programmes is assessed to provide a framework for a transitional programme that can lead to stronger, more diversified local economy.

Chapter Five - Conclusion

The Conclusion brings together the various strands of the report to highlight the strategically important role that Menwith Hill plays as a fulcrum for intelligence-led warfare, as well as the dangers to democracy from the accumulation of power by the NSA and other elements of the MIIC. The case is put forward that the closure of Menwith Hill would be beneficial, both at the local level, and internationally, as a contribution to a broader disarmament programme in which all foreign bases around the world are closed.

Acronyms

AAFES	Army and Air Force Exchange Service [US]	MCIA	Marine Corps Intelligence Activity [US]
ABM	Anti-ballistic Missile	MCSB	Marine Cryptological Support Battalion [US]
AIA	Air Force Intelligence [US]	MEP	Member of the European Parliament
AONB	Area of Outstanding Natural Beauty	MI	Military Intelligence [US Army - INSCOM]
BMD	Ballistic Missile Defence	MIC	Military Industrial Complex
CAAB	Campaign for the Accountability of American Bases	MIIC	Military Industrial Intelligence Complex
CIA	Central Intelligence Agency [US]	MOB	Main Operating Base [US]
COMINT	Communications Intelligence	MoD	Ministry of Defence
COMSAT	Communications Satellite	MP	Member of Parliament
CSL	Cooperative Security Location [US]	NGA	National Geospatial Intelligence Agency [US]
DCA	Defense Commissary Agency [US]	NIOC	Navy Information Operations Command [US]
DCGS	Distributed Common Ground System [US]	NRO	National Reconnaissance Office [US]
DIA	Defense Intelligence Agency [US]	NSA	National Security Agency [US]
DIO	Defence Infrastructure Organisation [US]	NSA/CSS	National Security Agency/ Central Security Service [US]
DoD	Department of Defense [US]	OPAG	Otley Peace Action Group
ELINT	Electronic Signals Intelligence	PNAC	Project for the New American Century
EP	European Parliament	RDA	Regional Development Agency
EU	European Union	R&D	Research and Development
FAS	Federation of American Scientists	RSOC	Regional Security Operations Center [US]
FISINT	Foreign Instrumentation Signals Intelligence	SBIRS	Space Based Infrared Satellite System [US]
FoI	Freedom of Information Act	SCIF	Sensitive Compartmented Information Facility and/or Secure Communications Information Facility
FOS	Forward Operating Site [US]	SIGINT	Signals Intelligence
GCHQ	Government Communications Headquarters	SOFA	Status of Forces Agreement
GIG	Global Information Grid [US]	SPADAT	Space Detection and Tracking System [US]
GPR	Global Posture Review [US]	STOA	Science and Technology Options Assessment (formerly Scientific and Technological Options Assessment)[EU]
GVA	Gross Value Added	TIA	Total Information Awareness
GWOT	Global War on Terror	UKUSA	UK-USA Security Agreement
HUMINT	Human Intelligence	YCND	Yorkshire Campaign for Nuclear Disarmament
INSCOM	US Army Intelligence and Security Command		
INTELSAT	International Telecommunications Satellite		
ISRG	Intelligence, Surveillance, Reconnaissance Group [US Air Force]		
MASINT	Measurement and Signature Intelligence		

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Section One

About the role of Menwith Hill as a regional electronic spy base run by the US National Security Agency (NSA).

Here, our main focus is to clarify what contribution Menwith Hill makes as a highly-secret regional collection and analysis centre for signals intelligence (SIGINT).

Chapter One:

The United States and Overseas Military Bases

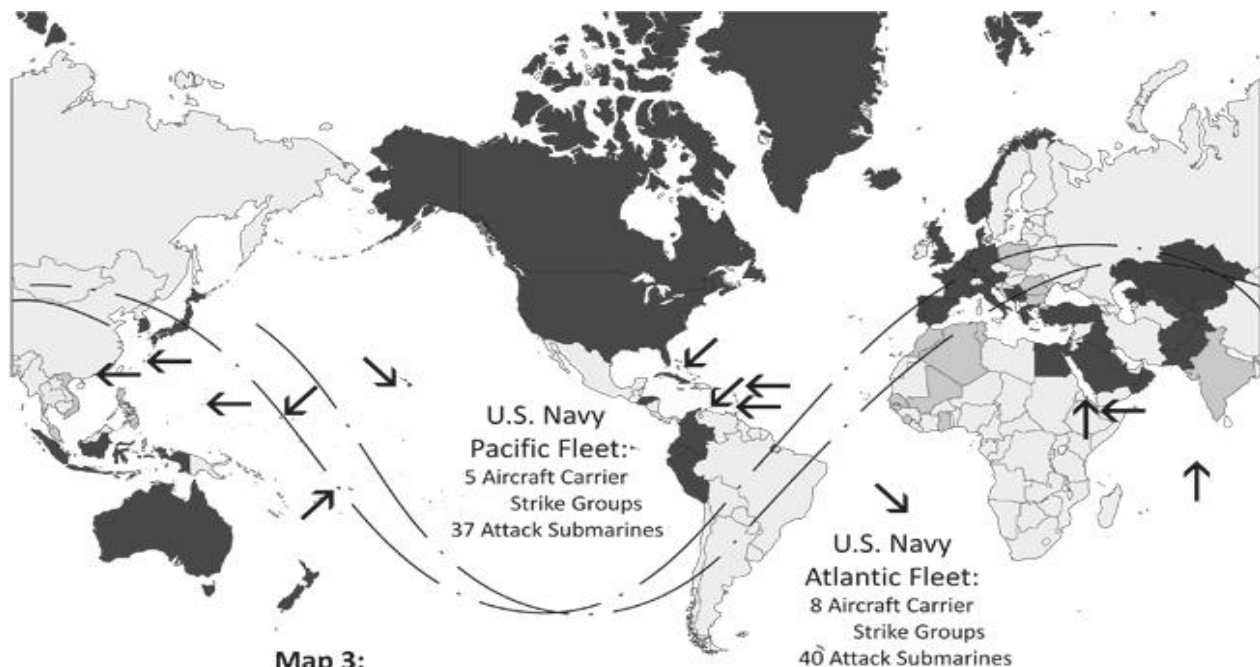
US Overseas Base Development: 1945-1990

In February 1945, President Franklin D. Roosevelt met with King Saud of Saudi Arabia on the Great Bitter Lake in the Suez Canal. The purpose of the meeting was to reach an agreement over continued US access to Saudi oil. In return, Roosevelt secretly undertook to establish a military base at Dhahran in eastern Saudi Arabia and to provide equipment and training to Saudi forces.¹

While influenced by the immediate need for war supplies, the agreement had a greater significance in symbolising the United States' determination to consolidate its position as the dominant economic and military power in the post-war world. For a country founded only in the late 18th century as a small collection of rebellious British colonies on the east coast of

America, the scale of this transformation to world power status was remarkable.

But far from being an affirmation of US strength, the Saudi deal was driven more by a fear of vulnerability. Since emerging as a major industrial power, the United States' economic expansion had been built on the foundations of a continental-wide resource base and mass domestic demand for consumer goods, allied to trading networks from both its eastern and western seaboard. However, the capacity of indigenous supplies to maintain this increasing growth rate was being rapidly depleted and it was clear to political and business elites that the country would soon become a net importer of oil, as well as other raw materials.² During the 1930s US corporations began investments in Saudi production facilities as the country had by far the greatest known reserves of oil in the world. The Persian Gulf region, even then, was



Map 3:

The US Military Footprint on the World

- countries with established US sites and bases
- offshore US sites and bases
- countries with proposed US sites and bases
- - - typical ground tracks of US space-based surveillance and proposed weapons systems

Source: US Department of Defense, *Base Structure Report*, 2008.

seen as vital to US economic, and, therefore, national security interests.³

For Roosevelt (and subsequently Truman), the overriding post-war objectives were to rebuild the international economy as a source of demand for US goods after the ravages of the Second World War and to maintain access to oil and other resources. Cold War militarisation is normally characterised as the act of a reluctant superpower faced with a global communist threat to freedom and democracy. Of course, there was a serious ideological struggle manifested, at its most extreme, in an obscene nuclear arms race that threatened all life on the planet, as well as brutal wars, firstly in Korea and subsequently in many other countries, including Vietnam, that cost the lives of millions of civilians.

But well before the build up of tensions over the post-war division of Europe into Soviet and US spheres of influence that culminated in the Berlin crisis in 1948, the United States was intent on extending its global reach. The pattern of US intervention was well established. After an initial period during the early 20th Century when the remnants of the old European colonial powers were finally ejected from the Americas, US territorial control was extended across the Pacific and as far as the Philippines - this after a particularly bloody campaign against Filipino nationalists in the early 1900s, resulting in at least 250,000 deaths.⁴

Rather than old-fashioned imperialism, the United States preferred, if at all possible, to cede political sovereignty to indigenous client groups who could represent themselves as independent, national governments. In reality, these were corrupt, anti-democratic oligarchies providing legitimacy for the exploitation of resources by US corporations in return for personal enrichment, while the mass of their populations continued to live in abject poverty.⁵

What the concept of a Cold War provided was a convenient ideological superstructure for this new imperialism and for various forms of intervention by the United States. In the developing world, covert action included the organisation of, and support for, coups against elected leaders such as in Iran in the early 1950s. Here the Mossadeq government asserted national sovereignty over oil production so the United States colluded with the UK to destabilise and then replace it with a compliant, autocratic monarchy.⁶

Any form of political independence movement could be demonised as a communist threat that justified support for right wing, authoritarian/military regimes supporting US corporate interests.

The United States steadily accumulated a global network of bases in strategically important areas like the Persian Gulf and the Indian ocean, utilising the purchase of US armaments and military training as leverage for continued support and access to resources.

Post-Cold War Base Restructuring: 1990-2005

By the beginning of the 1990s, the United States had over 1,000 bases world-wide. These ranged from very large main complexes with over 20,000 armed services personnel and family accommodation, through to small, unmanned radar stations. There was only one problem. The enemy had gone missing. Under

Gorbachev, the USSR embarked on an unprecedented peace race that defied every tenet of orthodox superpower politics by unilaterally removing Soviet forces from Central Europe and eliminating complete categories of short-range and medium-range nuclear weapons.⁷

This revolutionary framework for international relations was intended to culminate in comprehensive nuclear disarmament by the end of the century, the dismantling of traditional military alliances, and the removal of all foreign, military bases around the world. But the loss of Gorbachev's leadership completely deflated the international disarmament momentum, as Russia descended into economic chaos and political immobility, allowing the United States to defuse popular aspirations for comprehensive disarmament, a real peace dividend, and any fundamental restructuring of its armed forces. For example, ideas of common security encompassing social and environmental justice, and arms conversion policies to tackle the massive disparities in global wealth between North and South, as well as the growing threat from climate change, were never seriously considered.⁸

During the early 1990s, overall US military spending was cut by around 15% and, following the reunification of Germany, the US military presence in Europe was significantly reduced.⁹ But this was essentially a consolidation exercise before a wave of base investments was carried out as part of an overall increase in military expenditure. New enemies were conveniently found to take the Soviet Union's place and to legitimise a continued global presence. Notably, Iraq under Saddam Hussain was characterised as a growing threat to what the west regarded as strategic interests in the wider Persian Gulf region after the invasion of Kuwait. Along with Iran and subsequently North Korea, this represented the 'Axis of Evil', a totally nebulous concept, but one that provided the United States with a spread of countries to be depicted as dangerous and volatile enemies intent on obtaining weapons of mass destruction and promoting terrorism.¹⁰

Despite the obvious fact that the United States was by far the preeminent military power in the world, George W. Bush's administration embarked on a particularly overt and aggressive assertion of US military supremacy.



Right-wing, neo-conservative groups like the Project for the New American Century (PNAC) were especially influential in asserting the case for increased military spending and preventive war, specifically regime change in Iraq, but embracing a more general case for US military intervention.¹¹ During the early 2000s, Bush increased the arms budget from \$290 billion to \$380 billion and was preparing for the invasion of Iraq, even before the September 11th 2001 attacks on New York and Washington, when the 'Axis of Evil' was absorbed into the 'Global War on Terror'.¹²

Base Realignment and Global Power Projection: 2005-2015

For many analysts the Bush administration's ideologically-driven policies of prevention damaged US interests, as they culminated in deeply unpopular and divisive wars in Afghanistan and Iraq. But the neo-conservative agenda, although significant, should be placed in the longer-term continuum of US security policies overseen by all Democratic and Republican administrations, including Bush, and now Obama.

While the wars were ongoing and, understandably, the focus of intense debate and analysis, the Bush administration was also carrying out a strategically significant base realignment programme. As in the early 1990s, this involved some closures and reductions in personnel numbers, notably in Japan and Germany, and the return of around 70,000 personnel to the USA, as well 100,000 family members.¹³ What might be interpreted as retrenchment was a carefully constructed programme that maintained traditional strategic priorities, provided new facilities in regions of growing strategic importance such as the Horn of Africa and the Caspian Sea, and utilized advances in military technologies that made the rapid deployment of forces more feasible.¹⁴

Generally categorised as network-centric warfare, the objective was to integrate the range of communications and information networks available to the military, including space-based imagery and other intelligence that could provide a significant 'force-enhancer', both in terms of the speed and accuracy of military deployments. The US DoD's ambitions can be gauged by the development of what it calls the Global Information Grid (GIG) to link all US weapons platforms, intelligence sources and command-and-control centres, allied to the Distributed Common Ground System (DCGS) for immediate/real-time access by field commanders to all relevant intelligence during military operations.¹⁵

Three types of bases were identified in the Global Posture Review (GPR) undertaken by the DoD in 2005. Firstly, the Main Operating Bases (MOBs) which would continue with permanently stationed combat forces, extensive infrastructure and accommodation, e.g., Ramstein Air Base in Germany and Lakenheath Air Base in the UK. Secondly, Forward Operating Sites (FOS), again with extensive facilities like the MOBs but without the family accommodation and other features that tended to identify these as permanent sites, e.g., the British-owned Diego Garcia naval and air base in the Indian ocean, and the Manas Air Base near Bishkek in Kyrgyzstan.¹⁶

Lastly, and perhaps most significantly, was the development of smaller, Cooperative Security Locations (CSL) that stretched over what was described as the 'arc of instability' running from the Andean region of South America, through North Africa and the Middle East to the Philippines and Indonesia. These can be more accurately described as 'lily pads', having some prepositioned weapons but no permanent presence and were to be used for various forms of military intervention including Special Forces operations. (Domestically, the Global Posture Review also involved the closure of smaller bases in order to centralise logistical

support at giant facilities like Fort Worth in Texas, that were much more effective in coordinating the rapid transportation of equipment and personnel.)¹⁷

This base restructuring, combined with network-centric warfare in communications and intelligence, especially the use of space-based systems for operational support represents the most comprehensive system of global, military power projection ever devised, from carrier groups to assassination squads...

... and one where the gap between the United States' capabilities and any potential adversary's has never been larger.

The strategic concerns driving this forward are, if anything, more acute than in 1945. Now, the context is of resource depletion, peak oil and growing international demand, particularly from the energy-intensive, manufacturing industries of China and India. Different estimates exist of total oil reserves but major fields like Saudi Arabia's will hit a ceiling of production followed by inexorable decline, and probably sooner rather than later as demand increases. Securing access to existing and new supplies is the paramount objective of US policy and it is no coincidence that the 'arc of instability' is geographically identical with major new oil resources and transportation routes for tankers and pipelines.¹⁸

The Obama administration has enthusiastically embraced these longer-term security objectives. Overall arms spending has remained

at the high levels inherited from the Bush administration, \$549 billion in 2011, with an extra \$159 billion for the missions in Afghanistan and Iraq. A military presence will be retained in the region, despite the formal commitment to troop withdrawals, in order to protect oil supplies and to supervise the construction of oil and gas pipelines that provide alternative routes south through Pakistan and India.¹⁹

Even where there has been widespread local opposition, and by any normal democratic standards, clear majorities demanding the closure of bases, the United States continues to put intense pressure on national governments to ignore these popular aspirations. The most obvious example is the island of Okinawa, strategically located between Japan and China. Since the end of the Second World War, it has been the home to both large naval and air bases, with an estimated one fifth of all the land surface occupied by US military forces.

Plans for the relocation of a marine air base at Futenma to a larger, new facility at Henoko, sparked a mass rally of 90,000 people in March 2010, calling for closure without relocation. This followed the election of a centre-left government in Japan, led by the Democratic Party which had made a commitment to reduce the burden of US forces on Okinawa. But, under intense pressure from the Obama administration to carry out the relocation programme, the Prime Minister, Hatoyama Yukio simply caved in.²⁰ Many other examples of opposition around the world could be cited but the United States will simply not be deflected if it believes its interests are at stake.

The advantage of the new base framework, therefore, is both political and strategic, providing a less visible presence that does not generate the same form of popular opposition while offering more flexible military options that can be sold as contributing to the 'Global War on Terror' but are essentially part of a broader, imperialist strategy to secure oil.

Chapter Two

The National Security Agency and the Rise of the Military Industrial Intelligence Complex

Introduction

Here, in the heart of Yorkshire, is Menwith Hill, one of the most secret bases on Earth, run by the NSA, the most powerful intelligence organisation in the world. Spying on this scale brings with it the inevitable baggage of speculation, conspiracy theories, disinformation and even the paranoid/delusional (a transit station for UFOs prior to an alien invasion and/or a breeding-centre for killer bees - obvious, really, when you think about it), compounded by the refusal of the US authorities and the UK Ministry of Defence (MoD) to provide anything other than anodyne public relations statements in which they referred to Menwith Hill as a 'communications relay station engaged in research'.²¹

The fact that it is also, officially, an MoD base when under direct NSA control, and is designated as RAF Menwith Hill, even though the nearest any plane ever gets is an Easy Jet flight passing over on its way from Leeds/Bradford airport, are two other fairly risible elements of this smokescreen.

But there is no need for speculation or conspiracy theories. Public records, empirical research and the courageous efforts of whistleblowers and peace activists have lifted the lid on the NSA's global electronic surveillance system and the role that Menwith Hill plays as its leading regional, intelligence-gathering centre. The story revealed is of the astonishing growth in the range and scope of electronic spying since the end of the Second World War and the

capacity that the NSA now possesses to intercept and analyse virtually every form of electronic transmission emitted from anywhere in the world.

Early History of SIGINT and the NSA

Intelligence gathering was a major factor in winning the Second World War. The UK and United States worked closely together on intercepting German and Japanese encrypted radio communications to build an accurate picture of the locations and movements of enemy submarines, ships, etc. Bletchley Park, under conditions of extreme secrecy, became the UK's SIGINT analysis centre, employing a range of equipment engineers, communications technicians, mathematicians and linguists to analyse these intercepted transmissions.²² (See Table 1) Although most famous for breaking the U-boat Enigma code, SIGINT was wide-ranging and assisted the war effort, not only in the North Atlantic but also in the Pacific engagements against Japanese aircraft carriers, as well as the North Africa campaign and the Normandy invasion.²³

During the early stages of the Cold War, SIGINT was given an even higher priority for gathering information about the full range of Soviet military activities, including troop movements, missile deployments, aircraft flights, submarine patrols, etc. Government Communications Headquarters (GCHQ), the UK's successor to Bletchley Park, was set up near Cheltenham. It controlled an extensive network of interception facilities, including continued use of the HMS Forest Moor Wireless Station near Harrogate in North Yorkshire, and collection stations in Singapore, Hong Kong and Cyprus, as well as field units in Italy and Germany. These were all now directed to Soviet military, diplomatic and KGB communications, especially those with its satellite Warsaw Pact nations in Eastern Europe.²⁴

UK operations, although extensive, were only one element of a much larger, global system that the United States was developing under the newly established National Security Agency (NSA).²⁵

Intelligence functions were, effectively, maintained by the individual branches of the armed forces but President Truman wanted a powerful, centralised organisation. He believed

that signals intelligence offered a decisive advantage to the United States because it could use its post-war alliance network to set up SIGINT bases in every strategically important region in the world and provide a truly global monitoring capability, not just against the Soviet Union but any other emerging regional threats to US power such as communist China.

