# Satellite Imagery and the Spectacle of Secret Spaces

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**Abstract**

This paper documents and assesses emerging efforts to resist and subvert deep-seated and long-held governmental secrecy over geographical spaces of military/security activities and other sites deemed sensitive by the state. It explores tensions in new web-served mapping and high-resolution imagery of these sites, which view them though 'pin holes' of publicly available data. These 'counter-mappings' focus attention on the significance of sites that are either buried unnoticed in seamless global image coverage, or else censored on official mapping. Some reveal a strongly anti-hegemonic and oppositional discourse, others a more playful set of cultural practices. We situate these newly witnessed secret sites in contemporary visual culture, exploring the spectacular and Debordian possibilities of resistance that they offer, and evaluate the significance and ironies of these diverse imaging practices.

## 1. Introduction

"Secrecy has become integrated into (no longer expelled from) the spectacle; forming a spectacular secrecy… This spectacular form generalizes secrecy into public and private domain, making revelation no longer the end to secrecy, but its new catalyst" (Bratich 2007: 42).

Secrets are strongly associated with visual culture: they are hidden but may be revealed; ubiquitous, but often unseen and are particularly associated with certain spaces. This paper focuses upon the role of overhead imagery in the contestation of sites deemed secret by nation states.

Secret spaces cover a wide range of sites including a panoply of military installations, sites relating to state security, policing and prisons, strategic national assets and infrastructures (particularly nuclear facilities). These are often hidden to some degree from civil society, and protected by legislation, as well as being separated by high fences and patrolling guards. All nation states operate systems to protect their security, and many of these systems depend upon keeping critical information relating to location and internal layout hidden, from citizens or outsiders, who might threaten the hegemony of those who rule. Woodward (2005) for example draws attention to the ways in which military activities are ubiquitous but unseen in the fabric and processes of everyday British life. In the post 9/11 world perceived geopolitical 'threats' have strongly encouraged many states further to restrict information in the public domain, and also to try to use technology in more efficient ways of controlling their citizens and outsiders. Secrecy is now ubiquitous in global culture (Birchall, 2007). But these same technologies of control also allow the formerly secret to be seen for the first time by civil society, and notions of being secret or open are complex and contested.

This article focuses upon the tensions represented in the witnessing of these secret sites, by assessing the significance of different kinds of counter-hegemonic imaging of these places through high-resolution satellite imagery delivered on the Web. Tensions around national security, freedom of information, confidentiality, neo-liberal accumulation, regulation, technology and representation are mapped out and contested in this process. Here we investigate the interface between strategic deployment of visual technologies of mapping, aerial photography and, in particular, high-resolution satellite imagery that have traditionally concerned geographers. Our argument starts by exploring the customary and exclusive 'official' uses of mapping and overhead imagery, and their theorization as strategic and rational tools of governance. Tropes of mapping for social control are, we argue, being increasingly destabilized, and part of this process has been encouraged by the increasing availability and dissemination of high-resolution imagery over the World Wide Web. We argue, however, that a more complex reading of secrecy is needed to understand this process and then illustrate counter-hegemonic re-imaging of what was formerly secret, in a comparative case study of three contrasting Web sites, exploring the contextual differences, how these relate to Guy Debord's (1998) notions of 'spectacular secrecy' and to changes in what might be deemed 'secret' in western society.

**2. Seeing as control**

Seeing casts a particular power: it reveals the hidden, conveys precision and offers control to the observing eye. An elevated vision can appear to be a 'view from nowhere' (Haraway, 1988) and overhead satellite imagery as media have been closely associated with scientific and managerial approaches to the world (Parks, 2001; Robbins, 2003). Connotations of a naturalistic objectivity and transparency flow from the use of these visual technologies: the aesthetic of abstraction and remoteness connotes the image as a document of truth, and hides the political work the image is employed to achieve. Military and state strategic interests derive much of their power from this naturalizing surveillant capacity that denies the humanity of landscapes seen. However, regarding these images from space as neutral, mirror-like 'views from nowhere' has been shown to be deeply naïve. As Wood (1992) insightfully details imagery is no less neutral than the culturally tainted map text. Images are embedded in situated, cultural contexts, (see for example the very different roles played by imagery in the other articles in this theme issue).