Table 1: Main forms of Intelligence Gathering

Type	Characteristics / Functions
COMINT	Communications Intelligence -Interception, monitoring and processing of communications by other than the intended recipients. Includes both voice and message communications. A sub-set of SIGINT.
ELINT	Electronic Signals Intelligence - Derived from non-communication electromagnetic radiation such as radar transmissions, surface-to-air missiles' radio-controlled guidance devices, etc. (Does not include nuclear radiation).
FISINT	Foreign Instrumentation Signals Intelligence - Interception of military electronic transmissions, mainly in flight telemetry of weapons' tests. A sub-set of ELINT.
HUMINT	Human Intelligence - Derived from information directly collected and provided by human sources, e.g, interrogations, conversations, etc, with individuals having access to information. Includes information obtained through the infiltration of opposition activist groups, threats, intimidation and torture.
MASINT	Measurement and Signature Intelligence - Technically derived intelligence to detect and classify targets both fixed and moving.
PHOTINT (aka IMINT)	Photoreconnaissance and Imagery Intelligence - Use of 'staring' satellites and airborne systems. Includes infra-red reconnaissance.
SIGINT	Signals Intelligence - Intelligence gathering that covers both COMINT, ELINT and FISINT. SIGINT generally involves the analysis of encrypted material as well as traffic analysis to study patterns and quantities of signals (even where encoded communications cannot be decrypted).
SPADATS	Space Detection and Tracking System - Large radar, optical and radio-metric sensors located around the world for the detection, monitoring and identification of all objects in space. Can also be used for US BMD missile identification and tracking.

Agency status offered considerable advantages for a President determined to expand the US spying apparatus. Following an inquiry into alleged intelligence shortcomings prior to the Japanese attack on Pearl Harbor and the lack of communication between government departments, Truman had set up the Central Intelligence Agency (CIA) under the National Security Act of 1947.²⁶ By appointing a Director with the powers to coordinate policy across government departments and to bring together both DoD military and civilian personnel, Truman was demonstrating the priority that the United States political and military establishment would attach to intelligence work in the post-war era.

Although founded by an act of Congress, the CIA was virtually immune from normal congressional accountability. Instead of intelligence gathering from operatives based around the world, as originally envisaged, it began to secretly expand funding, personnel levels and capabilities for covert operations that became its speciality.²⁷ Agency status would provide a very effective means to accumulate institutional power and avoid congressional scrutiny.

Truman was even more determined that the NSA should be established in total secrecy and without even the formal imprimatur of Congress. In November 1952, the NSA was brought into existence by unilateral presidential authority. Its existence, structure and funding were classified as top secret with information reserved for only a small elite of political and military leaders at the apex of the national-security state.

Invisibility, in this life-or-death, global, ideological struggle between democracy (good) and communism (bad), was the only guarantee of effectiveness. Even the smallest exposure and the whole framework and rationale for SIGINT would be compromised with potentially disastrous results.²⁸ The fact that such imperial diktat was clearly unconstitutional seems to have been of little consequence, since the

concept of the President as the Commander-in-Chief during times of national emergency, or 'the sole organ of power', or acting on 'implicit authority' from Congress, had already become part of the cold-war, political consensus.

The CIA had the higher profile but it was the NSA that actually became much the larger intelligence organisation, both in terms of personnel and expenditure. By 1957 it had a 9,000 strong staff and a new headquarters at Fort Meade, in Maryland, some twenty miles from Washington DC.²⁹ (see Table 2) The NSA also set in motion what became known as 'black programmes' - highly secret research and development on intelligence-related technologies that could run into billions of dollars but whose details were never published in the normal DoD appropriation sources set before Congress.

Uppermost was the development of high-speed computers for code breaking, allied to improved data transfer and storage for the huge volumes of encrypted material that was being generated from overseas listening posts. Under Eisenhower, the NSA was awarded large, federal contracts for computer research and, although carried out in total secrecy, these were crucial in the developmental stage of supercomputers during the 1950s and early 1960s.³⁰

The NSA and the Global SIGINT Network

While constructing an internal power base, the NSA was also expanding its external alliance framework and setting up a truly global signals interception network. Initially, there was a series of agreements with the UK and formalised as the UKUSA Intelligence Alliance 'Treaty' of 1948 (sometimes referred to as the UK/USA Security Agreement) and subsequently including Australia, New Zealand and Canada.³¹ The dominance of the United States in this so-called alliance system should not be underestimated. Whatever genuine reciprocity

existed during the Second World War had long since disappeared as satellite communications dramatically expanded in the 1960s and 1970s and it became clear that only the United States had the technological resources to develop a space-based spy system. Responsibility for the development of spy satellites rested with the National Reconnaissance Office (NRO) founded in 1960 and working closely both with the NSA and the CIA.

The NSA had two priorities, firstly the interception of signals from existing communications satellites by installing receivers at ground stations, and secondly, the interception of terrestrial microwave and radio communications by positioning huge receivers in geostationary orbit to capture transmissions streaming out into space past microwave relay masts and then resend them to the earth terminals. Because of the curvature of the Earth these cannot downlink directly to the United States, so ground stations are positioned in 'line of sight' for each region to provide coverage for the entire planet.

Finally, the intercepted communications would be analysed and if necessary decrypted using the computing and other analytical resources at the stations before sending this data via secure satellite links to Fort Meade, where all the material from the regional centres was stored for further analysis when necessary. Two early satellite programmes were the NSA's Canyon (SIGINT for listening) and the CIA's Corona (PHOTINT, for imagery). Successive generations of satellites were funded in multi-billion dollar programmes, each larger and capable of greater volumes of intercepts.

In the late 1980s, the UK had attempted to develop its own GCHQ spy satellite, the Zircon project, again in total secrecy. However, estimated costs spiraled to £500 million and its existence was exposed by the work of Duncan Campbell, an independent researcher on security issues, for a television documentary. The government belatedly came to the



conclusion that operational costs of around £100 million a year, including a replacement satellite every five years, made Zircon simply too expensive when set against the total annual budget for GCHQ of £350 million a year. So Zircon was cancelled in 1987 after expenditure of £70 million. Instead, the UK came to an agreement with the United States to invest in a share of the new NSA satellites, reinforcing the UK's total dependency on US satellite capabilities.³²

Since then GCHQ has grown in size. Five and a half thousand people are employed from its recently expanded headquarters near Cheltenham, the overall budget is now £2 billion, and it has its own extensive SIGINT facilities including a large monitoring station at Morwenstow, near Bude (GCHQ, Bude) in Cornwall for satellite communications interception. GCHQ also operates other stations such as Irton Moor for intercepting terrestrial communications. The extent of that coverage and the relationship with the NSA remain classified but there is close liaison between Menwith Hill and GCHQ, including the sharing of personnel.³³

Table 2: Main US Civil and Military Intelligence Agencies

Name	Headquarters	Functions	Budget (\$billions) / Employment figures
CIA Central Intelligence Agency	Langley Virginia	Established in 1947 Provides intelligence support but specialises in covert forms of warfare using non-military, commissioned civil agents.	\$44bn in 2005 / 16,000-20,000
NSA National Security Agency	Fort Meade Maryland, Virginia	Established in 1952 Responsible for cryptological operations, employing computer scientists, linguists, etc, to translate, analyse and decrypt intercepted communications. It controls a fleet of SIGINT satellites intercepting terrestrial microwave transmissions and has a global network of satellite-to-earth ground stations to downlink, process and relay the COMINT they collect. It also intercepts commercial satellite communications and fibre-optic cable communications. Also responsible for the secure encryption of all sensitive US government communications. The Central Security Service (NSA/CSS) coordinates intelligence between the NSA and all its attached military agencies - US Army Intelligence and Security Command (INSCOM), US Air Force Air Intelligence (AIA), Naval Secure Operations Intelligence Command (NSOIC) and Marine Corps Intelligence Activity (MCIA) Since 2010 NSA has acquired additional responsibility for cyberwarfare (CYBERCOM), in both defensive and offensive roles	\$15bn in 2010 / 55,000-65,000
NRO National Reconnaissance Office	Chantilly Virginia	Established in 1961 Designs and oversees the building and operation of spy satellites and operates the technical systems at the earth terminals located at ground stations globally. Most tasks are carried out by specialist defense contractors such as Lockheed Martin and Northrop Grumman	\$15bn from both intelligence and military budgets in 2010 / 3,000
NGA National Geospatial Intelligence Agency	Fort Belvoir Virginia	Formerly the National Imagery and Mapping Agency, established in 1996 and renamed the NGA in 2004. It provides geo-spatial intelligence to support national security including precise positioning and targeting using satellite and related electronic imagery and information	\$2bn 2010 / 8,500
Defense Intelligence Agency	Bolling Air Force Base Washington	Established in 1961 Central provider of intelligence for the DoD made up of the intelligence agencies for each individual branch of the armed forces. Various specialisms including MASINT, and space intelligence	\$27 billion in 2010 / 16,500

As the Cold War dramatically came to an end in the late 1980s and early 1990s, the NSA had to face its first really serious political challenges. The collapse of the Soviet Union raised questions about the continued role of the NSA and the preeminence given to SIGINT. The NSA's budget was cut and staff levels fell by around a third between 1990 and 1995.³⁴ But the NSA could point to SIGINT's role during the first Gulf War in 1990 as demonstrating its value for any future military operations. Here, Iraqi radio and microwave communications centres were identified and subsequently targeted and destroyed prior to the US invasion.³⁵ The NSA consolidated its position, retaining the key SIGINT facilities around the world and prioritising funding for a new generation of spy satellites.

The Clinton administration shifted the focus to international, commercial competition as the most serious post-Cold War challenge to US power. The NSA saw this as an opportunity to re-affirm its capacity to provide, not only military, but also commercial intelligence. For example, communications on international negotiations and tenders for large-scale aerospace programmes, or technological breakthroughs by foreign companies could be intercepted and analysed, and the information then passed onto US corporations for commercial advantage.³⁶ As the decade ended and US military spending again began to rise in real terms, the NSA was in a strong position, offering both a military and civil SIGINT capability while still operating in total secrecy.

Independent Analysis of the NSA SIGINT Network

By the early 1990s, the sheer physical size of the main ground receiver bases, and the growth in the number of radomes, operational buildings and personnel made it increasingly difficult to hold the official line that these were simply communication relay stations, while refusing to confirm or deny any intelligence functions. Critical analysis and political opposition began to grow, especially in Europe.

Here, the early, pioneering work of the US author James Bamford and the British researcher Duncan Campbell on the intelligence agencies needs acknowledgement. Bamford had provided the first independent analysis of the NSA, through extensive use of the US Freedom of Information Act. (Fol) His book, 'The Puzzle Palace' published in 1982, gave a comprehensive history of the agency and its main activities. Campbell first revealed the existence and activities of GCHQ in a Time Out article in 1976 while Menwith Hill's role was exposed in a series of articles in the New Statesman magazine during the late 1970s, subsequently published in booklet form in 1981, and as part of his broader analysis of the US military presence in the UK, 'The Unsinkable Aircraft Carrier' published in 1984. Examining a variety of sources, he provided the first comprehensive analysis of the NSA's presence in the UK and its relationship to GCHQ.³⁷ These remain landmarks of independent research on the intelligence agencies.

Subsequently, research by Desmond Ball in Australia and, Nicky Hager in New Zealand, helped to establish how the broader network of NSA surveillance operated. For example, Pine Gap, officially called the Joint Defence Facility since 1988, is based near Alice Springs in the Northern Territories and had seen a similar expansion to that of Menwith Hill. The number of radomes has increased from two to nineteen, and US personnel from 200 to nearly 1,000 during the 1980s and 1990s, supported by Australian staff, mainly in ancillary services. The base was responsible for the surveillance and analysis of Asian military and commercial signals from countries including China and North Korea.

The evidence was irrefutable, that the NSA had created a global SIGINT system with the now familiar giant golf-ball radomes linked to geo-stationary military satellites and that the operational capabilities of the bases in communications interception technology, cryptology, linguistics analysis, etc, were all part of a massive centralised system for intelligence

gathering, involving not only ground stations but airborne, ship and submarine operations. At its heart was Fort Meade, the NSA's headquarters in the United States.³⁸

A serious cause for concern raised by all the researchers was the total lack of democratic accountability to the host nations of these US operations. Only one national parliamentary investigation has ever been carried out on US SIGINT activities, and that in Australia by the Joint Standing Committee on Treaties in 1999 to assess the arrangements between Australia and the USA over the operation of Pine Gap. Despite detailed witness evidence to the Committee from Desmond Ball on the nature of Pine Gap's activities, the official response was to recite the same old intelligence mantra - that the government could neither confirm nor deny the nature of the operations that were taking place, and that intelligence issues were handled at senior ministerial and civil servant level and subject to security clearance. No comment could be made other than to assert



that all intelligence activities were carried out in compliance with domestic and international law.³⁹

Some members of the Committee, frustrated by this stonewalling produced a dissenting report calling for the establishment of a National Security Committee to oversee the operation of all defence facilities, including 'joint' defence facilities, and all other intelligence related activities. A priority would be to assess whether the operation of Pine Gap was in Australia's national security interests or simply served US strategic objectives. These recommendations were dismissed by the government, officially because the mechanisms for oversight already existed. In reality, the United States would simply not tolerate that level of independent, parliamentary scrutiny.⁴⁰

The European Parliament and the Echelon Investigations

The most serious challenge to the NSA's capacity to operate in secret came from the European Union, following US media reports in the mid-1990s that the United States was spying on its allies for competitive advantage. Several European Members of Parliament (MEPs) tabled parliamentary questions expressing their concerns over the legality of NSA operations, the implications for civil liberties, and for the commercial interests of European industries, with consequent jobs losses in their constituencies. The EP commissioned an initial report by the Manchester-based Omega Foundation, part of which examined the NSA COMINT in Europe. This was used to generate support for an in-depth investigation into how far the intelligence-gathering operations at Menwith Hill presented a serious threat to British and European political sovereignty, civil liberties and commercial interests.⁴¹

The European Union had no statutory powers in relation to the national security policies of

member states. However, the flexibility of its Parliamentary committee structures provided the means to carry out investigations on intelligence issues that had a European dimension. As a first step the EP's Scientific and Technological Options Assessment (STOA) committee commissioned a report from Duncan Campbell to address these concerns on economic intelligence gathering by the NSA - 'Interception Capabilities 2000' issued in 1999. For the first time, and largely as a result of the EP's efforts, the NSA's operations in Europe were subject to a sustained public debate and a high media profile including international newspaper and television coverage.

The EP decided to establish a one-year temporary committee of inquiry starting in July 2000, with vice-President Gerhard Schmid as Rapporteur. It commissioned Duncan Campbell to produce a further investigative report on what was known under the codename of 'Echelon' - the NSA's system for the interception of signals from commercial satellites operating around the world; the location of ground stations; and their computing capabilities to identify target communications through key word analysis.⁴²

Although very difficult to put a figure on the total value of lost contracts to European companies, there was evidence of access to confidential bids and negotiations that directly affected the choice in favour of US corporations. Dependent on how far such actions had been replicated on other major, international contracts, the value could be anywhere between \$13 billion and \$145 billion dollars from 1992 to 2001.⁴³

Prior to the EP's March 2000 debate on whether it should initiate an inquiry, Echelon's existence had also been confirmed by one of the first whistle blowers, Margaret Newsham, who had worked as a senior software engineer for the Lockheed Space and Missile Corporation at Menwith Hill. She gave up her anonymity to appear on the 60 Minutes programme in February 2000, confirming herself as the source

for Echelon leaks. She stated that sensitive information was regularly intercepted and passed on to US corporations, including Lockheed.⁴⁴

The exposure of Echelon generated considerable attention and widespread concern, especially in those countries where the NSA bases operated and which faced serious economic repercussions from commercial spying, as in the aerospace sector. The term Echelon, to denote the US capacity for global SIGINT, began to be used on a regular, if rather indiscriminate fashion, since the focus of the report was on the interception of signals from commercial satellites, not on the full range of military and civil SIGINT activities carried out by the NSA.

Even the US media had to respond, if only to acknowledge the impact of the report on European politics. But no serious investigation of the allegations of commercial spying was followed up in the United States except to suggest that intelligence might be used where there was suspicion of corrupt practices, such as the placing of bribes by European companies, and to ensure a level playing field. The NSA refused to participate in the EU investigations and made no public comment on the allegations.⁴⁵

The final report, passed by the EP in September 2001, resolved that the conduct of electronic surveillance by US intelligence agencies breached the European Convention of Human Rights, even when, allegedly for law enforcement purposes.

Also, the UK and German governments were possibly in breach of community law and of human rights treaties if they failed to prevent the improper use of surveillance stations sited on their territory to intercept private and commercial communications.⁴⁶

Interestingly, a dissenting opinion was submitted by a group of Green MEPs led by Ilka Schroeder.⁴⁷ They argued that by focusing on commercial issues, the Committee had, effectively, played down the broader political and strategic aspects of US SIGINT activities and the global penetration of electronic communications by satellite and other means, particularly fibre-optic interceptions. The conclusion was clear and unambiguous. No public control mechanism of US secret services and their undemocratic practices existed and it was the nature of secret services that they could not be controlled. Therefore, all secret services activities in Europe should be abolished.

Nevertheless, the EP's conclusions and recommendations were instrumental in stimulating, for the first time, a serious and European-wide, public debate about the role of the NSA, and its unaccountable intelligence operations. A groundswell of opposition was building up, notably in Germany, and serious concerns raised on the functions of US spy bases.

There is no doubt that the US authorities were becoming increasingly alarmed at the level of public disclosure and debate but what is not clear is how far this influenced the unprecedented decision in 2001 to close one of its major NSA bases, Bad Aibling in Bavaria, having only recently upgraded facilities there. Whether the US authorities made the decision independently to avoid what they thought might be further damaging revelations about the base's operations, or were put under pressure by federal and state authorities, is a matter of speculation.

A formal public demand by the German Government to close the base was anticipated

and would have set a disastrous precedent from the US perspective. Such an outcome had to be avoided at all costs, even if closure meant some operational disruption and writing off recent investments. Whatever the circumstances, the base was scheduled for closure in 2001, with some of its equipment and personnel transferred elsewhere, including Menwith Hill.⁴⁸

The Global War on Terror and the Rise of the NSA

This proved to be the last significant period of public debate and political pressure. The terrorist attacks on the United States in September 2001 completely transformed the political climate as the Bush administration began to aggressively pursue a policy of preventive war that built on the existing plans for the invasion of Iraq. Now, terrorism was elevated as the major threat, not only to the USA, but also to its allies around the world. Emergency legislation was passed at home while permanent war was declared on terrorist networks abroad, beginning with the invasion of Afghanistan in November 2001.

The impetus given to the NSA by prioritising what became known as the Global War on Terror (GWOT) is almost impossible to overestimate.⁴⁹ The very concept of an 'international terrorist threat' as organisationally diffuse, operating beyond national borders, and emanating from anywhere and everywhere at the same time, put a premium on the comprehensive interception of all forms of private communication, notably emails and telephone conversations. To process the literally billions of electronic intercepts in ways that could provide manageable forms of intelligence required substantial capital investment to upgrade facilities at Fort Meade and other regional NSA facilities; computer-based R&D in areas like advanced data-mining and filtering techniques; and a major recruitment drive for skilled technicians, linguists, etc. The NSA's objective was, quite

literally, to monitor all communications on the planet and to provide meaningful intelligence from that monitoring.

By 2007 the NSA's budget was an estimated \$10-12 billion a year and staff numbers at Fort Meade exceeded 50,000.⁵⁰ Three areas had been prioritised. Firstly, data handling and access, using the new generation of advanced computers with the capacity to process encrypted data at almost unimaginable speed, allied to data-mining software that could rapidly distinguish signifiers like key words or phrases.⁵¹ Secondly, protection against various forms of what has become known as cyberwarfare, the vulnerability of advanced industrial societies to the disruption of their communication networks, national energy grids, etc., through the hacking and viral infection of key computer systems. The NSA, initially, provided encryption techniques to protect all DoD and intelligence networks but it has also been given responsibility for the full spectrum of defensive and offensive cyberwarfare. A Cybercom Joint Operations Center is presently being constructed at Fort Meade.⁵²

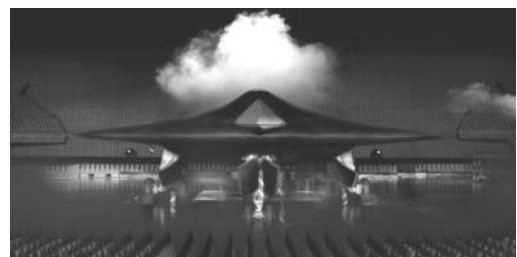
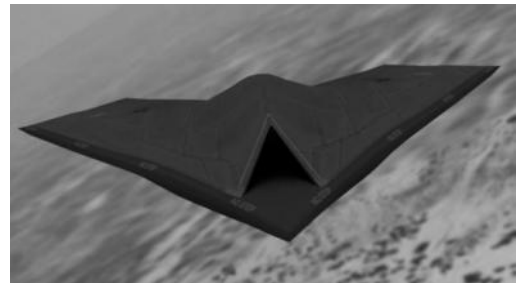
But above all else, the NSA has been tasked with delivering a qualitatively different form of intelligence operations. The term paradigm shift is overused but appears justified in this context. Advances in all forms of intelligence-based technologies, including satellite imagery


and signals intercepts, allow the NSA in collaboration with the other intelligence agencies, particularly the NRO and the CIA, to offer real-time monitoring of potential targets.

The clearest example of this new form of warfare is the steady increase in the use of 'drones', Unmanned Aerial Vehicles (UAV) that are remotely operated. These range from small reconnaissance vehicles to large aircraft deploying missiles. Military strikes by drones have been used in both Afghanistan and Pakistan against Taliban targets but, according to independent analysis, there has been a growing toll of deaths and injuries among the civilian population caught up in these strikes.⁵³

Rather than review such operations, the United States sees remotely-controlled weaponry as a key element in power projection capabilities and is deploying drones from bases in the Horn of Africa and the Persian Gulf to be used against targets throughout those regions, including recent strikes in Somalia. Forward plans envisage the construction of over seven hundred medium-sized and large drones by 2020 with improved capabilities for both reconnaissance and offensive operations.⁵⁴

The scale of the NSA's role in coordinating intelligence for these new forms of warfare is partially indicated by the capital investment taking place at NSA sites. Fort Meade has been





allocated \$860 million dollars, and each regional centre an average \$350 million for operational buildings and associated services including computing equipment and diesel generators to maintain a constant power supply, with the work due for completion by 2015 at the latest.⁵⁵ (See Table 3)

Despite being a multi-billion dollar programme, this only covers the construction costs of operational buildings. A much larger investment is taking place in the R&D and procurement of new computer and satellite hardware and related software, mainly hidden in secret, 'black programmes'.⁵⁶ Also, the recruitment process has involved broadening the representation of all the armed forces' intelligence divisions and the employment of significantly more specialist personnel from the leading private sector arms corporations. The regional centres have seen the greatest proportional increase, with around a 20% rise in personnel numbers and target levels of between 2,000-2,500 staff by 2015.

These regional centres are, effectively, being redesigned from traditional SIGINT providers (although that function remains important) into fully-integrated hubs for active intelligence, capable of offering real-time, target information directly for military operations, as well as feeding into a new global intelligence/information system coordinated through Fort Meade.⁵⁷

In 2010 the Office of the Director of National Intelligence responsible for overseeing US intelligence, and the DoD released their own overall figures for US spending on intelligence functions, although individual agency budgets were suppressed. In Table 4, we provide an estimated breakdown by agencies, and although speculative, it is not unreasonable to assume that the NSA and the NRO between them spend \$30 billion a year, with a large proportion on R&D and procurement for black programmes.⁵⁸ Collectively, the intelligence agencies employ over 200,000 people and spend an estimated 70% of their budgets on external contracting.

Political Opposition and Whistleblower Revelations

This seemingly inexorable growth of the NSA (and all the other intelligence agencies) over the last ten years has not gone unopposed in the United States. Civil liberties groups campaigned over provisions in the Patriot Act (2001) that allowed the intelligence agencies to access the phone calls, emails, etc, of private citizens, while independent research organisations like the Federation of American Scientists (FAS) have used the Freedom of Information Act in an attempt to shed light on NSA operations. During 2002-3, a major controversy developed over what became known as the Total Information Awareness (TIA) programme.

TIA was intended to use search engine techniques on all forms of public data bases, including credit card details, airline reservations, phone calls, etc, to build profiles of activities that might be identified as the preparations for a terrorist attack. Although not funded through the NSA (which explains how it became an identifiable programme), the subject matter of a national surveillance system inevitably drew the NSA into what became a major and controversial media story. Congress responded by withdrawing funding for TIA and the media attention quickly subsided.⁵⁹

The NSA has the capacity and remit to develop precisely this sort of programme and evidence was provided by the whistle-blower, Russell Teace, a former NSA intelligence analyst that it was systematically monitoring information and communication sources on US citizens outside any legal framework.⁶⁰ Further evidence of illegal activities came from an earlier whistleblowing episode involving Katharine Gun, a British intelligence officer, working at GCHQ in the run-up to the Iraqi invasion in 2003. She provided the Observer newspaper with a copy of an email sent by a senior NSA official, requesting support in surveillance of members of the UN Security Council to gain leverage on representatives whose votes would be crucial.

Table 3: Fort Meade HQ and the Regional Security Operation Centers

Name	Role	Employment / Recent Capital Investment
Fort Meade Maryland, Washington	NSA Headquarters Assessment centre receiving intelligence product from RSOCs (formerly Regional SIGINT Operation Centers) (See Table Two)	Personnel - 50,000-60,000 \$860 million for high-performance computing centre. Main elements include a Sensitive Compartmented Information Facility (SCIF) and visitor control center. (SCIFs provide protection from electronic interference or attempted surveillance through soundproofing, electronic masking, etc).
Kunia Wahiawa near Honolulu, Hawaii	RSOC - Pacific/Asia Established in 1961	Personnel, 2,100 \$318m for a new 3-story building in 2007 to replace aging underground facility. 250,000 sq feet office space and including 30,000 sq ft, generator building.
Pine Gap Northern State Australia	RSOC - Pacific/East Asia Established in 1966 by the CIA CIA/NSA (CIA developed a complementary capability to the NSA's through the Rhyolite/Aquacade satellites)	Personnel, 1,500 CIA/NSA The Australian Department of Defence announced a major upgrade of facilities in 2008 for completion in 2014 but no figures were provided on the value of the contract or the scale of the build programme. However, the timescale is consistent with the general investment by the NSA in its RSOCs.
Menwith Hill North Yorkshire England	RSOC - Europe/N.Africa/Middle East/Indian Ocean	Personnel, 2,200 120,000 sq ft additional build programme including new power generation plant and SCIF (See Section Two)
Fort Gordon Georgia East Coast of USA	RSOC - North and South America Europe & Middle East Interception of all international communications into Eastern USA	Personnel expected to rise from 2,500 to 4,000 by 2015 \$340 million investment for a new 500,000 sq feet building codenamed Sweet Tea. This will be the largest RSOC.
San Antonio Texas Cryptology Center/ Medina Cryptology Center	RSOC - formerly known as the Medina SIGINT Operations Center. Data mining of US sources. SIGINT analysis centre covering Central and South America.	Personnel, 2,200 Completion of a new data storage centre. \$130 million for a 470,000-square-foot facility

Notes: (All four armed services' intelligence sections are represented in the RSOCs. The NSA is also building a \$1.5 billion 'cyber-security' center near Utah, essentially a massive computer data storage facility to provide a separate site from Fort Meade in order to address potential security threats from over-concentration in the Washington area.)⁶¹

Gun was appalled at the disparity between the official position of the US and UK governments in claiming to want a negotiated settlement, while the real agenda was clearly to use NSA intelligence, backed up by other diplomatic means, to pressurise individual Council members and ensure the Security Council voted for war. Courageously, Gun leaked the email knowing she faced the possibility of being identified and prosecuted under the Official Secrets Act.⁶²

Despite the seriousness of these whistleblower revelations in demonstrating the scale of illegal activities that the NSA conducts both domestically and internationally, neither made any real impact. Even the fact that the NSA now has a certain public profile has been used to its advantage. Stressing the contribution of intelligence work to the 'global war on terror', the NSA has deflected criticism while operating in the same totally secret and unaccountable way it has done for the last sixty years.

The NSA and the Military Industrial Intelligence Complex

Effectively, the NSA has now reached the stage of unassailable institutional power that Eisenhower warned of in his farewell presidential speech in 1961, when he famously coined the term Military-Industrial-Complex (MIC) to describe a set of political, military and corporate interests that could dominate the federal government and set the priorities for federal spending. But the NSA now is at the apex of an even more insidious form of institutional power through the Military-Industrial-Intelligence-Complex (MIIC).

Fort Meade has attracted around it an industrial and technological hinterland consisting of the traditional armaments behemoths like Lockheed and Northrop Grumman that have long benefited from

Table 4: National Intelligence and Military Intelligence Funding

	National Intelligence Programme (NIP)	Military Intelligence Programme (MIP)	Total Intelligence Budget (\$bn)
2010	53.1	27.0	80.1
2009	49.8	26.4	76.2
2008	47.5	22.9	70.4
Estimated Individual Budgets 2010 (\$bn)			
	NIP	MIP	
CIA	10	Army	10
FBI	3	Navy	5
NSA	15	USAF	10
NRO	15	Others	2
NGA	2		
Others	8		
Totals	53	27	



multi-billion dollar NSA programmes, as well as emerging, specialist corporations like Science Applications International Corporation (SAIC) that have grown exponentially on the back of their expertise in highly sensitive forms of information software and systems engineering. Former politicians and intelligence officers are heavily represented at director level in these corporations. For example, three Secretaries of Defense have served on SAIC's board and senior NSA officials have been recruited to the board before returning to the agency.⁶³

Rather than a revolving door, which suggests some compartmentalisation of government from private corporations, this is a seamless web of formal and informal connections that mesh ideology and profit together, conveniently aligning national security policy with the technological and industrial capacity of the private sector. Indeed, because of the unprecedented expansion of the intelligence budgets, the agencies have become even more dependent on the expertise of corporations in both developing and, crucially, operating high-technology systems. For example, it is estimated that virtually all of the NRO's staff are seconded on long-term contracts from the private sector.⁶⁴

In other words, the distinction between government policy-making and private contracting no longer exists. Only these elite, MIIC masters of the universe can really understand the ultra-secret world of power projection and intelligence, only they are entitled to top-level security clearance, and only they can make strategic judgements on what is, and what is not, in the national interest. The nearest comparison is to a high priesthood jealously protecting its sacred rites and looking down with disdain on mere mortals like us and our naïve ideas of democratic representation and accountability.

Perhaps it would be an exaggeration to describe this as a parallel and secret form of government but the NSA is essentially immune from any form of real, democratic accountability. The US political establishment and the MIIC share the same world view, so the NSA will continue to secretly accumulate power for the next stage of high-technology imperialism in which integrated intelligence will play a crucial role. The Global War on Terror is set to run and run.

Chapter Three:

Menwith Hill - The NSA's Spy Base in North Yorkshire

Early History : 1950-1970

Menwith Hill, with its accumulation of giant radomes, is the jewel in the NSA's crooked crown, graphically symbolising the global scale of US imperialism in the 21st Century. Situated on the moors above Harrogate in North Yorkshire, it has all the necessary attributes for an electronic spy base, including its geographical position on high ground, water-retentive clay to earth aerials, and isolation from major conurbations with their potential electrical interference to sensitive equipment. At the same time, there are good transport and supply links including the Leeds/Bradford airport ten miles south, as well as a local workforce to service the base and local housing for US personnel who live off base in Harrogate and the surrounding smaller towns and villages.⁶⁵

But equally important has been the compliance of successive UK governments in, firstly, providing such a large area (nearly a full square mile) to the United States and then sanctioning its astonishing growth on a scale beyond anything that could have been envisaged at the time of the initial agreement in 1951. All this with hardly a cursory nod in the direction of parliamentary oversight, or wider democratic accountability for Menwith Hill's activities.⁶⁶

The area had already been identified as suitable for radio communications and SIGINT reception during the Second World War when the nearby HMS Forest Moor base was used to intercept and track German military communications. As the monitoring of Soviet and Warsaw Pact military and diplomatic transmissions increased during the late 1940s and early 1950s, the UK War Ministry began the compulsory purchase of 560 acres of two moorland farms on behalf of the US Army Security Agency (ASA). The base was designated Menwith Hill Station by the US

authorities, construction began in 1956 and it became fully operational in 1960.⁶⁷

No formal lease was signed but simply an 'arrangement', under the Nato Status of Forces Agreement (SOFA), was entered into between the UK and United States that allowed what was now Crown Land (land owned by the state and normally leased for specific purposes) to be used for a period of twenty one years. Subsequently, the arrangement has been renewed twice before even this pretence was abandoned and the US authorities given an unlimited timeframe for occupation, presumably ad infinitum.⁶⁸ Photographs of the base from its early period of operation show a small grouping of antenna masts, aerials and portakabins surrounded by a fairly rudimentary wire fence. Only when the NSA took over operational control in 1966, to develop a satellite interception system, were preparations made for serious expansion.⁶⁹

Satellite Development and the Expansion of Menwith Hill

Recognising that satellite technologies represented a revolution in telecommunications, the NSA had already funded the first generation of dedicated spy satellites to be placed in geosynchronous orbit. Menwith Hill was to be a major regional ground receiving station for those satellites while also directly intercepting signals from commercial satellites now coming on stream like INTELSAT that would carry a growing proportion of international communications.⁷⁰

Here the essential characteristics of the base began to take shape. Firstly the giant radomes, constructed of thick plastic sheeting over an aluminium frame, officially to protect the micro-wave receiving dishes from the elements but, in reality, to mask the angle of elevation and direction in which they were pointed;



secondly, the grouping of these receivers by geographical area with three main regional focuses, Europe (essentially the Warsaw Pact countries); the Middle East/Africa/Persian Gulf and the Indian Ocean; thirdly, the linking of these receivers to the operational buildings that were either being expanded or newly constructed to deal with the influx of US DoD military and civil personnel and specialist US contractors; and lastly, the installation of satellite and cable links to transmit the data to the United States.

Teams of engineers and computer specialists supervised and maintained the data links to the satellites, as well as the electronic analysis and recording systems, while cryptologists (experts in codes and ciphers), linguists and other intelligence personnel assessed the signals for information of any significance. Once filtered and processed, relevant intelligence was transferred for further analysis in the United States at Fort Gordon. The NSA at the Fort Meade HQ combined this intelligence with those received from other regional SIGINT stations.⁷¹ Although the radomes present a striking visual impact, the real significance of Menwith Hill lies in the expanding operational capacity to analyse electronic interceptions for US intelligence purposes.

Originally there were 400 US personnel at Menwith Hill but by the 1980s this had risen to 850 along with 340 UK staff in administrative and

other support and service roles. (This figure excluded GCHQ staff seconded to the base, whose numbers were kept secret but whose presence possibly dates back to 1987 and the post-Zircon investment by the UK in Menwith Hill).⁷² The role of US specialist contractors is especially significant as they are responsible for all the high-technology, high-value, satellite and computer related work. UK firms are mainly used on temporary contracts for construction programmes, or ongoing, service-related work such as ground maintenance. Any contractors employed in operational buildings have to be security cleared and are prohibited from making details of their work public. (See Section Two)

As with all secret intelligence installations, the NSA uses code names for its activities at Menwith Hill. But these can be divided into two main categories - operations and facilities.⁷³ The first phase of satellite development was designated Moonpenny and focused on two main priorities, spying on the military and diplomatic communications of Soviet satellites and on the first generation of commercial satellites (COMSAT). These original dish antennae were uncovered. The first 'golf ball' construction was carried out in 1978 under the Runway/Silkworth programme to download from the CHALET/Vortex, US military satellites. (See Table 5)

Table 5: Menwith Hill Operational Developments 1970-2012

Time Line

1974-1978 Moonpenny: First satellite downloads tracking Soviet military satellite communications and downlinks from commercial satellites in geosynchronous orbit over the Indian Ocean. These first four antenna dishes remained uncovered until 1988.

1978 Runway/Silkworth: First dish antennas encased in golf balls, downloading from the NSA Chalet/Vortex SIGINT satellites. These satellites are positioned in geosynchronous orbit to gather transmissions that stream out into space past terrestrial microwave towers. After the name of the programme was released in the US press, Chalet was renamed Vortex. Runway was the codename for the downlink to the first Ground Terminals GT1 and Silkworth the codename for processing, i.e. collection, analysis and intelligence product. A new operations building was constructed in 1974, equipped with the IBM Harvesters computer, the world's largest at the time, and later a Cray supercomputer. Transmission of data to Fort Meade was via SATCOM (a separate satellite transmitter/receiver dish and operational buildings on site at Menwith Hill) and secure cable communications.

1979-1988 Steeplebush/Vortex: Expanded programme of NSA's Vortex SIGINT satellite fleet required new Runway golf balls (GT2-GT4) and a new Operational building codenamed Steeplebush - 50,000 square feet at a cost of \$25 million. Lockheed and Loral (now incorporated into Lockheed Martin) were contracted to install and maintain computers and satellite links.

1991 Fibre-Optics: Installation of the first two fibre-optic cables (then new technology) potentially expanding Menwith Hill's interception capabilities.

1993-1994 Magnum/Orion: A new generation of SIGINT satellites codenamed Magnum was launched (renamed Orion after public exposure). Runway array downlinks were extended (GT5, and Runway Ground Terminal RGT)

1993-1994 Magstrand/Thistle: Operational processes for the Magnum 'feed', codenamed Magstrand and accommodated in the new Thistle building, providing an extra 30,000 square feet of office space at a cost of \$8.2 million. UK GCHQ was also possibly involved in the Magstrand project after the cancellation of the Zircon SIGINT programme in 1987. Lockheed and Loral were established as the main contractors responsible for antennas, cables, interfaces, and data processing computer installations and repairs

1993-97 Steeplebush II: A major expansion of capacity to operational building providing 83,000 sq feet of new office space to support the third generation Magnum/Orion spy satellites (see below) with Lockheed/Loral the main contractors.

1995 Administration Transfer: Station administration is transferred from NSA civilian to military status and run by the US Army's Intelligence and Security Command (INSCOM) under the command of a US Colonel

1996 Mentor/Advanced Orion: The third generation SIGINT satellite fleet codenamed Mentor/Advanced Orion with Steeplebush II the operational building. Downlink to GT6 and GT6.5 with operational processes codenamed Eve and Springtime. Rutley is also added to the Runway array.

1997 Castlemaine/Grapnel: Plans were submitted for a new operations centre (Castlemaine) associated with GT8 and GT9 (codenamed Grapnel) downlinks for the two Space Based Infrared (SBIRS) satellites. Menwith Hill is designated for this additional role as the European Ground Relay Station for satellite infrared surveillance. SBIRS is operated by US Air Force Space Command (HQ, Pertersen Air Force Base, Colorado). Construction commenced in 2000

1999 Administration Transfer: Command of Menwith Hill is transferred to the US Air Force Intelligence Agency tasked with upgrading the station to USAF standards (those expected at a normal air force base like Lakenheath) involving substantial investment in the entire infrastructure. The USAFE 421st Air Base Group (421 ABG) is now in administrative command of 'Base Operations Support'. Operations remain under NSA control.

2000-2004 Fibre-optic cables: Installation of seven additional fibre-optic cable conduits potentially expanding Menwith Hill's interception capabilities.

2007 SBIRS: US Missile Defence equipment to relay SBIRS data to the USA was installed in Castlemaine with permission from the UK government.

2005-2011 Intruder/Rutley: New generation of SIGINT satellites codenamed Intruder is launched. Runway/Rutley is expanded with the construction of GT7, GT10 and GT11.

2005-2012 Project Phoenix: Major expansion of operational facilities in preparation for role as Regional Security Operations Center (RSOC). Phoenix also involves a reorganisation with Moonpenny occupying the older Operational buildings, Runway/Rutley in Steeplebush II, and the new two-storey Phoenix building. SBIRS remains in the Castlemaine building.

2012 Overview: The main forms of communication are by Internet (fibre-optic cable) and mobile phone, so interception technologies have developed accordingly. The NSA has problems with strong encryption and the huge volume of communications. The current size of Menwith Hill's operations can be assessed from the number of golf balls, fibre-optic cables and operational buildings. The total number of golf ball radomes is currently 33, shortly to be 34.

Runway/Rutley: 11 golf balls (soon to be 13) in an east-west array positioned south of operational buildings (2 small platform-mounted antennae may be Runway links).

Moonpenny: 14 golf balls with a further 14 uncovered MP dish antennas.

SATCOM: 3 Satcom golf balls are in a separate compound at the west of the site. Satcom is run by the US Army's Signals Corp not under the command of 421 ABG. It has responsibility for US military communication via the Atlantic Defense Satellite Communication System (DSCS)

SBIRS/Grapnel: 2 Grapnel radomes, downlinks for SBIRS, south of the Runway/Rutley array.

Post Cold-War Consolidation

The expansion of the base during the 1990s, in terms of the number of radomes (26 by the end of the decade), operational and administrative buildings and personnel is consistent with the increased responsibilities to download from US military satellites and to directly monitor the ever-expanding number of commercial satellites, although the military focus switched to the Persian Gulf region at the end of the Cold War. Indeed, Menwith Hill received a DoD commendation for the role it played during the first Gulf War when tracking Iraqi military communications in preparation for air strikes prior to the land invasion.⁷⁴

Of course, there were no official commendations for the base's commercial spying that was exposed by the EP investigations. But the importance the NSA attached to Menwith Hill for both military and commercial intelligence can be gauged by the base's continued expansion during the early 1990s at a time when the NSA's overall budget was cut at the end of the Cold War.

Also, while the code names for the building programmes were identified through Parliamentary answers and the overall value of construction programmes was given, no reference was made to the intelligence operations like Silkworth or Moonpenny. The UK government was prepared to refer to the sterling value of occasional construction programmes (conveniently benefiting UK companies) while maintaining complete secrecy over satellite and computer-related installations carried out regularly and with values into the hundreds of millions of dollars a year, but reserved exclusively for specialist US contractors given high-level security clearance by the NSA.