The militaristic logic of state institutions such as the police, state security and intelligence services rests in large part on their ability to render spaces and subjects visible, without the surveilled knowing when or why they are being watched. The success of this strategy rests, in large part, upon exclusive control of these data. In the history of modernism, mapping technologies are acknowledged as the militaristic gaze *par excellence* because of their ability to survey extensive areas and render complex landscapes into standardized, fixed, addressable and knowable visual symbols (Pickles, 2004). For example, large scale national topographic surveys commissioned throughout Europe from the eighteenth and nineteenth centuries and extended to European colonies were established primarily to help military forces to maintain state control over territory. State mapping agencies almost all trace their origins to military needs and the cartographic specifications underlying most contemporary national 'framework' geospatial data-sets are derived from the needs of war fighting (Parry and Perkins, 2000). Many advances in cartographic technologies in the twentieth century were driven by the need to extend the range and diversity of this military visual capacity (Day *et al.*, 1998; Monmonier, 2002). For example, the Global Positioning Systems were initially developed to facilitate more accurate targeting of weapon systems and is still under the command of the U.S. military, and it has also been argued that the development of GIS has been strongly influenced by military investment during the Cold War (Cloud, 2002).

The technologies that are most significant for our argument here, however, concern the collection of visual data, and stem from developments in photogrammetry and remote

sensing. Indeed, the scope of visibility over space granted by conventional cartographic representations has in many senses been surpassed over the last fifty years by the availability of aerial photography and satellite monitoring. Such remotely sensed data have seen progressive increases in spatial and temporal resolution, and they form a critical part of the military 'surveillant assemblage' (Harris, 2006; Haggerty and Ericson, 2000). The specification of the original Landsat satellite sensors were driven by military needs (Mack, 1990), military spy satellites amassed huge quantities of 'secret' imagery during the cold war era (Richelson, 1998), and geospatial surveillance systems form an essential part of the armoury of security agencies in the 'war against terror' (e.g., Beck, 2003). Imagery was used to build evidential pictures to support the case for the Iraq war, and offered significant support for the prosecution of the campaign and for the political justification of the action (Richelson, 2003). Subsequent security applications include identifying possible sites of nuclear threats in Iran and North Korea. Unsurprisingly the largest demand for commercially available high-resolution imagery is from military and intelligence agencies in countries without their own spy satellites (Dehqanzada and Florini, 2000).

So the 'best' mapping and imagery, in terms of coverage, scale, positional accuracy and currency, has been, and often still is, the exclusive preserve of the military, and the strategic advantages this brings have been jealously guarded by those in power.

## 3. The political impact of high-resolution satellite imagery

Whilst much research has focused on the role of mapping, imagery and GIS in participatory democracy, truly anti-hegemonic counter-mapping, able to challenge power relations by highlighting social inequalities, has grown apace in the last twenty years (Harris and Hazen, 2005). Published maps embody a practical and rhetorical power to articulate alternatives. These alternative mappings can be used to re-frame the world in the service of progressive interests and challenge inequality. They have been used to reaffirm the rights of indigenous peoples; argue local cases in resource struggles; confront globalisation and multinational power; encourage community involvement in sustainable lifestyles; re-assert the role of the past in contemporary contexts; or celebrate the aesthetic and local in an age apparently dominated by uniform and mechanized production and global style. Cartographic power has also been exploited to counter dominant corporate discourses, using the authority of the map against itself. It can be argued that changing technologies of representation, and especially shifts in the resolution and availability of high-resolution satellite image data are facilitating these 'counter-maps'.

Many aspects of national government and corporate activity appeared to operate in a more transparent fashion in the new international political structures that emerged in the 1990s after the fall of the Berlin Wall. The demands of international trading and trans-national interactions in a globalizing world drove calls for more open government and greater corporate social responsibility. Florini (1998: 53) argues that "the world is embracing new standards of conduct, enforced not by surveillance and coercion but by wilful disclosure: regulation by revelation". International bodies and NGOs audit press freedom in different countries, 'score' corporate ethics and environmental conduct, and tabulate government corruption. Meanwhile an increasing number of governments enacted freedom of information legislation (Banisar, 2004).

A small, but significant, element in these new mechanisms of more open governance stems from the apparent transparency offered by commercially-available high-resolution satellite imaging (Baker *et al.,* 2001). Some commentators argue the unprecedented spatial detail, currency and availability of these data create the possibilities of almost utopian change with more equal, democratic access to overhead vision in which "[n]onstate actors will be able to peer behind the walls of national sovereignty, accelerating a shift in power that is already under way" (Dehqanzada and Florini, 2000: v). And Baker and Williamson (2006: 4) note the rise of what they term 'imagery activism' by NGOs, academics researchers and the news media that "help focus domestic and international attention on problematic issues such as environmental degradation, international security and human rights abuses in closed societies."