Allied to the expansion of its satellite-related capabilities was a less visible, but significant growth in the interception of ground-based telecommunications, particularly fibre-optic

telecommunications. Since its early years Menwith Hill had been connected into the BT telecommunications network for both UK and international calls, originally through copper-coaxial cables linked to the Post Office's national network of micro-wave radio transmitters.⁷⁵

The advantages of fibre-optics compared to copper-coaxial cables rested on its capacity to carry thousands of messages (and subsequently hundreds of thousands of digital messages) simultaneously. The disadvantage, as far as Menwith Hill was concerned, was that the addition to, and possible replacement of, satellite communications, by secure underground and underwater cables required a further dimension to its interception capabilities, particularly for the growing volume of telex communications carried by cable.

The base began to expand its fibre-optic connections, as revealed (unwittingly by BT) in evidence submitted during a trial of two peace activists for trespass during 1997. According to a written witness statement, subsequently withdrawn, BT had by then connected three digital optical fibre cables to Menwith Hill capable of carrying more than 100,000 telephone calls simultaneously.⁷⁶

By the end of the 1990s, Menwith Hill could reasonably be described as an established US settlement.

There were 1,370 US military and civilian personnel (compared to 850 in the mid 1980s) and 390 UK personnel (compared to 340). The base had its own dedicated facilities including several cafes and restaurants, a supermarket stocked with US produce flown in and shipped in from the United States and its own petrol station for private transport. Welfare and

recreational facilities included a gym and other sports facilities, social club, school, nursery and interdenominational chapel, etc.⁷⁷ UK staff working on the base cannot take advantage of these subsidised facilities.

*The extent that the base is run as a US enclave can be gauged by the fact that all transactions are in dollars, US staff are discouraged from making close or personal ties with UK citizens who are classified as foreign nationals and most external links are with other US personnel stationed elsewhere in the UK.*⁷⁸

Security was also substantially upgraded as the United States responded to the terrorist attacks of September 2001 with a comprehensive programme for all major US facilities around the world. Razor-wired and microphone-alarmed fences protect the base, CCTV cameras monitor the whole area including the surrounding countryside, and increased patrols are carried out by MoD police and by the North Yorkshire force. Under the original terms of the Serious Organised Crime and Police Act (SOCPA Act, 2005), Menwith Hill was one of only thirteen sites designated by the UK government for national security purposes. Anyone prosecuted for trespass under this law faces a 51 week sentence and/or a £5,000 fine for what would have previously been considered a minor offence.⁷⁹

This is not to deny contacts between the base and the local community. The US authorities are always keen to represent Menwith Hill as a good neighbour that contributes to the local economy through contractor work, the rental

of accommodation, the frequenting of local pubs, shops etc, as well as through charitable giving to local good causes.⁸⁰ But any local engagement is done on the understanding that all the functions of the base remain absolutely secret and that the US presence be effectively downplayed.⁸¹ Even during the controversy over the European Parliament reports in 2001 when the Air Ministry published a statement that acknowledged the intelligence function of the base, it refused to provide any further details other than to emphasise that the US authorities were working in partnership with UK and other Nato allies.⁸²

Popular and Political Opposition to Menwith Hill

The base's growing presence has not been without local opposition. As part of the broader peace movement campaign against US bases, including the siting of cruise missiles at Greenham Common, a series of peace camps



was set up including a mixed camp in the 1980s and two women-only peace camps in the 1990s, until legal action was taken to close the last camp down in 1999.

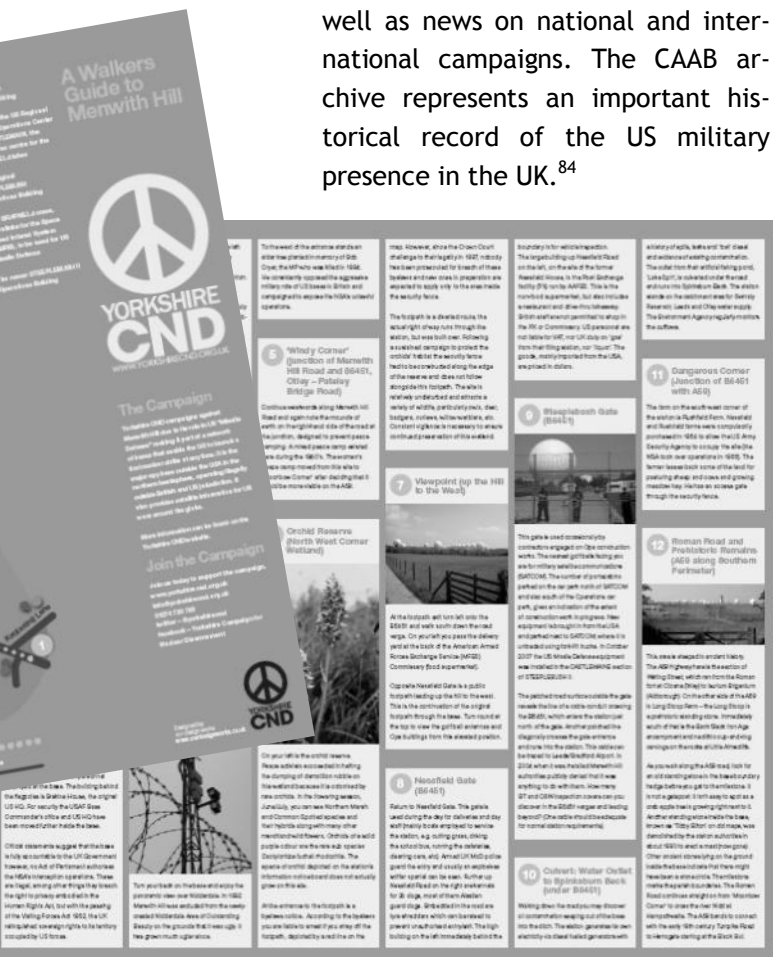
The Yorkshire Campaign for Nuclear Disarmament (YCND) has been one of the leading opposition groups challenging Menwith Hill.⁸³ Also prominent was the Otleigh Peace Action Group (OPAG) formed by local people who campaigned throughout the 1980s to raise public awareness of Menwith Hill's true functions. From this initial activity emerged the long-running Campaign for the Accountability of American Bases (CAAB) which has provided a combination of regular protests outside the base, political lobbying to raise issues like the role of Menwith Hill in Ballistic Missile Defence, legal challenges in the courts, and international networking with similar campaign groups. CAAB also produces a regular newsletter available on its website with information on Menwith Hill and other US bases, as well as news on national and international campaigns. The CAAB archive represents an important historical record of the US military presence in the UK.⁸⁴

These groups were augmented by the Menwith Hill Forum, an initiative from Yorkshire CND and Leeds City Council Peace and Emergency Planning Unit. The Forum's membership consisted of councillors from West Yorkshire, MPs and MEPs with a remit to consider issues of public concern related to the Menwith Hill's impact on the locality and whether the base was detrimental or beneficial, e.g., the targeting of the base as a strategic site for nuclear attack and the impact of the base's commercial spying on local industry.⁸⁵

Some peace activists pursue their opposition to Menwith Hill by non-violent direct action. They have deliberately broken the law by cutting the perimeter fence to gain access and by painting slogans on radomes and installations to get arrested and to justify their actions at trial. One significant event was the mass trespass and demonstration organised by Greenpeace in July 2001 that overwhelmed the base police force. Since the upgrading of the security systems such activities have been difficult to sustain. So despite the strong campaigning, including continued local and national media coverage, the post-9/11 environment emphasising the state's responsibility for national security in the face of terrorist threats, has created a very difficult environment for peace groups.⁸⁶

One notable recent example that gained extensive media coverage was the 'terrorist grannies' case in 2006, where two peace activists, Sylvia Boyes and Helen John were prosecuted under the SOCPA Act, for what was generally acknowledged to be a minor and very brief trespass at the main entrance. Eventually, although found guilty, the magistrate imposed only a token fine recognising the absurdity of treating this as a 'terrorist' act.⁸⁷

Internationally, the US bases at Pine Gap in Australia and at Waihopai in New Zealand have also seen consistent opposition. The latest incident resulted in the prosecution of three activists for gaining access to Waihopai and



deflating one of the plastic coverings over a satellite dish. They were acquitted by a jury in 2010 that accepted their defence that they were attempting to prevent human suffering from the military actions supported by the NSA's SIGINT activities.⁸⁸

Especially frustrating in the UK has been the lack of parliamentary accountability.

Although information on the number of US and UK personnel is provided to backbench MPs through Parliamentary questions, the detailed operational responsibilities and functions have always been kept secret on the grounds of national security. Only when the NSA itself declassified Menwith Hill's intelligence role in 1995 did the UK government follow suit. But this was hardly an earth-shattering revelation given the body of publicly available information by then available, including the Duncan Campbell documentary on Channel Four.⁸⁹ The presence of GCHQ staff was also acknowledged but the actual numbers and roles, in the context of NSA operations, were still withheld.⁹⁰

The contrast with the EU Parliament in sponsoring the first Echelon inquiry and providing a forum for a serious debate on the role of all NSA SIGINT bases in Europe could not have been more stark. Here, the original 1997 report was dismissed by the government as having no official EU endorsement or status. In 2001, the UK government could give a categorical assurance that nothing 'inimical to UK interests' took place at Menwith Hill, nor were any activities contrary to international law. Moreover, there was close cooperation between US and UK personnel, the latter having access to all areas of the base.⁹¹

The main attempt to raise even some of these issues in the UK Parliament had been much earlier in 1994 through a short adjournment

debate (essentially an opportunity for a backbench MP to initiate a session requiring a ministerial response) by Bob Cryer, a local MP from Bradford. Referring to 'The Hill' documentary, he laid out a very clear critique in terms of the growth of Menwith Hill as a US spy base, the illegal activities in intercepting commercial and private communications and the lack of any democratic accountability through parliament.

But these concerns were summarily dismissed by Jeremy Hanley, the Conservative Armed Forces Minister. He barely touched on the substantive elements of the critique, instead focusing on what he described as the crucial partnership between the UK and the US on security issues, in which he claimed that the UK held an equal role, and good relations between Menwith Hill and the local community. His parting shot was to accuse Bob Cryer of paranoia.⁹²

Suffice to say that a small intervention by one local MP represents the nearest Parliament has ever got to seriously addressing the issues of secrecy and illegality surrounding Menwith Hill and the NSA.⁹³

Rather than paranoid, Cryer was raising precisely the right questions about how Menwith Hill functioned as a US spy base and how its expansion reflected operational priorities defined by the NSA as part of a broader, global US SIGINT network.⁹⁴

The ultimate irony, at a time when it could accurately be described as one of the most sophisticated NSA SIGINT bases in the world, was the change of official title to RAF Menwith Hill in January 1996.⁹⁵ This brought it into line with other with US bases in the UK but the fact that there was now a UK squadron leader

Table 6: Ballistic Missile Defense and Menwith Hill

Ballistic Missile Defense

Background

The initial concept of BMD, a legacy of Reagan's perverted Star Wars vision, was for a comprehensive missile defence system to protect the USA. In 2002, the Bush administration unilaterally withdrew the USA from the original 1972 ABM Treaty that prevented the deployment of defensive systems against long-range ballistic missiles, in preparation for the development of a US ABM system. Under Obama, the system has been redesigned to become what is now described as a 'phased-adaptive approach' to be focused over the next ten years on perceived regional threats to US forces overseas and to allied countries, as well as on a staged technological development that can lead to a comprehensive system by the 2020s. The different phases are as follows:

- Phase One - 2011: deploy current missile defense systems available in the next two years, including the sea-based Aegis Weapon System, the SM-3 interceptor missile and sensors such as the forward-based Army Navy/Transportable Radar Surveillance system.
- Phase Two - 2015: deploy a more capable version of the SM-3 interceptor in sea- and land-based stems and more advanced sensors, to expand the regional areas covered.
- Phase Three 2015-20: after development and testing, deploy the more advanced SM-3 currently under development to counter short-, medium-, and intermediate-range missile threats.
- Phase Four - 2020-2030: deploy an improved SM-3 as part of a comprehensive system for the United States that can be deployed against missiles up to and including inter-continental ballistic missiles

The main programmes are:

- Aegis (ship-based) and Aegis Ashore (land-based) missile systems and BMD sensors;
- Command and Control - overall communications networks linking BMD systems;
- Ground-based Mid-course Defense - intercepting missiles in space;
- Precision Tracking and Space Systems - ground and space-based sensors for tracking and targeting missiles;
- Space Tracking and Surveillance - demonstrator satellites in low orbit to track missiles;
- Targets and Coutermeasures - missile and sensor testing, eg shooting down missiles in live tests;
- Theater High Altitude Area Defense (formerly Terminal High Altitude Area Defense) ground-based systems to shoot down missiles in their terminal phase;
- Space Tracking and Surveillance System (formerly SBIRS low) - 24 Satellites in low orbit tracking and discriminating between warheads and other objects such as decoys; SBIRS (see below).

Menwith Hill and SBIRS

The Space-Based Infra-Red System - High altitude satellites to provide early warning of missile launches and tracking of their flight paths. As early as 1996 the MoD announced that Menwith Hill would be the European Relay Ground Station with two receiving dishes under construction well before the US formally withdrew from the ABM Treaty. But it was only in the summer of 2007 that the New Labour government gave formal permission for the system to become operational, disgracefully slipping the announcement through Parliament just before recess to prevent any debate, despite the issue of BMD being a highly controversial one. The government was criticised subsequently by the Foreign Affairs Select Committee for the timing and manner of the announcement and it called for a full debate in the House of Commons, which never materialised.

The US plans to have six satellites in its SBIRS fleet - four in geosynchronous orbit and two in high altitude/elliptical orbit to be operational by 2015. Originally the system was expected to cost \$4 billion but the overall cost has risen to an eye-watering \$17 billion including \$530 million for the ground control segment development. The first SBIRS satellite was expected to be launched in 2010 but after technical problems and delays the launch actually took place in May 2011.

The SBIRS programme is led by the Infrared Space System Directorate at the U.S. Air Force Space System and Missile Systems Center, Los Angeles Air Force Base, in California. Lockheed Martin Space Systems in Sunnyvale, California, is the SBIRS prime contractor; Northrop Grumman Electronic Systems in Azusa, California, is the payload subcontractor; Lockheed Information Systems and Global Services in Boulder, Colorado, is the ground system subcontractor.

According to US GAO auditors, the SBIRS program has suffered from a series of technical problems that have led to this massive cost overrun, including underestimated software complexity. But rather than consider cancelling the programme, because of the priority attached to BMD, the US government is determined to press ahead—joining it with NATO systems to spread the cost and involvement. As such it represent a classic example of the power of the MIIC in providing complex systems that offer the prospect of enhanced security but, in all probability, will never function as intended.

nominally in charge of a base that has no planes and no pilots adds yet another surreal element to the 'special relationship'.

Menwith Hill's Role in Ballistic Missile Defense

Since the late 1990s the United States, supported by the UK government, has been promoting Ballistic Missile Defence (BMD) and the role that Menwith Hill is expected to play.

Essentially, the United States wants the capability both to detect the launch of ballistic missiles and to destroy them in flight. One early form of planned deployment is a short-range, anti-ballistic missile (ABM) system, supposedly against 'rogue states', or more specifically Iran, but which could as easily be directed against a major regional power like Russia or China.⁹⁶

This is highly destabilising since it might be perceived by other countries as providing a first strike capability for nuclear attack while neutralising any retaliatory launch. (Of course, all this assumes that a comprehensive BMD system incorporating so many different elements will actually work, a highly dubious proposition given the technological challenges and the record of test failures.) But Russia has made it clear that any deployment could be met by an expansion in its missile fleet as a means of overwhelming any BMD system.

*The conditions are being created for a new and extremely dangerous arms race.*⁹⁷

(See Table 6)

Menwith Hill's main role is as a ground-relay station, linking the new Space Based Infra Red System (SBIRS) satellites for the detection and tracking of missile launches directly to the USAF Space Command centre at Petersen Air Force Base, Colorado in the United States. It should go without saying that both the satellite system, and the ground terminal satellite

receiver and relay transmitters are owned and operated by the US with no input from the UK. There was some initial speculation that ABM missiles, themselves, might also be based on site but this looks increasingly unlikely.⁹⁸ The base already has two installed receiving dishes and, dependent on progress in aligning the SBIRS satellites, should be functioning as a relay station by the beginning of 2012.⁹⁹

Menwith Hill has always had a role in monitoring communications and telemetry for missile tests in order to assess technological capabilities of potential adversaries and to provide prior intelligence of launches. As such it complements the role of the other main early-warning base in Yorkshire, Fylingdales, that uses a giant, phased-array radar to track missile tests and other space objects.¹⁰⁰ But the SBIRS programme clearly represents a major escalation of the base's role in the militarisation of space and has, not surprisingly, been the focus of campaigns by peace groups opposed to BMD.

Intelligence-led Warfare

More significant, if not as visible, is the investment being made by the NSA (in partnership with the other main US intelligence agencies), to provide qualitatively new capabilities for intelligence-led warfare. A distinction needs to be made here, between the standard SIGINT role that the base has played and will continue to play in support of conventional warfare, and the capacity of an integrated intelligence hub to coordinate real-time military operations such as covert warfare, using a variety of intelligence sources.

Project Phoenix is the code name for the latest construction programme (presumably inspired by the mythical bird that rises from the ashes to achieve immortality rather than the capital city of Arizona that has overextended itself into the desert and is running out of water). But far from being a buildings upgrade as generally reported, this represents a major transformation of facilities to support one of the most sophisticated technological developments underway in the UK.

disguised communications, and the sources of transmissions. These are combined with satellite-imagery so that the base can provide real-



The associated upgrades to utilities include additional electricity generating plant with a new set of diesel generators and storage tanks at a cost of \$75 million, to provide an independent source of power for up to 60 days, should, as has happened periodically, the electricity power from the main grid be interrupted.¹⁰⁴ One of the most expensive elements of the programme is the chilled-water coolant system, effectively a giant reverse central heating system that pipes cold water around the entire building complex to prevent the massive banks of computer equipment from overheating. The three year building programme including new warehousing and reception facilities is valued at \$142 million.¹⁰⁵

Overall the generating capacity is being increased from 15 mW to 35 mW - one generator bank active, one on standby and the third

non-active and undergoing maintenance.¹⁰⁶ Allowing for some surplus capacity, the bulk of the new power system can only be explained by the requirements for a multi-billion dollar supercomputer system that far surpasses the capabilities required for traditional SIGINT work.¹⁰⁷

The other significant indicator of the scale of these new operations is the increase in personnel numbers. By 2009 there were 1,840 personnel (1,430 US personnel and 410 UK personnel) but there is planned a steady increase taking the total up to around 2,400-2,500 by 2015. Partly, this reflects the growth in traditional SIGINT functions as part of the NSA's overall expansion since 2001 and the emphasis on intercepting civil communications, as well as a small number of technicians for BMD.

Table 8: Menwith Hill - US and UK Personnel Numbers

Menwith Hill Personnel 2007			
US Personnel		UK Personnel	
USA Air Force	173	MoD civilians	232
Army	146	Police and Guarding Agency	148
Navy	58	RAF	4
Marine Corps	33	Royal Navy	8
Dept of Defense	220	UK Contractors	51
US Contractors	558	GCHQ	*
Other US citizens	222		
Total	1410		443

The Dept of Defense figure of 220 is provided separately from the individual armed services and represents personnel from the NSA and the other intelligence agencies, although actual figures for each agency are not revealed. US Contractors make up a substantial and continuing presence, while the category of Other US citizens mainly covers civilians working in clerical, catering warehousing, etc, some of whom will require security clearance if working in sensitive areas. Many will be related to US base personnel. MoD civilians work in a variety of areas including administration, cafeterias, the goods delivery yard, ground maintenance, etc.

No detailed breakdown of US forces has been made available since 2007 but in response to Parliamentary questions UK personnel figures were released in 2011 showing a substantial increase in both MoD personnel up to 389 (from 232) and the Police and Guarding Agency up to 165 (from 148).

*The presence of GCHQ staff is acknowledged but the actual number remains classified (probably around 50-75 personnel)

For reasons best known to the US DoD, the 2008 Military Construction Programme revealed figures for US military personnel at the base that are usually classified and which showed a planned increase of service personnel from 429 in 2008 to 619 in 2011. Interestingly, the total increase was almost all in civilian staff from 360 to 555, suggesting the secondment of technical personnel from the private sector, although this cannot be confirmed. However this is the best official indicator of the increase in US personnel and can expect to be replicated by the other elements for intelligence staff classed as DoD civilian personnel and contractors to a target of 2,400-500 by 2015 when the base becomes fully functional as an RSOC.