It is undoubtedly true the pictorial value from high-resolution satellite imagery has advantages above the topographic map, particularly in communicating to the general public. The photographic quality of imagery data means familiar features are instantly recognisable and the image exudes an apparent naturalness. In many respects images also have an aesthetic appeal above the abstraction and functional austerity of topographic mapping. Because of these affectual qualities (see Kwan, 2007), the context in which images are released, deployed and presented is crucial. The politics behind which images are used, and how they are interpreted alters their rhetorical force.

In the years since the end of the Cold War there has been a significant switch from detailed satellite imagery that was previously secret and exclusive preserve of military-intelligence, to

a much more global and commercial environment (Rao and Murthy, 2006). By 2007 thirteen different countries had mid-to-high resolution optical systems in orbit and by the end of the decade there will be twenty-one (Stoney, 2008). The commercial market is currently led by Space Imaging's Ikonos and DigitalGlobe's Quickbird satellite platforms, providing imagery at sub-metre resolution. The next generation satellite imaging platforms will yield even more detailed and sophisticated visual evidence. Commercial interests increasingly sell data into the public sphere. Livingston and Robinson (2003) argue that state regulation of high-resolution imagery is already impossible given the diffusion of the technology beyond the confines of U.S. legal jurisdiction and military power. The mass-market access to data from these systems is increasingly dominated by web portals such as Google Earth, which serves imagery in virtual globes. Multi-national corporations like Google are subverting military hegemony over global scale mapping and imagery.

An increasing range of actors is now able to deploy imagery, for example in disaster relief, managing refugees, supporting peacekeeping missions, protecting human rights, or monitoring compliance with international treaties (cf. Baker *et al.*, 2001; Baker and Williamson, 2006; Dehqanzada and Florini, 2000). Television news networks also increasingly employ satellite imagery and with its combination of aesthetic appeal and apparent transparency it is seen as a powerful tool in the battle for audience ratings. The harbinger of this kind of media exploitation preceded the end of the Cold War with the Chernobyl accident in 1986 being a key moment. Analysts in the White House may have had access to spy satellite images of the disaster, but the media also sought 'visual proof' of events. Journalists saw the news value of satellite imagery and succeeded in gaining access to commercially available images (Dehqanzada and Florini, 2000). The blurry ten-metre resolution SPOT image shown on ABC News on 1 May 1986 just days after the Whitehouse viewed the damaged reactor with their 15 cm resolution KH-11 images may have been crude and hard to interpret, but it showed the evidential power of the technology.

Whilst independently sourced, verified and interpreted satellite imagery has the power to puncture state propaganda and shift public opinion, the context in which it is produced, released and read is crucial. Parks' (2001) analysis of the use of satellite images of Srebrenica in 1995, during the Bosnian conflict, shows how the officially-released U.S. military images of mass graves revealed much more than just location. The U.S. military delayed releasing the images until after the event, as part of a strategy of deception, which embodied a careful 'oversight' of the massacres as part of a distancing strategy. The only large-scale images

released in the conflict 'revealed' the mass execution of Muslims, and served to condemn Serb aggression, whilst justifying the lack of action to prevent the massacre. The television news anchors described the images as evidence, but complex narration and graphics was used to 'ground the orbital gaze'. Parks argues, therefore, for a witnessing process in which the use of satellite imagery must inevitably be questioned and in which the abstraction, construction and politics of the image is revealed. Detailed satellite images are ideal for television reporting because they purport to be able to 'show' the audience the reality of news: in practice the satellite view is disembodied, partial and clearly positioned. These data appear seductively complete but complete oversight masks variable data quality and makes it hard to recognise individual sites. Also it must be remembered that commercial and technological forces for greater access are in tension with security concerns and the apparent binary divide between what might be seen as publicly available, and what might be secret becomes crucial.

## 4. Secrecy and spectacle

"[O]fficial map-making agencies, usually under the cloak of 'national security', have been traditionally reticent about publishing details about what rules govern the information they exclude especially where this involves military installations or other politically sensitive sites." (Harley 1988: 306).

A commonly accepted definition of secrecy sees it as the practice of selectively sharing information, but at the same time hiding it from certain groups. Of course this simple definition ignores the context in which the term operates: a personal secret carries connotations of intimacy and privacy, whereas something which a government keeps secret focuses attention to a much greater degree on the power of secretion. In this official context secrecy becomes the obverse of publicity, demonized by many who value open government, and carrying many negative connotations: a box that should be opened. Legal mechanisms are required for keeping secrets, and power needs to be exercised to regulate what can circulate in the public realm (Ku, 1998). So any campaign for increased openness, for publicity, becomes a political struggle. Censoring of information is the mechanism by which the box is kept shut – state agencies, the mass media, civil and religious groups and private corporations all engage in processes of revealing or concealing information, suppressing or deleting material that they deem to be sensitive, harmful to their agenda, or merely embarrassing to people in power. Maintaining secrecy frequently involves hindering access to information that might threaten hegemonic power. For example, hiding the geographical location of a site or activity

makes it harder for oppositional forces to contest or argue about the reasons for its existence. Secrecy itself has a strategic spatial power.