Also, there has been an increase in temporary employment associated with the more sensitive elements of the build programme, such as the electronic and acoustic shielding of the operational buildings that have been supervised by the US corporation ECC, a specialist engineering contractor to the DoD.¹⁰⁸ (see Table 8)

But there is an increased, long-term presence of US specialist contractors providing the range of technological capabilities necessary to ensure that base is fully operational as an upgraded, active intelligence hub by 2015. The main US corporations already identified are Northrop Grumman, Lockheed Martin, and Raytheon who, between them, provide the specialisms in systems integration, satellite communications and supercomputing that have been the bedrock of contracting for Menwith Hill.¹⁰⁹

The NRO also has a confirmed presence on the base, and staff seconded from the private sector constitute as much as 90% of its personnel.¹¹⁰ So, while nominally civilian DoD personnel (see Table 8) these are specialist systems engineers, software developers, etc, from arms corporations, working at the forefront of technological developments in their areas of expertise. No official acknowledgement has been provided of the role other US intelligence agencies play at Menwith Hill but it would be consistent with the NSA/CSS

objectives that all the intelligence agencies are represented, and these would predominantly be technical staff seconded from the private sector to ensure each specialism is fully integrated at both a technical and operational level.

Although difficult to provide a total figure, as many as 30% of the DoD personnel at the base may be seconded from the private sector, which would take the proportion of specialist contractors to over 60% of total US personnel. It may also be the case that a proportion of the work is being carried out by smaller divisions of the major corporations, or subcontractors.¹¹¹ Tracing back these contracts to companies with particular specialisms would make it easier to identify the technological and, therefore, strategic priorities the NSA has chosen for Menwith Hill, within the wider global framework for network-centric warfare. But this is not possible at present as they come under the general banner of black programmes.

Nevertheless, there is no doubt that, above and beyond the construction programmes set out in the DoD's annual budgets, a secret, multi-billion dollar, technological programme is already well advanced and scheduled for completion by 2015. Menwith Hill is a fully paid-up member of the MIIC and ready for the brave new world of US intelligence-led warfare in the 21st Century.



Section Two

Evaluation of the economic impact of the base and critical assessment of the US authorities' claims that Menwith Hill makes a substantial economic contribution to the local area through the expenditure of base personnel, employment of UK citizens and local contracting.

Chapter Four

Menwith Hill and Its Impact on the Local Economy

Background

All military bases, including highly secret ones like Menwith Hill, have an economic impact on their local areas. Issues raised in gauging that impact include the level of expenditure generated by base personnel; the number of local people employed on site; contracting and supplies from local businesses; and the resulting direct and indirect flows of income and expenditure through the local economy.¹¹²

Menwith Hill has never been the focus of a systematic, local economic impact assessment. Since the 1990s the US authorities have occasionally released an overall figure that, at least on an aggregate level, indicates a significant contribution by the base to the local economy. From £40 million in the early 1990s, through to £99 million in 2000, and £130 million in 2009, the total increased in real terms, consistent with the overall expansion in the numbers of military and civilian personnel, now standing at 2,200, of which two-thirds are US personnel. With US dependents there is an estimated total population of 3,700, making Menwith Hill one of the larger US bases in the UK.¹¹³

These economic figures are referenced in the media, by the local authority and community groups, as well as in parliamentary answers on Menwith Hill (even where not specifically requested) and are clearly used by both the NSA and the MoD as a public-relations tool, helping to project a positive image of the base's contribution to the economy of the Harrogate district.¹¹⁴

In undertaking this analysis, the first task was to clarify how the overall figure was calculated. Initial attempts by written request to gain access to data maintained by the US authorities at the base proved unsuccessful and all queries were redirected to the MoD, which provided a list of the various categories



of expenditure that were used, but without any figures.¹¹⁵ Only through the tabling of parliamentary questions was a more detailed and recent breakdown finally obtained (see Table 9)¹¹⁶ Not surprisingly, by far the largest proportion of expenditure generated by the base is the salaries of US personnel, both DoD military and civilian personnel and US contractors, followed by UK employees and contracting, although the latter declined significantly between 2010 and 2011 as the Phoenix programme neared completion.

To put it bluntly, this does not constitute a local economic impact assessment or anything resembling one. In military base studies there is a consensus on the need to factor in certain key assumptions about the proportions of income that are retained in the local area and those spent externally. Also necessary is a defined geographical area such as a local authority district or travel-to-work area through which to calculate the economic impact in relation to overall local economic activities. The US authorities acknowledged that no attempt had been made to provide a local geographical context so the figure could just as easily refer to national impacts.¹¹⁷

Table 9: Menwith Hill Base Expenditures

Menwith Hill - Base Expenditures				
Financial Year				
	2010		2011	
	£m	%	£m	%
US Salaries	84.6	(52)	86.2	(60)
UK Salaries	29.0	(18)	29.7	(20)
Construction	32.8	(20)	9.1	(6)
Utilities	5.5	(3)	6.7	(5)
Local Supplies	5.5	(3)	5.6	(4)
Visitors	6.1	(4)	6.4	(5)

The aggregated figures and the assumption that all expenditure is in the 'local' area, despite the lack of any defined geographical boundaries, makes this an extremely unsatisfactory approach, especially when represented in the media and parliament as accurate and objective official statistics.

Economic Impact Assessment Issues

Some of these methodological problems are addressed here. But it must be stressed that because of the lack of cooperation from the US authorities in releasing more detailed information, this can only be considered a preliminary exercise. For a full impact assessment there are a number of outstanding issues that need clarification but which are subject to commercial confidentiality or operational secrecy. Nevertheless, it remains a useful exercise in order to signpost how a full economic impact assessment might be carried out.

The first major issue is what can best be described as the 'embeddedness' of a base in its local area. Research on base impacts demonstrates that there can be wide variations in the propensity to spend in the local area and that,

especially for overseas bases, there are often serious limitations because of the availability of goods and services on site.¹¹⁸ Menwith Hill is typical of these economic enclaves, with what are effectively subsidised base facilities, using supplies either shipped in or flown in from the United States.¹¹⁹

For example, the Commissary is run by the US Defense Commissary Agency (DCA), a private supply contractor to the DoD, and responsible for the provision of all groceries and other household products to overseas bases. Supplies are purchased centrally in the United States and offered for sale at cost (plus a 5% surcharge to cover building maintenance). According to the Agency, this provides a saving of 30% compared to commercial prices, worth \$4,400 a year to a family of four.

Similarly, the US Army and Air Force Exchange Service (AAFES) facility provides clothes, stereo equipment and other consumables supplied from the United States. US base personnel do not pay VAT on goods, nor import duty on petrol, so fuel costs for private cars are a fraction of those paid by UK citizens. (None of these subsidies are available for use by the base's UK personnel).¹²⁰ Also at issue is the amount of income that is retained as savings by

overseas personnel. A significant proportion of US salaries will be repatriated as savings to be spent in the United States after the tours of duty (usually lasting two to three years) are over.

The key factor, then, is not the overall value of the income generated, even where the base is a relatively large one and in close proximity to urban populations, but how much is transferred to the local economy both directly and then indirectly as a result of the follow-on expenditure. This in turn, influences the choice of a multiplier that accurately reflects the local flows of income. The term multiplier simply refers to the stimulation of demand for local goods and services that has a ripple effect through further income generation and employment in the local economy. Where there are strong links, a high multiplier would be used but where the links are weak a low multiplier is appropriate.¹²¹

A related issue in terms of embeddedness, but not one normally addressed in base impact studies, is the unique status of Menwith Hill as a centre for advanced technology that puts it at the forefront of satellite and computer hardware/software development. The nearest civil equivalent would be the sort of high-technology industries considered especially desirable by local authorities and regeneration agencies in providing skilled jobs and that encourage the development of local supplier networks. This can lead, over time, to the clustering of firms with complementary specialisms as new companies are attracted by the local skills pool and technology base.¹²²

None of this applies to Menwith Hill. Far from promoting a local supplier network in satellite and computer technologies and software, the functioning of the base as a secret US military installation actively prohibits such development. Only US-based contractors have the necessary security clearance to carry out what are classified, high-technology operations related to US strategic priorities. Menwith Hill

must be one of the few facilities in the world where a multi-billion dollar technological investment has had absolutely no benefit in fostering the development of the local economy's industrial and technological base.¹²³

Contractors at Menwith Hill

In order to clarify the local, industrial and commercial element of Menwith Hill's economic impact, three exercises were carried out. Firstly, Parliamentary questions were used to identify all UK-based contractors that had work valued at £50,000 or more with the base throughout the 2005-2011 period when the main Phoenix construction programme was underway; secondly, a field survey to identify commercial vehicles entering the base; and thirdly, requests under the UK Freedom of Information Act (FOIA) to follow-up outstanding queries.¹²⁴ (see Table 10)

The Phoenix programme included the demolition of existing Operations buildings and the construction of a completely new facility with supporting infrastructure. The build programme was funded by the US authorities at an overall cost of £52 million from 2005 with completion expected by the end of 2011.¹²⁵

The MoD, through the Defence Infrastructure Organisation (DIO), is responsible for expenditure in support of the build programme under a general agreement, the Cost Sharing Arrangement (covering all US bases), to supply services into and inside the base, including all underground works such as cables, water pipes and drains; surface works such as roads and pavements; installation of secure telecommunications inside the Phoenix building; security measure like alarms and CCTV, and all costs of surveys, consultancies and architectural drawings and fees for planning applications to Harrogate Borough Council.¹²⁶

A Freedom of Information request to the DIO revealed that over the six year period from 2005/06-2010/11 the total contribution was £7,767,000, of which £2,939,000 was directly

Table 10: UK Contractors at Menwith Hill 2008-2011

Contractors at Menwith Hill : 2008-2011 Contracts valued at £50,000 or more per annum		
Company	Description	Location
Balfour Beatty Engineering Services	Building Design and Engineering	London
Carillion	Building Design, Management and Maintenance	Wolverhampton
T. Clarke (Electrical)	Electrical Systems Installation	St Austell, Cornwall
DSM Demolition Ltd	Demolition, Decommissioning and Remediation including asbestos removal	Birmingham
Haden Young	Specialist Mechanical and Electrical Services	London
Landscape Solutions	Site Planning and Maintenance	London
Mott McDonald	Engineering and Development Consultancy	Croydon
Scott Wilson	Building Design and Management	London

attributable to the Phoenix programme. Other support work, included £428,000 on electrical power supplies, £462,000 on upgrading the US Commissary's refrigeration unit and £176,000 on the Child Development Center.¹²⁷ (These facilities upgrades are paid for by the MoD but are unavailable to UK personnel.)

Some additional contractor information was accessed from other sources including company web sites and the media that clarified Balfour Beatty's role as the UK prime contractor overseeing a £40 million contract awarded to the company by the MoD in 2007.¹²⁸ None of the companies identified here have headquarters either locally, or in Yorkshire, although a proportion of this construction work has been subcontracted to other companies further down the supply chain including ones from Yorkshire. For example, UltraSyntec Ltd, based in Elland, Leeds, provided the epoxy flooring for the building as a subcontractor to Balfour Beatty, although the value of the contract is confidential.¹²⁹ (see Table 10.)

The MoD and the US authorities have simply used the MoD's central, UK accredited contractor database when putting out tenders for work on these larger programmes. This is understandable because of the scale and complexity of the programme, but is at odds with the aggregated figures provided by the US authorities that treat all construction work as local expenditure. A small proportion is taken up through regional and local subcontractors but it has not been possible to calculate the totals for local contracting at present, because of commercial confidentiality.

As well as the buildings construction programme, there is a separate and ongoing operational support programme, including building maintenance, electrical services support, etc. The main contract was won in 2010 by a US-consortium led by Raytheon and involving Lockheed Martin, Northrop Grumman and General Dynamics, with the UK-based Serco acting as a subcontractor. The total value of this contract remains confidential but

Serco reported its share as £10 million over five years covering skilled manpower including system engineers, project managers, system integration and planning, architecture and analysis, metrology, phone technicians, network engineers, IT support, hardware and software support, administrative support, graphics and mechanical engineers.¹³⁰

Serco is based in London and has considerable experience in maintaining MoD sites, including Fylingdales and a much higher value contract as part of a consortium running the UK's main nuclear weapons facility, the Atomic Weapons Establishment (AWE) Aldermaston. The relatively low value of the Menwith work at £2 million a year, reflects the fact that Serco's UK employees would not have access to the high-security areas reserved for the operational support of Raytheon and the other US contractors. As such, the contract is probably related to the smaller operational buildings on site such as those for UK personnel, including GCHQ staff.

An additional difficulty raised by examining the maintenance contract is that neither Raytheon nor Serco is identified in the list of contractors paid £50,000 or more in the Parliamentary answer, indicating that the US DoD must be directly funding this overall operational support programme separately. The value to Raytheon, Lockheed Martin, Northrop Grumman and General Dynamics probably runs into hundreds of millions of dollars for high-security operations and facilities, compared to the SERCO element, but it has not been possible to identify the value of this contract from US sources.



The presence of ECC, the US engineering corporation that coordinates major US base projects and is responsible for more sensitive aspects of the programme, including electronic and acoustic shielding of operational buildings, is a further indication that the DoD has been directly funding, not only maintenance but also probably construction programmes.¹³¹ Some equipment such as the new diesel generators has been purchased from the United States (if installed at the MoD's expense) at a value of \$37.5 million. The evidence is sketchy but US corporations seem to enjoy a far higher proportion of both construction and service work than UK-based contractors, raising the question of whether UK companies have been effectively excluded from higher value work on the Phoenix programme.¹³²

Finally, in terms of routine maintenance, a distinction needs to be made between the Defence Infrastructure Organisation (DIO) (formerly Defence Estates) which is responsible for all ground maintenance work related to the MoD's Defence Estate and the maintenance work carried out by the US authorities through the 421st Civil Engineering Squadron (part of the 421st Air Base Group that has administrative authority for running the base) which also employs UK MoD staff for these ancillary areas. Tasks such as window cleaning and house painting are contracted to local firms but these will be of relatively low-value.

Contractor Field Survey

The survey was carried out in mid-2011 and intended to supplement the parliamentary information on contractors. Commercial vehicles entering the base were identified by name, type of activity and company location where possible. (see Table 11.) Again, it must be stressed that this is only a snapshot of the commercial work carried out in support of the base but it does provide some indication of the range of activities in the absence of contractor information from the base.¹³³

Table 11: Menwith Hill Contractor Survey

Menwith Hill Contractors 2011		
Company	Activity	Location
AAFES (Army and Air Force Exchange Services)	US General Stores	USA/Europe
ADT Fire Security	Fire/Security Alarms	Leeds
AGS Safety and Security	CCTV Equipment	Newcastle
Balfour Beatty	Construction/Engineering	London
Better Drive Services	Road Surfacing	Driffield
Biffa	Skips	Various
Biffon Skips	Waste Collection	Various
Bramblelawn	Unknown	Unknown
Buildbase	Builders Merchants	Harrogate
Eddie Brown	Coach Transport	Harrogate
Carillion	Construction Support	Wolverhampton
City Link	Postal Services	Various
Cubicare	Audio/visual equipment	Unknown
Thomas Crompton	Plant Hire	Bradford
DMAX	Unknown	Unknown
EPS	Electrical & Plumbing Supplies	Harrogate
Fedex	Postal Services	US/UK
GT Joinery	Office Fittings	York
HC Engineering	Building and Engineering Services	York
Martin Hague	Plant Hire/Waste Disposal	Sheffield
Hanson	Piping	Various
Hanson Heiderberg	Cement/Concreting	Bristol
Dave Hubsperth	Floor coverings	Leyburn
J. Hughes	Electrical Contractors	Stockton-on-Tees
H2O Chemicals	Water Treatment	Leeds
Leyline Builders	Builders Merchants	Leeds
Lancaster's Bakery	Bakery	Harrogate
Landscape Contract Centre	Ground maintenance	Leigh
Langdons	Frozen Food Distribution	Redditch
P McCarthy	Car Transporter	Unkown
Nelson Transport	Pallet transport/hire	Keighley
Pickfords	Removals	Various
Powerstream	Electrical & Building Services	Hartlepool
SAS Autoparts	Motor Parts	Harrogate
L. Scruton	Fruit and Vegetable Merchants	Leeds
Speedy Equipment Support Services	Construction	Liverpool
Threshfield Delivery Services	Fresh Food	Skipton
Roger Woodhead	Skip Hire	Leeds
Chris Wright Group	Road Planing/Surfacing	Baildon/Bradford
3663	Food Delivery/Catering	Various

Much of the work is related to the final stages of the Phoenix programme with earth removal, plant hire, pipe-laying, etc, heavily represented. As might be expected, there was also a much bigger regional presence from Yorkshire-based companies with plant hire, building engineering services, floor coverings, road surfacing and fire alarms/security, classified as sub-contractor construction work on the Phoenix programme. Five companies were identified from the Harrogate area - a builders' merchant, coach transport, plumbing, electrical services and bakery supplies, reflecting the range of services directly contracted between the base and local firms, although there will obviously be others not identified in the survey.

The general pattern from these different sources of information seems fairly clear, with what could best be described as a hierarchy of contracting led by US-based companies on secret, high-value, technology programmes, followed by leading specialist UK contractors on complex build programmes, then technical support and maintenance carried out by UK and regional contractors, and finally some skilled and semi-skilled, lower-value work for smaller, local companies in the Harrogate area.

Menwith Hill's Local Economic Impact

Clearly, there are major difficulties in providing a local economic impact assessment for Menwith Hill given questions over the accuracy and interpretation of the original data provided by the US authorities. (see Table 9) Concerns include the use of total salaries for US personnel, the issues of savings and on-site subsidies, and how construction and local supply figures relate to companies, many of which, are external to the Harrogate area. Also questionable is whether utilities expenditure can be classified as local, and how far visitors expenditure contributes to the local economy if catered for on the base, although some visitors will be accommodated in local hotels.

Here, some indicative figures are provided as to how a full impact assessment might be calculated. As far as US personnel are concerned, up to 30% of salaries may be repatriated while the majority of other expenditure is on site. Where US personnel live off base, the main impact is expenditure on rented accommodation, between 400-500 houses, including some purchased for letting by the US DoD, plus some additional expenditure in local shops, pubs, taxis, etc, although because of the availability of cheaper goods and services on site this is likely to be minimal. UK personnel, mainly employed in administration, catering and general maintenance, will spend the largest proportion of their income locally, and it is reasonable to assume expenditure for 300-350 full-time equivalent jobs in the local economy.

Assuming private sector renting of an average £10,000 per annum by US personnel (higher than the local average but reflecting a premium attached to larger size and amenities) and some additional expenditure in local shops pubs etc, plus £25,000 as an average salary for UK personnel (slightly higher than the sub-regional average but reflecting MoD salary rates), then the range of expenditure would be £25-30 million and £7-10 million respectively, plus an additional £1-2 million on local contractors and suppliers, giving a total of between £33 million and £40 million.

Normally, in overseas base impact assessments, a multiplier of between 1.0-1.5 would be applied and because of Menwith Hill's poor embeddedness, the multiplier should be at the low end. Here we use a multiplier of 1.0, giving a direct and indirect impact to the local economy of between £66 million and £80 million a year.¹³⁴ Even allowing for the multiplier effect, and acknowledging the difficulties in making any accurate assessment without more detailed figures, this still leaves the overall monetary value of Menwith Hill to the local economy at between 50-60% of the annual figures provided by the base.

Hidden Costs to the UK

While the US authorities and the UK government are happy to promote the base as having a positive economic benefit, they are less than forthcoming where issues of ongoing costs are concerned. A fundamental problem is the operation of the 1973 UK/US Cost Sharing Agreement which provides the overall framework for all US bases in the UK but whose details remain confidential. The UK government argues that information is withheld because release "...would or would likely prejudice relations between the UK and another state."¹³⁵

Yet the costs to the UK appear to be substantial. Already confirmed through Freedom of Information requests is that enabling work for construction programmes at Menwith Hill involves a significant UK contribution at over £7 million, even where those facilities are exclusively for the benefit of US personnel.

As well as these periodic costs, there are a range of other, ongoing costs. Goods and fuel imported from the United States are exempted from normal excise and VAT duties and sold on the base, effectively, at cost price.¹³⁶ Also, UK contractors providing goods and services to the base can claim VAT exemption. In both cases, the benefits clearly accrue to the United States but impose a hidden cost to the UK from lost tax revenue¹³⁷. Similarly, the base pays no business rate council tax for the costs of services like refuse collection provided by the local authority.¹³⁸

Another fundamental issue that needs to be clarified is personal taxation exemptions. As far as can be ascertained, US personnel pay no UK taxes. This arrangement covers not only military personnel but extends to employees of US contractors who are classified as carrying out government-related work on site.¹³⁹ US personnel are also exempted from paying council tax either on properties rented inside the base or in the local district, although the latter



exemption has to be applied for in writing from the local authority. At the same time, US base personnel have free access to NHS medical services, public libraries, schools, etc.¹⁴⁰

Although very difficult to calculate the total loss of both direct and indirect tax revenue, it must run into tens of millions of pounds a year. Compared to the periodic nature of construction support costs, this is also an ongoing annual burden. The Cost Sharing Arrangement is a national one, so the same construction cost support and tax exemption framework will apply to all US bases in the UK. The full scale of the subsidies remains secret (even if partially revealed in the Freedom of Information answers received) but the historical and ongoing costs to the UK taxpayer of facilitating US bases is a very serious issue and needs clarification.¹⁴¹

Further issues that impact on the costs of the base but are usually treated as externalities are environmental clean ups and policing. For example, as part of the construction

programme, the underground storage tanks for the diesel generators were replaced and a considerable amount of contaminated soil was removed, having been polluted by oil leakages over the years.¹⁴² At one level, this represents an economic activity producing work for specialist contractors, and in this case, the DoD paid for the clean-up. But the main concern, here, is the potential cost burden when the base is closed.