The visual representation, or the hidden visual representation of the secret is rather different from other aspects of secretion, and is best understood in the light of a cultural understanding of the role of visual practices (Rogoff, 2000). The visual carries different connotations to the linguistic, and mapping and imagery themselves are read in very specific ways, as icons of fact, standing for disembodied objectivity. In the world of military and state security, regimes of secrecy relating to spatial information are required to hide this 'objective' information so that it becomes un-verifiable for those who do not have access to it. This has conventionally been achieved by cloaking military mapping and intelligence data gathering with national security blankets. There are many strategies for keeping the cloak on: product specifications for mapping or imagery may elide whole categories of information, and freely available public imagery almost always only displays visible wavelengths, whilst official access exploits data available across a much wider range of the electro-magnetic spectrum; information is guarded and classified (military satellite imagery is kept under wraps); maps and images in the public domain omit 'secret' detail; information is deliberately falsified, or obfuscated; or the existence of mapping as a whole is denied.

Revealing the secret has been cast by some as a kind of situated and 'reverse-panoptical' discourse, in which the taken-for-granted neutral power of satellite imagery, aerial photography and mapping is deployed against the very forces that were instrumental in it original deployment (see Natsios and Young, 2001 for a consideration of this concept).

Regimes of state-mandated cartographic secrecy are as old as the nation state itself. Harley (1989) shows how the Casa de la Contración maintained the *Padron Real* in the early sixteenth century as a secret master map to protect the key discoveries of Spanish explorers. In warfare mapping is a closely guarded secret, deployed as a weapon to clarify the fog of war for friendly forces, but also as an obfuscatory tool to confuse the enemy. From Napoleonic battle plans, to secret trench maps of the First World War and now in the so-called 'war against terror', military strategy is played out through mapping or deceptively hidden from the cartographic gaze.

A wide range of intentional and deliberate 'silences' on civilian maps is most associated with totalitarian paranoia (e.g., Postnikov's, 2002, study of cartographic deceptions in the Soviet

Union). However, these 'silencing' practices are not limited to closed states. Throughout the Cold War military bases, nuclear and civil defence infrastructure and security installations were absent from large-scale topographic maps in a number of liberal democracies, including Ordnance Survey mapping in Britain (see Hodson, 1999: 157-168). Aerial photographic coverage of sensitive sites was also frequently only held in the military and secret domain, or else doctored to hide what were deemed to be sensitive detail (Board, 1991). Withholding of information, in part so as not to unduly alarm the general public about the consequences of a nuclear attack, also served to cover extravagant expenditure (Hennessy, 2003). Secret sites were located in remote places, hidden behind fences and anything that saw inside the fences was restricted.

The growing deployment of remotely sensed imagery in digital geospatial data has also been subject to the dictates of official secrecy, and considerable attention is being paid to maintaining geospatial database security (see for example Chun and Atluri, 2008). The availability of commercially available data described in the previous section challenges military operational security: an enemy can now acquire data on the international market that might, arguably, compromise military action. For example, in 2006 Iraqi insurgents reportedly used Google Earth to 'spy' on British bases in Basra (Harding, 2007), leading to Google 'censoring' its own data by substituting outdated imagery of the area (Haines, 2007). Security agencies in many countries seek to influence the content of publicly available images. In the aftermath of 9/11 there was a growing fear about the security of military sites and other 'critical national infrastructures' that lead to calls to limit the open distribution of detailed geospatial data. Late in 2001 the U.S. Department of Defense purchased exclusive rights to Space Imaging's Ikonos coverage of the early phases of the war in Afghanistan in an attempt to maintain control over the public policy debate (Livingston and Robinson, 2003). Some U.S. Federal Agencies withdrew mapping that was formerly in the public domain (Zellmer, 2004). Data formerly readily served from websites in the USA were suddenly no longer available, strategic buildings were no longer visible on the MapQuest aerial photo database (Monmonier, 2005). Despite subsequent recognition that very few data sets pose significant threats, the balance between social benefits of freedom of information and the demands of 'homeland security' had shifted. There is now a wider definition of 'sensitive sites', including infrastructure networks, water supply systems and nuclear power stations and continuing restrictions on some data (Tombs, 2005).