All the permanent structures on the land become the property of the UK, which is why, when the the United States leaves a base, it takes no further responsibility.¹⁴³ Full environmental remediation could run into the tens of millions of pounds and will, ultimately, have to be met by the UK taxpayer through the MoD and the local authority. An obvious example is Greenham Common, where the remediation programme is still ongoing and will next be reviewed in 2014. There are also local concerns over the possibility of serious external pollution and clean-up costs if contaminants from the base leak into local reservoirs.¹⁴⁴

Policing costs are high because of continuous patrolling both inside and outside the base. The DoD reimburses the cost of policing Menwith Hill by the MoD Police and Guarding Agency but a five mile radius of the surrounding area is designated for special protection under section 44 of the Terrorism Act 2000. Because MoD police working for the US DoD are prohibited from carrying arms outside the station boundary (unless accompanied by civilian police) armed-response counter-terrorist officers from the North Yorkshire police force patrol the area.

According to a parliamentary answer, the cost of these MoD road patrols paid for by the US authorities was £608,000 in 2006 but the costs to the North Yorkshire force remain confidential.¹⁴⁵ While difficult to make other than an estimate, round-the-clock vehicle patrols by North Yorkshire armed police officers will be at least the equivalent cost and probably much higher.

The North Yorkshire Police Authority is facing serious budgetary pressures following central government cuts. Over the four year period to 2011-14, there will be a £21 million reduction, down from £140 million to £119 million, which has already resulted in a recruitment freeze.¹⁴⁶

The continued commitment to round-the-clock policing at Menwith Hill, therefore, must be seen in the context of what must be reductions in front-line policing for the wider community, especially as the North Yorkshire force is also responsible for patrolling Fylingdales.

Menwith Hill overlooks Nidderdale, designated an Area of Outstanding Natural Beauty (AONB) that will eventually be incorporated into the Yorkshire Dales National Park. Tourism provides an important economic contribution for nearby towns like Pateley Bridge - a centre for visitors to local attractions such as Brimham Rocks, the Stump Cross Caverns and Fountains Abbey. In terms of opportunity costs, the base is considered by the tourist authorities to have a detrimental effect because of its sheer size and physical impact as an ugly scar on the landscape. Also, the armed police patrols use random stop and search powers for both vehicles and pedestrians around the base, an experience that may well deter tourists from further visits if they are unfortunate enough to be targeted. While difficult to evaluate, there is no doubt that the base detracts from the tourist potential of the area and that its closure would contribute to the general efforts to promote tourism, boosting local cafes, restaurants, etc, and tourist-related employment.¹⁴⁷

Last but not least is the ecological footprint of the base, including the regular flights from the United States to transport goods that could be sourced locally, as well as the use of diesel for power generation on a scale equivalent to that of a small town.

Both are beyond the control of the UK as it attempts to reduce carbon emissions that contribute to climate change. Closure of the base would make a significant contribution to the regional targets for carbon emission cuts.

Menwith Hill and the Local Economic Context

Having considered various approaches to assessing the economic impact of Menwith Hill and some longer-term issues of hidden costs including tax exemptions, environmental clean up, policing, tourism and ecological footprint, the final area remaining is to gauge Menwith Hill's significance to the local economy. Here the Harrogate Borough Council district is used for our local economic analysis. Although this is a large geographical area because of its rural hinterland and incorporates other smaller towns, the main economic focus of the district is Harrogate, and it is the town most closely associated with the base because of the large proportion of US personnel who live there. The district is also used for other, general economic analysis in sub-regional studies and as part of the Leeds-City region.

A useful starting point is provided by a recent study of military bases in North Yorkshire sub-region carried out on behalf of the Regional Development Agency (RDA), Yorkshire Forward.¹⁴⁸ This identified a total of 17,149 MoD staff of which 88% were military and 12% civilians, representing 6% of the total sub-region employment. The main concentration was around the Catterick army base, with over 9,000 jobs in Richmondshire, representing 44% of total employment in the Richmondshire District Council area.¹⁴⁹ In contrast, although Harrogate had the second highest concentration of military-related employment in the sub-region,

at 3,616, this represented a much lower proportion of overall employment in the Harrogate district at 70,000, or 5% of the total.¹⁵⁰ This included Menwith Hill and other MoD sites like the Army Foundation College, a training facility in Harrogate and the RAF stations at Linton-on-Ouse, Church Fenton and Driffield.

The study also provided a calculation of the overall value of military expenditure in terms of salaries, procurement and capital spend at £594 million Gross Value Added (GVA) compared to sub-regional GVA of £82.9 billion, less than 1% of the total.¹⁵¹ Again, a similar exercise for the Harrogate district puts total military spending at around £200 million GVA for the Harrogate district, compared to total Harrogate GVA estimated at £2.92 billion, or 0.7% of the total.¹⁵²

According to figures provided by the North Yorkshire County Council, Harrogate is a relatively prosperous area with an unemployment rate in September 2011 of 2.3 % compared to 2.5% for the sub-region and 4.6 % for the Yorkshire and Humber region. (The figures refer to those on Job Seekers Allowance.) Average UK unemployment was 3.9%.¹⁵³

Although there are examples of relatively deprived wards, the main concentrations of deprivation are in other districts of North Yorkshire, mainly in the York and Scarborough areas. Military spending, including Menwith Hill's, therefore, should be seen in both its sub-regional and local context as a small element of overall economic activity, in a relatively strong and diversified economy.

Base Closures and Economic Adjustment

How would the closure of Menwith Hill affect the local economy? Not surprisingly, the announcement of any base closure can generate serious concerns in local communities. This often involves political lobbying and campaigning to keep bases open for fear of redundancy and loss of rental income, local trade, etc. Yet the evidence from many previous base closures



demonstrates that the transition and re-use process can be carried out with little overall impact and lead, in the medium to longer term, to more diversified and resilient local economies.¹⁵⁴

At a time when Menwith Hill is investing in new facilities and expanding personnel numbers, such an exercise might seem superfluous. But the United States will continue to close overseas bases at short notice dependent on a variety of factors, including technological developments, changes to strategic priorities and political opposition. A brief review of two previous NSA base closures, Bad Aibling in Germany and RAF Edzell in Scotland provide some useful indicators of the closure and re-use process.


In 2001, the NSA announced the closure of Bad Aibling, Menwith Hill's sister base in Bavaria, Germany, despite major infrastructure investment in the previous two years. (See Section One) Personnel and equipment were relocated either to the United States or other bases including Menwith Hill and the base finally closed in 2004 with the loss of 250 local jobs.

There was some initial speculation that the German intelligence agencies might maintain the facility but, probably due to high operational costs, this option was not pursued. Instead, the base was designated for re-use as

part of an ambitious national programme called 'Zero Energy City'. Under this programme, brownfield sites were redeveloped to utilise a broad range of renewable energy and energy efficiency systems, with the objective of making the whole site carbon neutral. Bad Aibling was chosen to demonstrate how military bases facing closure could be adapted to achieve these goals.¹⁵⁵

In 2006, the site was acquired by a development company, B&O Wohnungswirtschaft, with the support of the German Ministry for Economics and Technology to adapt the base for a combination of residential and commercial uses. Where possible, existing accommodation was adapted for housing, mainly in two large apartment blocks, as well as a hotel and other holiday accommodation. A decentralised energy system was put in place through solar power on ground and roof-mounted systems to make the residential area self-sufficient in energy. The base's offices and other support buildings like garages and machine shops were adapted for the other major initiative, a technology park. Although the energy demands were higher than the residential area, the objective was to create a zero-fossil fuel system through wood-chip burning, waste utilisation, combined heat and power and improved energy efficiency.¹⁵⁶

While still in the transition stage, this re-use



programme has already resulted in a series of economic and environmental benefits. The technology park has attracted a range of new businesses including one in partnership with the Munich Technical University on materials for fire proofing, along with several in the renewables and energy-efficiency sector. At the same time, the hotel has become a hub for tourism which is attracting other follow-on business in the self-catering accommodation.¹⁵⁷ So the base re-use is generating a range of new, skilled manufacturing and service sector employment for local people, while also contributing to national environmental objectives on substantially reducing carbon emissions.

In the UK, a similar, if less ambitious, exercise has been carried out at the former RAF Edzell base, near Angus on the east coast of Scotland. Originally an NSA station carrying out surveillance of Soviet naval and submarine communications in the North Sea and Northern Atlantic, it was deemed technologically obsolescent and surplus to requirements at the end of the Cold War when the former USSR's Red Banner nuclear submarine fleet was withdrawn from active duty. At the time of its closure in 1997 there were 700 military personnel on site (some of whom were transferred to Menwith Hill) and an estimated 300 local workers.

Angus Council commissioned a consultancy report assessing the economic impact of the base's closure. The main concerns were an increase in unemployment of up to 15% in the Brechin/Montrose travel-to-work area, a loss of income to local business and housing rental revenue. In response, the council set up the Edzell Task Force made up of representation from the council, other public agencies and local community representatives to oversee an action plan and consider various options for alternative use.¹⁵⁸

At the end of the consultation process the base was designated a brownfield site and planning permission was given for mixed development,

including residential, and business premises, with an emphasis on residential housing and storage/warehousing facilities. Infrastructure investment included road improvements and general environmental clean up before the site was sold on to a private developer, Carnegie Base Services.

From an initial housing programme transferring 150 service personnel homes to local residents, there has been a £6 million investment by the developers in a range of new businesses and warehouse facilities. By 2005, there were 35 companies on site employing 90 people. In 2010 Carnegie announced an ambitious £250 million development plan creating up to 1,000 construction jobs for another 250 houses and industrial units for businesses.¹⁵⁹ Compared to Bad Aibling, the regeneration programme has been less ambitious in not directly addressing eco-sustainability issues. But this was still effective in utilising a public/private partnership, leading to the development of a mixed-use site, in this case with the emphasis on local housing, supplemented by commercial and industrial activities.

These examples reinforce the general picture from base re-use studies that, with some fairly modest central and local government funding to assist the transition process, including grants for building adaptation, infrastructure investment, re-training programmes for local workers, etc, the sites can be fully integrated into the local economy. Even where the decision is to close the base without re-use, the repercussions may not be negative if the local district has a sufficiently strong local economic base to provide a range of alternative jobs.

Issues raised for Menwith Hill include its rural location and the adaptability of some of the more specialised buildings for alternative use once the military equipment has been dismantled. The MoD may consider retaining the base but, using Bad Aibling and Edzell as templates, the obvious route, in economic development terms, would be to classify Menwith Hill as



a brownfield regeneration site. Given the good infrastructure links to Harrogate and Leeds / Bradford airport, a mixed residential / commercial development is feasible, while farming and public rights of way could also be retained. The closure of the base, allowing for a three to five year transitional process, would contribute to a diversified and stronger local economy.

Evaluating the Real Economic Impact of Menwith Hill

Assessing the economic impact of Menwith Hill has proved difficult without the cooperation of the base authorities. Data is extremely limited and this review can only be considered a preliminary exercise. But the figures provided by the US authorities to economically justify its presence raise more questions than answers since they do not constitute a serious attempt at gauging Menwith Hill's contribution to the local economy. Issues raised include the repatriation of savings to the United States, heavily subsidised facilities on the base which discourage local spending, and limited contracting with local companies, all of which substantially reduce income flows into the local economy.

A benign interpretation is that the base authorities are unaware of how to conduct an economic impact assessment or are using the figures simply for illustrative purposes. But there is no lack of studies on which to draw, including official ones supported by the DoD, Nato and the MoD. The exaggeration of the base's contribution suggests that this is a quite deliberate and fairly cynical exercise - propaganda masquerading as economics - and is all of a piece with the general efforts to project a positive relationship between the base and the local community while retaining total secrecy over its real functions.

It is certainly a cause for concern that the US authority's figures are used by government ministers in parliamentary answers and then simply reproduced for public consumption as, somehow, officially endorsed. The MoD should withdraw all official references to these figures, unless accompanied by explanatory details of their limitations.

Also at issue is the relationship between US-based and UK-based companies for both construction and servicing work, the value of which is not adequately covered in official figures and through Parliamentary answers. Higher-value work appears to be reserved for

US companies because of security issues, restricting the amount that might normally be expected for UK-based contractors on large-scale construction projects like Phoenix, although it has not been possible to verify this from US sources.

But what is not in dispute is the strategic priority attached to Menwith Hill for the US authorities. The ultimate objective of both construction and maintenance work is to support a secret, multi-billion dollar investment in satellite and computer related technology and software to enhance the base's capabilities. Work on these programmes is exclusively reserved for the main US arms corporations.

The base has never encouraged the development of the sort of local, high-technology supplier network that might have been expected if investment had been made in equivalent, civil sector industries. This is not a matter of bureaucratic inertia, as has been the case with some MoD procurement systems that favour larger contractors, and which might be reformed in order to encourage local companies to bid for more work. Rather, this is a deliberate and irreversible policy - a form of economic apartheid that cordons off all high technology work for US corporations.¹⁶⁰

Also of serious concern is the operation of the confidential, Cost Sharing Arrangement - a euphemism for cost minimization to the United States and cost maximization to the UK. The range of these costs appears to be very wide, beginning with the multi-million pound contribution by the UK to the infrastructure support for facilities used exclusively by US personnel (as revealed in Freedom of Information answers). Menwith Hill also operates as a dollar economy for subsidised US goods and fuel on site and as a tax free zone, ranging from exemptions on excise and VAT, business rates and council tax, through to personal taxation. Included in these exemptions are private US citizens working for some of the largest and most profitable arms corporations in the world like Lockheed Martin. They will, in

some cases, be receiving six figure salaries but are exempted from paying any personal or council tax.

Combined with other hidden costs including local police patrols and the maintenance of a UK military presence for public relations purposes, the overall burden will run into millions of pounds a year.

Yet because of the terms of an arrangement entered into in 1973, which not only applies to Menwith Hill, but to all US bases in the UK, the true nature and scale of these costs, both historic and ongoing, remain hidden from the UK parliament.

It may surprise many people to learn that UK taxpayers are effectively subsidising US bases, and that US personnel make no tax contribution to the public services they use, especially at a time of severe pressure on public expenditure and deep cuts to those services.

Having raised the issues of embeddedness, contractor values and hidden costs, it remains the case that the base is still responsible for income flows into the local economy. Two main elements are the salaries of UK employees who live locally and the renting of housing by US personnel, in turn generating further indirect demand and employment. The closure of the base would involve the loss of local jobs for UK personnel and have a deflating effect because of reduced demand and expenditure in the local economy. The real question is how significant would that impact be?

One approach is to consider base closures as part of a continuum reflecting the strengths and weakness of the local economy. The worst case scenario is of a base that constitutes the main form of income in an otherwise depressed

area, to one with few links and a strong, diversified local economy. In the former, a range of special measures may need to be put in place to stimulate redevelopment, including grants to attract new industries, or enterprise zone status with exemptions from local business rates; whereas the latter simply draws on existing support like careers advice and retraining of redundant workers, allied to basic infrastructure improvement.

Harrogate's relationship to Menwith Hill fits in towards the latter end of this continuum and is, from previous experience, the sort of local economy that can adjust relatively quickly and successfully to a base closure. At the same time, Menwith Hill can be redeveloped, most probably, as a brownfield site with mixed use housing and industrial/commercial facilities.¹⁶¹ In this way, rather than the disaster often portrayed in the media when a base closure is announced, this transitional period can be an opportunity to further diversify and strengthen the local economy, as evidenced by other base re-use schemes such as Bad Aibling and Edzell.

Here we make two recommendations for follow-on actions...

Firstly, the MoD and US authorities should commission a full economic impact assessment of Menwith Hill to the local economy from an independent academic institution or consultancy that has access to the full range of data maintained by the base.

An additional area for clarification here, is the role of the Cost Sharing Arrangement which should be made fully transparent so that the full costs to the UK of supporting Menwith Hill and other US bases can be accurately gauged.

Secondly, to complement this study, the local authority should conduct a base transition and re-use analysis integrated into local and sub-regional economic development strategies. For example, by working with the MoD, it could accurately assess the overall costs to the local authority of an environmental clean-up in the first stages of redevelopment. As rented accommodation is released by US personnel, it could also liaise with local housing associations on how this might be brought into social ownership and prioritised for local people on social housing waiting lists. The redeployment of police to normal duties should also be a priority at a time when front-line policing is facing cuts.

A particular issue would be to identify shortages of land for all types of commercial and residential development and how Menwith Hill's facilities can best be utilised in terms of those shortages. But there is no need for a range of special measures such as enterprise zone status to attract businesses or to assist redundant workers since the process should be fairly smooth one, carried out over several years, and similar to many others faced by local authorities when a commercial or industrial site closes down.

One final point needs to be stressed. Even if Menwith Hill had been by far and away the most important source of employment and income in the district and the local economy faced severe disruption from its closure, there would still be an overriding strategic, political and moral case for its closure. The economic case for military bases is all too often manipulated to create an exaggerated sense of dependency and, therefore, an uncritical view of its strategic role by local people who fear the consequences from loss of income and employment should bases be closed. However, the evidence from previous closure and re-use exercises is very positive. After a five year transitional period it would be as if Menwith Hill had never existed as a spy base and the local economy would be strengthened rather than weakened.

Chapter Five: Conclusion

Over the last fifty years, the United States has been secretly constructing an enormous electronic spy station in the middle of Yorkshire with the capacity, not to protect and preserve democracy, but to subvert and destroy it. Menwith Hill, more than any other US military base in the world, symbolises the vast chasm between the overblown rhetoric of American freedom and the grim reality of an imperialism out of control.

Despite the end of the Cold War, the United States has enhanced its capabilities to intervene, either overtly or covertly, anywhere in the world. The main objective remains to ensure access to oil and other non-renewable energy supplies, as reflected by the siting of new bases in the Horn of Africa, and around the Caspian Sea. Throughout the 'arc of insecurity', it has been more than willing to prop up some of the most corrupt and anti-democratic regimes in the world, providing arms sales and other forms of military assistance, as long as these regimes comply with US strategic interests.

The NSA complements this visible US military power with a vast array of secret, electronic intelligence gathering that covers the full spectrum of traditional military, diplomatic and commercial spying, through to the monitoring of all forms of personal telecommunications. But the NSA is also working in partnership with the other US intelligence agencies to provide what could be best described as an active intervention capability.

By combining surveillance / reconnaissance, satellite imagery and telecommunications intelligence, it is technically feasible to provide real-time profiling of low-visibility targets and to direct military forces against them anywhere in the world, utilising the global communications architecture that the United States is developing for the integration of intelligence and military operations. The

most obvious example is high-altitude drone attacks with no prior evidence of military preparations and no warning time for people on the ground.

The brave new world of intelligence-led, remote-control and covert warfare has been described by enthusiastic US strategists, as 'tightening the kill chain'.

Menwith Hill has always played a critically important role for the NSA, utilising a range of satellite and fibre-optic interception capabilities to provide traditional intelligence material to the NSA's headquarters at Fort Meade. This has contributed militarily, to conventional operations, as in air strikes against Iraqi communications and radar centres during the two Gulf wars, as well as commercially, in providing US-based corporations with confidential information and technical data from European competitors on international contracts valued at billions of dollars. Menwith Hill is also now a key relay station for BMD, utilising new infra-red military satellites to detect and track missile launches and trajectories as the first phase of a missile defence shield for the United States.

Traditional intelligence gathering and the new contribution to missile defence reflect the military supremacy of the United States and the strategically important role Menwith Hill plays. No other country has the technological resources to secretly and illegally amass and analyse such an enormous volume of electronic information and attempt to gain strategic value from it. No other country can even contemplate building a space-based, infra-red satellite system, as part of a broader BMD network of

sensors and missile deployments, with the intention of destroying missiles on site, or in early launch, however profoundly destabilising this may be in stimulating a new arms race.

But the sheer scale of investment in facilities and specialist personnel from US intelligence agencies and major US arms corporations can only be explained by what US military strategists see as a paradigm-shift towards intelligence-led warfare. Although the true costs of this are shrouded in black programmes, collectively the investment in satellite technologies, supercomputing, cryptology, etc, has run into tens of billions of dollars a year and each regional centre, including Menwith Hill, will have been the recipient of at least a \$5 billion programme by 2015, to ensure that they can function as integrated intelligence hubs.

As the strategic value of Menwith Hill to the United States has grown, so the subservient role of the UK government becomes ever clearer. The idea of an equal partnership was always absurd given the massive disparity between the technological investment of the United States and the relatively limited capacities offered by GCHQ in comparison. Sharing of intelligence does take place and there is a permanent representation of GCHQ personnel at Menwith Hill. But the flow of that intelligence is determined by the NSA, with the highest security clearance reserved exclusively for senior NSA personnel and US-based contractors.

Successive British governments have enthusiastically endorsed this facade of a partnership because it helps bolster the UK's image as a major world power, even though the UK is totally dependent on the United States for satellite and ballistic missile technologies. Over the



years, this has led to the unacceptable and unseen voluntary ceding of sovereignty and territory. Only a few moments reflection is required to consider how the US government and its people would react if another country declared that it was intending to use mainland United States for spy bases, keep most of the intelligence secret, and transfer that intelligence to its domestic headquarters.

At least in Australia, a parliamentary committee had the courage to challenge the executive by carrying out an investigation into US SIGINT bases and introduced expert witness statements into the record on the scale of US operations at Pine Gap, going on to question how far this was in the country's interest or simply to support the strategic priorities of the United States. Similarly, the European Parliament's Echelon investigations exposed the likely scale of US commercial spying by the NSA bases in Europe and made serious recommendations to member states on the need for accountability under EU and international law. In contrast, the fact that the only attempt to raise similar issues in the UK Parliament on Menwith Hill was

a very brief debate instigated by a backbench MP, whose concerns were treated with total disdain by the government, is nothing short of a national disgrace.

Collusion also extends to endorsing the US authorities' assertions that the base makes a significant contribution to the local economy. Here, the objective is to instill a sense of dependency in local communities, while also carrying the thinly-veiled threat that closure would have a major negative economic impact.

Yet both the US authorities and the UK government are aware that the base functions as a US economic enclave, massively reducing the income flows that might be expected into the local economy.

At the same time, the government masks the ongoing costs to the UK taxpayer of servicing the base through infrastructure support and through hidden tax subsidies that run into tens of millions of pounds a year.

At the heart of this deception is a deliberate policy of industrial and technological apartheid that reserves the secret, high-technology work for US corporations like Lockheed Martin and Northrop Grumman. The contrast between a US corporate elite enjoying the full largesse of DoD black programme compared to local suppliers picking up the crumbs from the table, in low-value, low-technology work, could not be starker. A base closure and re-use programme would, as evidenced from similar exercises elsewhere, have a positive benefit in diversifying the local economy and providing a broader range of skilled work for local people. And, of course, the UK government simply turns a blind eye to the wider, international

economic issues related to the US commercial spying carried out at Menwith Hill which has benefited US-based corporations and at considerable cost to UK companies.

Instead of providing a democratic framework to test the accountability and legality of activities at Menwith Hill, the British government colludes with the NSA to shroud its illegal operations in total secrecy, using national security as a convenient smokescreen, preventing public debate and comment on its intelligence functions. All this is part of the classic client-state relationship - a subservience that extends to promoting the interests of the dominant power even at the expense of one's own, and an arrogant expectation on the part of the United States that the UK's only response when told to jump is to ask how high.

Given the scale of the global investment that is taking place in these new forms of warfare, it is difficult not to come to the conclusion that Obama is a far more effective imperial president than Bush. Whereas Bush embarked on illegal invasions through overwhelming military force and what became increasingly unpopular long-term occupations, Obama has adopted a low profile form of preventive war without invasion, while publicly emphasising the commitment to troop withdrawals.

So, while carrying out an increased range of military actions that involve drone attacks, special forces operations and various clandestine snatch squads and assassination attacks in a growing number of countries, and with the inevitable consequence of killing and injuring thousands of innocent civilians as a result, the United States can claim to be reducing its overseas presence and remaining out of 'wars' as traditionally defined. And all this without the media attention that full-scale invasions and occupations inevitably bring. At the same time, it continues to invest in major conventional arms programmes, the modernisation of nuclear weapons, and now a comprehensive, if futile and destabilising, BMD programme at the cost of trillions of dollars.

Whoever wins the next presidential election in 2012, the over-riding priority will be global power projection and that, in turn, is dependent on maintaining US supremacy in military technologies. Despite the unprecedented federal budgetary crisis, the MIIC will put forward new, exotic options and offer the tantalising prospect of enhanced security through global surveillance and real-time military interventions - as long as it can continue to operate in total secrecy and have billions of dollars allocated for the R&D and procurement of ever more sophisticated satellite and computer-based technology.

The ultimate irony is that the very construction of this global military and surveillance machine has made the United States less, not more secure. The programme to identify significant, and in some cases, profound political challenges through intelligence was always deeply flawed, with notorious failures to anticipate the impact of opposition movements that led to the collapse of communist governments in Eastern Europe in the run up to the end of the Cold War - most US analysts expected a long, drawn-out and difficult withdrawal by the Soviet Union; or the more recent Arab spring where US-supported regimes were brought down by popular protests in Tunisia and Egypt - regimes confidently cited by the United States as being stable and long-lasting.

More specifically, the United States' continued global, military presence and undue influence in the internal affairs of other states has led to what is generally described as 'blowback', the growth of hostility and opposition, especially where that interference is seen to undermine the prospects for democratic change. At the same time, this obsession with new capabilities like the BMD shield, even though unlikely ever to be anything other than a multi-billion dollar technological failure, can only undermine efforts to create real international security, since other countries will respond in 'worst-case scenario' mode that the United States is developing a pre-emptive strike capability.

The most serious damage may be as much internal as external. The United States has reached the stage where the capacity is in place to subvert normal democratic society. With its 60,000 staff and \$15bn dollar budget, the NSA, sits at the apex of an intelligence structure that consumes over \$70 billion a year (far more than the whole of UK military expenditure). Yet it can never be sated. A medical diagnosis might best describe the NSA as suffering from Total Surveillance Syndrome - a final phase of institutional paranoia, where security can only be achieved through the monitoring of everyone, everywhere, for ever.

Furthermore, this expansion of the NSA has taken place in the context of further invasions of privacy and the encroachment on civil liberties through Patriot Acts and other forms of legislation that are monitoring and restricting the rights and abilities for individuals and groups to protest. If this sounds alarmist, it is merely to point out that the secret accumulation of power provides all the elements necessary for emergency measures in which constitutional freedoms have been systematically eroded under the banner of national security.

Putting forward the case for the closure of US bases and curtailing the power of the NSA is not anti-American, therefore, but anti-imperialism.¹⁶² There are many millions of ordinary US citizens who feel exactly the same, that the US empire is a crippling burden on the economy, and offers nothing in the way of real security abroad while threatening constitutional freedoms at home. Dismantling it will be in their country's best interests as well as contributing to a new era of international disarmament.

A fundamental review, in which deep savings from arms expenditure were used to fund a range of civil investments like indigenous, renewable energy programmes, would be a boost to the economy, provide skilled work for ordinary people and contribute to real

security in an uncertain world of resource depletion.

One significant and highly symbolic contribution to that process would be the early closure of Menwith Hill, the most important imperial outpost of the United States, and certainly before it becomes fully operational as an active intelligence centre in 2015. A strong case can already be made that it has been involved in the full range of military actions that characterise this new warfare, although a direct association with any particular operation is, obviously, difficult to identify.

To take one scenario, a nationalist leader targeted during a North African civil war may use his mobile phone, triggering an immediate, real-time response based on intelligence-led electronic surveillance and satellite imagery tracking. Within minutes, a missile or drone attack is carried out, that destroys the building in which he is located. He is killed and the mission is deemed a success. The fact that this was a family home or an apartment block will either be denied, or if there is clear proof of civilian casualties, the building will be given a designated military function as a command post, or more likely, here, as a communications centre. The question, therefore, is not about a particular operation but the framework of investment at Menwith Hill that is intended to provide the technological capability to implement exactly this sort of intelligence-led operation.


Designating the use of military forces as humanitarian intervention or anti-terrorism should not be allowed to disguise the fact that the United States is carrying out acts of war in a growing number of countries but without a formal declaration of war, and has taken onto itself the roles of judge, jury and executioner.

These new forms of intelligence-led warfare, precisely because of their covert nature and use of remote-control weaponry, pose a fundamental challenge to the precepts of international law with their emphasis on the conduct of conventional wars and the humane treatment of prisoners and civilian populations by occupying forces.

The least we could expect is some form of parliamentary investigation, either in the UK, or by the European Parliament, that has previously shown itself capable of independent action, to test the legality of UK territory being used by a foreign power as the fulcrum for intelligence-led warfare that has never been democratically sanctioned and involves the deaths of innocent men, women and children.

Menwith Hill should be closed down as a contribution to international disarmament, while planning for an economic re-use programme should begin to ensure that new facilities are developed for the maximum benefit of the local community.





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7. John M. Miller *Bases and Battleships : An Introduction to Foreign Military Presence* (Foreign Base Project and International Peace Bureau, New York, 1989) provides a good review of the US base structure during this period.
8. The Stockholm Initiative, *Common Responsibility in the 1990s - The Stockholm Initiative on Global Security and Governance* (Prime Minister's Office, Stockholm, 1992) and Julius K. Nyerere, *The Challenge to the South - The Report of the South Commission* (Oxford University Press, Oxford, 1992).
9. Keith B Cunningham and Andreas Klammer, *Restructuring the US Military Bases in Germany : Scope, Impact and Opportunities* (Bonn International Conversion Centre, Bonn, 1995) The overall reduction was 200,000 troops, about 75% of the total, while still retaining its main bases and ensuring that the US could promote its interests in the post-Cold War environment.
10. Jesus Velasco, *Neoconservatives in U.S. Foreign Policy under Ronald Reagan and George Bush : Voices Behind the Throne* (John Hopkins University Press, Baltimore, 2010) pp. 194-196. The Axis of Evil was also correlated with states allegedly promoting terrorism around the world including Libya and Syria.
11. *ibid.*, pp. 75-77 for a brief history of the Project for the New American Century (PNAC) and the influential role of neo-conservatives like Dick Cheney and Richard Perle.
12. *Sipri Yearbook 2003*, <http://www.sipri.org/yearbook/2003/10>. The US increase represented three quarters of the total increase in world military expenditure during that period with further steep rises planned through 2004-2008.
13. Chalmers Johnson, *Nemesis : The Last Days of the American Republic* (Holt Paperback, New York, 2007) p. 142.
14. Chalmers Johnson, *Dismantling the Empire, America's Last Best Hope* (Metropolitan Books, New York, 2010) pp. 115-119 for a good summary of this restructuring. Also, Robert D. Crichtlow, *US Military Overseas Bases New Developments and Oversight Issues for Congress* (Congressional Research Service, 2005) www.fas.org/crs/natsec/RL33148.pdf.
15. See <http://publicintelligence.net/tag/global-information-grid/>.
16. Johnson, *op.cit* (2007), p.147.
17. *ibid.*, p. 148.
18. Michael Klare, *op.cit.*, provides a thorough overview on the strategic implications of declining supplies and increasing demand. Also the US National Intelligence Council's scenario planning envisages oil and gas demand outstripping supply by 2025 leading to protectionist wars. See *Global Trends 2025: A Transformed World* (NIC, 2008) http://www.dni.gov/nic/PDF_2025/2025_Global_Trends_Final_Report.pdf.
19. Johnson, *op.cit.*, 2010, p.128. For a detailed breakdown of US military spending see Todd Harrison, *Analysis of the FY2011 Defense Budget*, Center for Strategic and Budgetary Assessments (CSBA, 2011), p. v, CSBAonline.org.
20. Gavan McCormack, *Obama vs Okinawa*, *New Left Review* (July/August 2010) pp. 5-26. Also, see Catherine Lutz (ed) *The Bases of Empire: The Global Struggle Against U.S Military Posts* (Pluto Press, London, 2009) which provides the most comprehensive recent review of the American base structure as well as examples of the campaigns by local groups against the US military presence. Similarly, expansions on Guam and Diego Garcia are opposed, while a new naval base on Jeju is land, S.Korea, is going ahead despite its location in an area of outstanding natural beauty and widespread local opposition. In Europe opposition has also been strong in Italy, and more recently against the planned location of anti-ballistic missile systems in Poland and the Czech Republic.
21. UK Air Ministry, *Royal Air Force Menwith Hill* (UK Air Ministry, October 2001).
22. Richard J. Aldrich, *GCHQ The Uncensored Story of Britain's Most Secret Intelligence Agency* (HarperPress, London 2010) pp. 29-30. Enigma traffic was collected from a network of what were designated 'Y' stations around the UK and deciphered at Station 'X', Bletchley Park.
23. *ibid.*, pp. 59-60. For decades, successive governments refused to reveal any details about the role of Bletchley Park, fearing it might compromise ongoing SIGINT activities, even to the extent of masking its contribution in official war histories. .
24. *ibid.*, p.96.
25. Matthew M. Aid, *The Secret Sentry: The Untold History of the National Security Agency* (Bloomsbury Press, London, 2009), p. 20 & p.43. The NSA's predecessor, the Armed Forces Security Agency had very limited powers and funding in relation to the armed services on whom it was dependent for personnel and equipment. The Brownell Committee established by Truman to advise on SIGINT organisation, called for its scrapping and replacement by a unified SIGINT agency.
26. Christopher Andrew, *For the President's Eyes Only: Secret Intelligence and the American Presidency From Washington to Bush* (HarperCollins Publishers, London, 1996) p. 197.
27. William Blum, *op.cit.*, provides a comprehensive history of CIA operations.
28. This is the emotionally fraught world of SIGINT summed up in the now standard riposte of secret agents in Hollywood blockbusters that they could tell you what they do but then they'd have to kill you.
29. Christopher Andrew, *op.cit.*, p. 197.
30. James Bamford, *Body of Secrets : How America's NSA and Britain's GCHQ Eavesdrop on the World* (Arrow Books, London 2002) pp. 585-587.
31. Aldrich, *op.cit.*, pp. 89-90 emphasises that there was no one single treaty but a series of overlapping agreements with limits on the sharing of intelligence.
32. Mark Urban, *UK Eyes Alpha : Inside British Intelligence* (Faber and Faber Ltd, London, 1996) pp. 62-63. The government attempted to prevent Duncan Campbell exposing the existence of Zircon by confiscating all copies of his television documentary but the text was published in the *New Statesman* magazine: *New Statesman, The Spy in the Sky*, 18/01/1987.
33. Aldrich, *op.cit.*, p. 342, claims that Morwenstow (now called GCHQ, Bude) scoops up the 'spillage' from commercial satellite lites in a 'classic' Anglo-American venture whereby the NSA pays for most of the infrastructure and technology while GCHQ contributes the land and most of the staff.
34. Aid, *op.cit.*, p.198.

35. *ibid*, p.192.
36. Duncan Campbell, *Phonetappers and the Security State* (New Statesman Report No. 2, London, 1981) p. 64.
37. James Bamford, *The Puzzle Palace: A Report on America's Most Secret Agency* (Houghton and Mifflin, Boston, 1982). Also published in the UK with an extended analysis of GCHQ, *The Puzzle Palace : America's National Security Agency and its Special Relationship with Britain's GCHQ* (Sidgwick and Jackson, 1983), Duncan Campbell, *op.cit*, 1981, and *The Unsinkable Aircraft Carrier: American Military Power in Britain* (Paladin Books, 1986) pp. 150-177. Subsequent publications on the NSA and GCHQ have relied heavily on this original research.
38. Desmond Ball, *A Suitable Piece of Real Estate : American Installations in Australia* (Hale and Iremonger, Sydney, 1980), *Pine Gap : Australia and the US Geostationary Signals Intelligence Satellite Program* (Unwin Hyman, London, 1988) and Nicky Hager, *Secret Powers : New Zealand's Role in the International Spy Network* (Craig Potton Publishing, Nelson, New Zealand, 1996)
39. Official Committee Hansard, Joint Standing Committee on Treaties, *Pine Gap* (Canberra, Australia, 1999) available at aph.gov.au/hansard/jointcommittee/j2408.pdf and the government response available at: aph.gov.au/house/committee/jsct/governmentresponses/26th.pdf
40. In the mid 1970s, the then Australian Labour government under Josh Whitlam had attempted a similar exercise which so alarmed US intelligence leaders that secret communications were made with the Attorney General, John Kerr prior to the extraordinary decision he took to dissolve Parliament and call a General Election in November 1975. The official histories focus on the constitutional crisis at the time but the background of US intelligence collusion with senior right-wing politicians prior to the dissolution deserves serious consideration. See Robert Lindsey, *The Falcon and the Snowman : A True Story of Friendship* (Pocket Books, New York, 1980), pp. 163-165. Also Blum, *op.cit.*, pp. 244-248.
41. Steve Wright, *An Appraisal of the Technologies of Political Control : Final Report to the Committee of Civil Liberties and Internal Affairs of the European Parliament* (Omega Foundation, Manchester, 1997).
42. European Parliament, Temporary Committee on the ECHELON Interception System, *Draft Report on the Existence of a Global System for the Interception of Private and Commercial Communications (ECHELON Interception System)*, Rapporteur, Gerhard Schmid, European Parliament, 2001) See also, Patrick Radden Keefe, *Chatter : Uncovering the Echelon Surveillance Network and the Secret World of Global Eavesdropping* (Random House, New York, 2006).
43. Duncan Campbell, *Paper 2, Interception Capabilities Impact and Exploitation* (Temporary Committee on the Echelon Interception System, European Parliament, 2001) available at <http://www.heise.de/tp/artikel/7/7752/1.html>.
44. Contact Phoenix Journal, *Echelon Exposed Proof of No Privacy* (Vol. 27, No. 6, February 2000).
45. Tim Shorrock, *Spies for Hire: The Secret World of Intelligence Outsourcing* (Simon and Schuster Paperbacks, New York (2009), p. 195.
46. European Parliament, *op.cit*, p. 10.
47. *Second Minority Opinion* drafted by Ilka Schroeder MEP (Germany) and signed by MEPs Alima Boumediene-Thiery (France) and Patricia McKenna (Ireland), 2001, available at <http://cryptome.org/eu-priv-iset.htm>.
48. Duncan Campbell, *Fight Over Euro-intelligence Plans*, 4/7/2001, <http://cryptome.org/eu-intel-fight.htm>.
49. The Obama administration prefers the tranquilising term 'Overseas Contingency Operations' but internal DoD documents still refer to the Global War on Terror. See guardian-on-line, *Obama Administration Says Goodbye to War on Terror*: <http://www.guardian.co.uk/world/2009/mar/25/obama-war-terror-overseas-contingency-operations>.
50. Shorrock, *op.cit*, p.6.
51. James Bamford, *op. cit*, (2002) pp. 604-613 provides a comprehensive review of all the NSA's computer-based research and the objectives for new supercomputers.
52. Shorrock, *op.cit*, p. 162. Also, 'public intelligence', *Site M : Expansion Planning Documents Reveal Cyberwar Command Center*, <http://publicintelligence.net/nsa-site-m-cybercom/>
53. The Bureau of Investigative Journalism, *Drone Wars Exposed : The Complete Picture of CIA Strikes in Pakistan*, <http://www.thebureauinvestigates.com/category/projects/drones/>
- Reported civilian deaths total between 391-780 including 175 children and injured between 1,174-1,261.
54. Bernard Kempinski, *Policy Options for Unmanned Aircraft Systems* (Congressional Budget Office, 2011) <http://www.cbo.gov/ftpdocs/121xx/doc12163/06-08-UAS.pdf>.
55. Department of Defense, *National Security Agency Military Construction, Defense Wide Fiscal Year 2012 Budget Estimates*, http://comptroller.defense.gov/defbudget/fy2012/budget_justification/pdfs/07_Military_Construction/12-National_Intelligence_Agency.pdf
56. Officially referred to as Special Access Programs.
57. Shorrock, *op.cit*, p. 232. There is some overlap and question marks over the degree of responsibility for overseas bases. Officially, the term RSOC relates to facilities on US territory but Shorrock's review strongly indicates that both Menwith Hill and Pine Gap are expected to operate with the same level of technical and operational input.
58. Office of Director of National Intelligence (Public Affairs Office) *National Intelligence Programme Fiscal Year 2010*, ODNI News Release No 21, 28/10/2010, www.fas.org/irp/news/2010/10/dni102810.htm
59. Gina Marie Steven, *Privacy, Total Information Awareness Programs and Related Information Access, Collection and Protection Laws* (Congressional Research Service, 2003) <http://www.fas.org/irp/crs/RL31730.pdf>
60. <http://reason.com/archives/2006/01/13/inside-the-puzzle-palace> provides an extended interview where Teace explains his role in the NSA.
61. publicintelligence.net/nsa-to-build-a-1-5-billion-cyber-security-data-center/. The data store needs to be considered separately from RSOCs and other collection stations. Regional SIGINT Operations Centers already existed but have now been designated Regional Security Operations Centers. Other facilities carrying out interception of commercial and military satellites include Yakima in Washington State and Waihopi in New Zealand covering Pacific Intelsat communications. Buckley Air Force Base is the main receiving station for the NSA SIGINT satellites positioned over the Americas.
62. Marcia and Thomas Mitchell, *The Spy Who Tried to Stop a War : Katharine Gun and the Secret Plot to Sanction the Iraq Invasion* (PoliPoint Press, LLC, Sausalito, California, 2008) pp. 7-10. Gun was subsequently identified as the source of the leak, and arrested under the Official Secrets Act, but her trial collapsed in dramatic circumstances when the government withdrew charges because it would have exposed confidential (and highly dubious) legal opinions to justify the decision to go to war.
63. Shorrock, *op.cit*, p. 216. Also William Hartung for an extended review of Lockheed as the leading MIC contractor in the United States: http://www.tomdispatch.com/post/175339/tomgram%3A_william_hartung,_lockheed_martin%27s_shadow_government.
- The main companies involved with the Intelligence Agency programmes are listed below:
Lockheed Martin, No 1 in global arms production, \$33,430 bn, 2009, 74% of total turnover arms related, 140,000

employees; BAE Systems, No 2 in global arms production, £33,250 bn, 95% of total turnover, 98,000 employees. (UK based company but targets proportion of its income generated in the US from US subsidiaries including intelligence agencies work.) Boeing, No 3 in global arms production, \$33,300 bn, 47% of total turnover arm-related, 157,000 employees; Northrop Grumman, No 4 in global arms production, \$27,800 bn, 80% of total turnover, 120,700 employees; General Dynamics, No 5 in global arms production, \$25,590 bn 80% of total turnover, 91,700 employees; Raytheon, No 6 in global arms production, \$23,080 bn 93% of total turnover, 75,000 employees; L3 Communications, No 9 in global arms production, \$13,010 bn 83% of total turnover, 67,000 employees; SAIC, No 12 in global arms production, \$8,130 bn 74% of total turnover, 46,200 employees; Computer Science Corporation, No 13 in global arms production, \$6,050 bn 37% of total turnover, 94,000 employees; CACI International, No 39 in global arms production, \$2,080 bn, 76% of total turnover, 12,400 employees, ManTech International Corporation, No 46 of total turnover, \$1,920 bn, 95% of total turnover, 8,000 employees. *SIPRI Yearbook, 2011, Armaments, Disarmament and International Security*, Stockholm International Peace Research Institute (Oxford University Press, 2011) pp. 257-258. Booz Allen Hamilton (\$5bn turnover and 26,400 employees and part of the privately-owned Carlyle Group) is also a major supplier, providing a range of satellite, computing and surveillance technologies.

64. Shorrocks, *ibid*

65. Yorkshire CND provides an overview of Menwith Hill at <http://www.yorkshirecnd.org.uk/campaigns/menwith-hill/>.

66. The Intelligence and Security Committee was established by Act of Parliament in 1994, in the wake of the *Spycatcher* affair. It has no remit to investigate the operational activities of the intelligence agencies, and certainly not those of the NSA. It is nominally responsible to Parliament but is appointed by the Prime Minister and has never made any direct reference to Menwith Hill in any of its reports. Over a ten year period from 1999 there have been three short visits by members of the Committee to the base. *Hansard*, 9/3/2009 col 178w; also *Hansard*, 6/4/98, col 9.

67. Kenneth L. Bird, *Menwith Hill Station: A Case Study in Signal Intelligence Gathering during the Cold War*, Monitor ing Times, February 1997. Bird was a former employee of the US Army Security Agency at the station.

68. *Hansard*, 14/7/1997 col 59/60w cites that the 21 year period was seen as necessary to facilitate the commitment of long-term US investment.

69. James Bamford, *op. cit.*, pp. 208-209.

70. See Chapter One.

71. Jeffrey T. Richelson, *The U.S. Intelligence Community* (Westview Press, Boulder, Colorado, 2008) pp. 229-30, provides a good summary of Menwith Hill's development in the context of the NSA's global network.

72. *Hansard*, 27/04/1988, col 203w. The government anticipated no significant change in personnel numbers at this time.

73. Buildings programmes are referred to by name in parliamentary answers since they offer no indication of the intelligence roles carried out at Menwith Hill.

74. Duncan Campbell, *The Hill*, Channel 4 TV, 'Dispatches', 6/10/1993.

75. Duncan Campbell, *Big Brother is Listening : Phonetappers and the Security State* (New Statesman Report No.2, 1981) pp. 48-55. also *The Unsinkable Aircraft Carrier*, pp. 164-65.

76. Duncan Campbell, *BT Condemned for Listing Cables to US Sigint Site*, duncan.gn.apc.org/Menwith.htm, 5/09/1997 He describes the events that occurred when he testified as an expert witness at the trial of two peace activists, *Regina v Anne Lee and Helen John*, Case No A960110-111, at York Crown Court, and his discussion with BT's witness scheduled to appear the same day.

77. *Hansard*, 9/11/1998, col 74w

78. Duncan Campbell, *The Hill*, *op. cit.*,. Anne Lee read from a classified NSA memorandum, *Relations with Foreign Nationals*, issued by Menwith Hill's Security and Law Enforcement department. This was one of the many hundreds of documents garnered from the station during the course of repeated trespasses, a fraction of which were shown in the programme.

79. <http://www.guardian.co.uk/commentsfree/libertycentral/2008/dec/16/serious-organised-crime-act> provides a good summary

80. See www.birstwith.com

81. Duncan Campbell, *The Hill*, *op.cit.*, *Menwith Hill Station Anonymity Policy*, extract from *Security and Law Enforcement* document, also garnered from inside the station.

82. *RAF Menwith Hill* (MoD, 2001) According to the leaflet, RAF Menwith Hill is part of a world-wide defence communications network and provides intelligence to the UK, USA and NATO in that order. It also states that as an RAF station, Menwith Hill is commanded by an RAF Squadron Leader.

83. www.yorkshirecnd.org.uk.

84. See CAAB website, www.caab.org.uk.

85. <http://democracy.york.gov.uk/mgOutsideBodyDetails.aspx?ID=360> for a brief overview.

86. Guardian online, *Protesters occupy 'Star Wars' defence base*, <http://www.guardian.co.uk/uk/2001/jul/03/5greenpeace>.

87. Bradford Telegraph and Argus, *Women Guilty in Spy Base Case*, 10/10/2007, www.thetelegraphandargus.co.uk/news/1750994.women_guilty_in_spy_base_case/

88. <http://tvnz.co.nz/national-news/verdicts-could-lift-waihopai-secrecy-3420568>, sometimes known as the 'Robin Hood Defence' where a crime such as damage to property is justified on moral grounds to prevent a greater crime like the loss of life.

89. *Hansard*, 12/07/1995, col 676w (GCHQ staff also visit Fort Meade and other US intelligence centres on a regular basis).

90. *Hansard*, 20/03/1995, col 48w.

91. *Hansard*, 26/01/1998, col 33w and 14/07/1997, cols 59-60w.

92. *Hansard*, 25/03/1994, cols 613-616.

93. Other interventions refer to Menwith Hill's activities but usually in the context of broader debates, e.g, on ballistic missile defence.

94. Bob Cryer had expressed his intention to press for select committee inquiry into the lack of parliamentary accountability over Menwith Hill and allegations of the NSA's illegal interceptions. Tragically, on his way back to parliament after the Easter Recess, he was fatally injured in a road accident.

95. The designation of RAF in relation to US bases was always intended to conceal the extent of the US presence in the UK. Legally, there was also the issue that the Visiting Forces Act doesn't allow UK military lands to be occupied by US civilians, unless they are engaged in support of the USVF, so since 1996 the station administration has been in the hands of the USVF, currently the USAF. This also acts as a cover to its NSA operations, with the RAF designation acting as another level of concealment.

96. Originally, the focus had been on Iraq prior to invasion but Rogue States have always been a movable feast.

97. The UK agreement, in principle, to SBIRS was made in 1997, see *Hansard*, 8/02/2000 col 31w, but the formal agreement to allow missile warning data to be routed through Menwith Hill for use in missile defence was finally given in an exchange of classified letters between the US Defense Secretary and the UK Secretary of State for Defence in July 2007, *Hansard*, 11/12/2007, col 400w.

For a review of BMD see Dave Webb, *NATO and European Missile Defence*, (NATO Watch, Briefing Paper 13, August 2010), available at http://www.natowatch.org/sites/default/files/NATO_Watch_Briefing_Paper_No.13.pdf.

98. SBIRS main function is infrared imagery surveillance and the equipment at Menwith Hill and Fylingdales is not normally in missile defence mode but can be incorporated into the US MD programme when deemed necessary. The UK government had no operational information on the systems at Menwith Hill, including by what date the US authorities expected the relay to be fully functional.

99. General Accounting Office, *DoD Delivering a New Generation of Satellites* (gao.gov/new.items/d11590t.pdf, 2011) SBIRS will constitute six geosynchronous satellites, the first of which was launched in 2011 at an overall estimated cost of \$18 billion but the programme has experienced considerable cost over runs, delays and technical problems which cast doubts on the 2012 start date.

100. The Yorkshire CND website provides a review of Fylingdales, <http://www.yorkshirecnd.org.uk/campaigns/fylingdales>.

101. *Hansard*, 24/07/2010, col 1068w. Wrekin Ltd was the original prime contractors but went bankrupt and Balfour Beatty took over.

102. See Shorrock, *op cit*, p. 254.

103. Annual reports on Department of Defense Appropriations are provided through the US Comptroller website, see for example: http://comptroller.defense.gov/defbudget/fy2012/budget_justification/pdfs/07_Military_Construction/12-National_Intelligence_Agency.pdf

104. Computer and other electrical equipment cannot be run on the supply from the National Grid and requires a direct current (d.c) uninterruptible power supply provided by batteries. These are housed in a separate building and are recharged by the generators. Two 33 kV cables connected to the National Grid have recently been installed. This is the normal level of supply for a small town.

105. Department of Defense, *Fiscal Year 2008 Military Construction Project Data* (DoD, 2008) p. 193, available at http://comptroller.defense.gov/defbudget/fy2008/budget_justification/pdfs/07_Military_Construction/07_DLA.pdf

106. Department of Defense, *Fiscal Year 2010 Military Construction Project Data* (DoD, 2010) p. 99., available at http://comptroller.defense.gov/defbudget/fy2010/budget_justification/pdfs/07_Military_Construction/6-DIA.pdf

107. *ibid*.

108. *Hansard*, 9/3/2009, col 178-9w.

109. *Hansard*, 5/3/2009, col 1731-33w.

110. <http://www.fas.org/irp/nro/declass101508.pdf> provides a copy of the notice : 'The intention is to ensure the NRO can provide on demand surveillance for real-time engagement by policy and military decision makers and fully support the new technical and policy initiatives developed across the Department of Defense (DoD) and the Intelligence Communities'.

111. Shorrock, *op.cit*, pp. 416-417.

112. For a good recent overview of these issues see Tadlock Cowan and Oscar R. Gonzales, *Military Base Closures Socioeconomic Impacts* (Congressional Research Service, Washington DC, USA, 2011); and SWRDA, Plymouth CC, *Naval Base Review Socio-Economic Impacts, Naval Base Review: Regional Impact Assessment* (South West Regional Development Agency, 2007)

113. *Hansard*, 25/03/1994, col 614w, *Hansard*, 11/11/2010 col 20w.

114. See for example the Birstwith website, <http://www.birstwith.com/menwith.htm>

115. Email correspondence was handled by the Air Staff Visiting Forces section of the MoD. See *Hansard*, 07/06/2011, w.ans col . 21 w., and it was confirmed by personal communication that any correspondence sent directly to the base would be re-directed to the MoD in London.

116. *Hansard*, 11/07/2011, col 50w. A conversion rate of \$1.6943 to £1 was used.

117. See Cowan and Gonzales, *op.cit*.

118. Keith B. Cunningham and Andreas Klemmer, *Restructuring the US Military Bases in Germany: Scope, Impact and Opportunities*, pp.28-31 (Bonn International Conversion Centre, Bonn, Germany, 1995)

119. According to commercial sources the US Defense Logistics Agency ordered in 40 million gallons of fuel for US bases in the UK in 2011, including RAF Menwith Hill. This is an extraordinary figure, far exceeding any normal annual order and raises some serious questions about the strategic planning for US forces in the UK. tradeandmonitor.com/2011/04/us-forces-europe-millions-gallons-fuel.html. (Most of the fuel will, presumably be for strike aircraft and re-fuelling transport planes, but each base will have a filling station for the staff's personal 'gas', its own fleet of vehicles in the motor pool and heating oil for buildings.)

120. www.commissaries.cm/about_us.cfm

121. SQW Consultancy, *The Economic Impact of Military Presence in North Yorkshire*, pp. 3-5 (SQW, Manchester, 2010). <http://www.ynypu.org.uk/research/The%20Impact%20of%20the%20Military%20Presence%20in%20North%20Yorkshire.pdf>.

122. DTZ Consultancy, *Evaluation of Yorkshire Forward's Investment in Clusters Initiative* (Yorkshire Forward, 2008), <http://www.yorkshire-forward.com/sites/default/files/documents/Cluster%20Evaluation%20Report%20with%20Appendices.pdf>

123. UK-based firms have some satellite related work, for example, occasional orders have been placed with ESSCO which specialises in rigid radome and antenna systems. The company was taken over by the US corporation L-3 and is now known as L-3 Communications ESSCO, <http://www2.l-3com.com/essco/radomes/pages/home.html>. British Telecom (BT) and Cable and Wireless (C&W) have occasional work providing optical fibre cables which are installed by Interoute. But none of these are locally based.

124. Parliamentary questions on contractor values indicated further information was available on MoD contracts through the Business Link website which maintains a database of all public procurement contracts. But this information was not accessible in any meaningful format. *Hansard*, 12/05/2011.

125. *Hansard*, 20/07/2010, w.ans, col 1069w.

126. MoD, Air Staff Visiting Forces, *Freedom of Information Reply*, 11/07/2011, ref, 26-05-2011-105812-001 and Defence Infrastructure Organisation, *Freedom of Information Reply*, 13/12/2011, ref, 17-11-2011-094316-002.

127. *ibid*.

128. http://www.investis.com/bb_ar_2007/operating_building.html (Funded by the US authorities but channelled through the MoD).

129. www.ultrasynacttd.co.uk. Unlike the other examples on its website, the company provides no photographs of the work undertaken because of the base's secrecy requirements, e.g., complying with electronic shielding standards. Floor coverings

are, of course, a highly sensitive, national security issue and if I told you which coverings had been used then I'd have to kill you.

130. <http://www.serco.com/media/pressreleases/2010/contractnewsupdate10.asp>

131. <http://www.ecc.net/2010/index.asp?page=39>

132. According to the NSA, Military Construction Fiscal Year 2010 budget, Menwith Hill has been allocated \$37,588 for the new diesel generators and associated cooling systems, see: http://comptroller.defense.gov/defbudget/fy2010/budget_justification/pdfs/07_Military_Construction/10-NSA.pdf , p. 97.

133. Four field surveys were carried out in June and July 2011. As well as the companies listed there were smaller contractors without identifications on their vehicles, and individuals using private vehicles for which identification was not possible. Follow up information was sourced from internet sites and business directories

134. Cunningham and Klemmer, *op.cit* p. 32-34.

135. *Hansard*, 19/5/2011 col 340w. It is not even clear what costs are covered since the arrangement (sometimes referred to as an agreement) could refer to the narrow one of operational support, through to tax exemptions and other external costs. Here we assume the arrangement includes operational support and tax exemption. Presumably, the 'other state' is the United States.

136. 501st Support Combat Wing, *Fact Sheet*, www.501.csw.af.mil/factsheets.msp?id=10855.

137. HM Revenue and Customs, *VAT and Visiting Forces*, customs.hmrc.gov.uk/channelsPortalWebApp.portal.

138. Harrogate Borough Council, *Freedom of Information Reply*, 28/04/2011, ref MW/Misc1/2000392138. Officially classified as non-domestic rates.

139. www.accountantforum.com/states-forces-agreement-t10101.html.

140. *Do US Military Personnel Pay Council Tax in the UK?*, voices.yahoo.com/do-us-military-personnel-pay-council-tax-uk-501st-support-combat-wing-10101.html.

141. For an overview of the US military presence see, David Gee, *United States Military and Intelligence Bases in Britain - A Briefing* (Quaker Peace and Social Witness Peace Campaigning and Networking Group, 2004), <http://www.quakers.org.uk/files/Us-bases-briefing2.pdf>. The main US bases in terms of US personnel numbers over 1,000 are RAF Lakenheath, Suffolk (5,294) and RAF Mildenhall, Suffolk (3,858), followed by Menwith Hill. Overall, there were 16,500 US personnel at 35 sites.

142. Department of Defense, *Fiscal Year 2008 Military Construction Project Data* (DoD, 2008) p. 193, available at http://comptroller.defense.gov/defbudget/fy2008/budget_justification/pdfs/07_Military_Construction/07_DLA.pdf.

143. David Gee, *op.cit*, p.12.

144. Department of Defense (2008), *op.cit*, indicates how diesel contaminants leaked into the surrounding land inside the base requiring the environmental clean up.

145. *Hansard*, 19/6/2006, 1584w.

146. www.nypa.gov.uk/index.aspx?article=5151.

147. The only base with any agreement to restore the site to greenfield status is Fylingdales to obtain approval for the 1992 upgrade from the golf balls to the phased array pyramid. The North York Moors National Park Authority is statutorily obliged to give priority to national park purpose but it can be overridden only if a development is deemed to be for national security.

148. SQW Consultancy, *op.cit* (SQW, Manchester, 2010). Yorkshire Forward was abolished in 2011 as part of the government's restructuring of regional funding and regeneration support.

149. *ibid*, p.14.

150. *ibid*, p.15.

151. GVA is generally defined as the value of goods and services produced by an area, sector or producer minus the cost of the raw materials and other inputs used to produce them.

152. *ibid*.

153. North Yorkshire County Council provides regular economic bulletins, see: <http://www.northyorks.gov.uk/index.aspx?articleid=2805> for September 2011 figures

154. Rachel Woodward, *Rural Development and the Restructuring of the Defence Estate A Preliminary Investigation* (CRE Centre for Rural Economy, Newcastle University, 1998) pp.15-18, provides a summary of changing attitudes to base closures from initial campaigns to keep them open to a general acknowledgement that the impact was either neutral or positive over the medium term and that fears of major economic dislocation had been unfounded.

155. B&O Wohnungswirtschaft GmbH&Co, *Conversion from Military Wasteland to Zero Energy City - The B&O Bad Aibling Park in Germany looks to the Future* (B&O, Munich, 2010), also EnEff.Stadt, *A Former Military Base On Its Way to a Zero Energy City* <http://www.eneff-stadt.info/en/pilot-projects/project/details/a-former-military-base-on-its-way-to-a-zero-energy-city/>.

156. *ibid*, p.22.

157. *ibid*, p. 28.

158. Angus Council, *RAF Edzell Taskforce, Phase II Study/Proposed Action Plan* (Angus Council Report No 770/96, September 1996)

159. Tayside and Fife Courier, *Business is Booming at Former RAF Edzell Site*, 6/12/2010, <http://www.thecourier.co.uk/News/Angus/article/8344/business-booming-at-former-raf-edzell-site.html>

160. There is an old saying the the US fights the wars and the Europeans wash the dishes. In the case of Menwith Hill, the US operates the high-value technology programmes while UK citizens wash the windows.

161. A radical alternative use scenario could see Menwith Hill retained as a form of tourist attraction. The site is world famous as a Cold War spy base, principally owing to its distinctive golf balls. English Heritage now views Cold War installations as historically important and to be conserved. (English Heritage argued for the retention of the Fylingdales golf balls, but the application was rejected on grounds of the cost of continued maintenance.) Recent experience with tourist attractions in Yorkshire has been mixed to say the least, with the Earth Centre near Doncaster and Transperience in Bradford, amongst others, suffering heavy losses and closure. Whether Menwith Hill would generate sufficient income to cover costs is a moot point.

162. Perhaps the final irony is that the these facilities intended to coordinate intelligence for United States power projection are officially, an RAF Base in the UK - 3,500 miles from the USA, a Joint Defence Facility in Australia - 8,000 miles away, and a US Air Force facility on Hawaii (nominally a US state) but an island over 2,000 miles distant from the United States. Gradations of colonial dependency are at the reader's discretion.

CND campaigns non-violently to rid the world of nuclear weapons and other weapons of mass destruction and to create genuine security for future generations.

Yorkshire CND in particular has campaigned on Menwith Hill for many years as, along with Fylingdales in North Yorkshire, it forms part of the US Missile Defense system.

A system which, in reality, is offensive in nature and designed to give the US control of Space and the ability to launch strikes anywhere in the world without fear of retaliation.

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