It is tempting to read these restrictions as a rearguard action in the face of technological change and as a response to the 'New Normal' in a world destabilised by economic instability, terrorism and global fears of contagion[1]. However secrecy is a complex social construct, with connotations well beyond notions of just 'keeping the box shut', and well beyond a simplistic opposition between being secret or open. Deleuze and Guattari (1987: 286-290) argue secrecy may indeed be seen as a container, but is also a series of actions and perceptions. It is a social process. Dean (2002:10) also argues that "[t]he actual contents of any secret are therefore immaterial. The secret is a form that can be filled in by all sorts of contents and fantasies - economic secrets, military secrets, sexual secrets, secrets to power, wealth, and immortality. Thus what is at stake is not content but connection, the relationship within and between communities held together and apart within a matrix of secrecy and publicity". There are persuasive arguments for this social reading of the construct, which are particularly richly developed in the work of Debord (1998) who argues for the notion of 'spectacular secrecy' as characterising contemporary social life. Spectacular secrecy comprises an increasingly visible culture of secrecy, in which the secret becomes an everyday practice, necessary for the successful operation of consumer capitalism and state control. Debord (1998: 12) argues that what he terms "generalised secrecy" stands behind the spectacle of contemporary society, which he believes represents "the decisive complement of all it displays and, in the last analysis, as its most important operation".

So an obsession with secrecy as a box to be opened, and as the dark side of publicity, distracts us from the necessarily hybrid nature of both, from the ubiquity of rumour, conspiracy, leaks, spins, influences, and from what Bratich (2006: 494) identifies as "a whole host of agents trained in promoting spectacular secrecy". Developing this argument Bratich (2006: 498) suggests that secrecy has become so ubiquitous that "we see not just an increase in public secrets, but an increasing monopoly over secretion or generalized secrecy". For Bratich (2006), official disclosure becomes a kind of strategy for managing public perception, instead of a democratic discourse. Secrets are everywhere, and even when they are revealed secrecy remain a powerful force.

The strategic nature of secrecy, however, reveals how other social forces can also deploy its power. Secrecy can itself be re-circulated; oppositional forces and dissidents can deploy secrecy to invent new safeguards and refuges, and different securities from those defined by the state. Resistance itself can take the form of making new secrets (Bratich, 2007). New

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[1]  The term 'New Normal' was first deployed in a 2001 speech by U.S. Vice President Dick Cheney.

modes of access to high-resolution satellite imagery can set out their own newly secret knowledge. Technological change facilitates this shift of secrecy from the shadows into the spotlight. The Internet as medium is significant because of its apparent ability to 'super-empower' individuals and small groups to reach across scales and connect with mass audiences, and as such is playing an important role in the dissemination and sharing of alternative mapping. There is strong evidence that the Web is enabling rapid circulation of images and their interpretation, often unmediated by hegemonic forces of the state or large corporations. This democratisation of access can impact on powerful institutions that prefer to work hidden from public view. The emancipatory potential of the Internet as a site for globalising local resistance has, however, been a source of significant debate over the last decade (e.g., Warf and Grimes, 1997; Pickerill, 2006). The military and state security-intelligence apparatus, in particular, continuously struggle to deflect scrutiny and even more so since 9/11. From the activities of satellite watchers who share technical information about satellite orbits and track evidence of their paths (Keefe, 2006); to the 'leakage' of photographs of prisoners being tortured by U.S. soldiers in the Abu Ghraib prison in Iraq; to plane spotters across the world logging flight patterns and helping to expose the secret CIA program of extraordinary rendition (Paglen and Thompson, 2006) what emerges is a kind of counter-mapping of 'secret' operations based on a collective, crowd-sourced[2], and amateur gaze, that is strongly opposed by establishment forces.

Dean (2002) argues that the Internet widens public demands for information but also strongly supports media industry interests that are cynically reinforced by contemporary technoculture. So democracy becomes just another spectacle, as publicity and secrecy become intertwined in political imaginaries. Openness becomes part of consumption, depending upon secrets for its rhetorical power and, paradoxically, itself implicated in hiding information. The vast profusion of openness offered by Google and other image servers serves to cloak secret places; there're embedded with so much data that the needle of the secret site can not be seen amidst the vast, 'open' image haystack; availability of imagery on the Internet does not mean information about sites is available to all.

We have seen that the dominance of military and state control over visual technologies is being actively denuded and secrecy apparently challenged by contemporary technological developments in the capture, processing and dissemination of images, at the very time when

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[2]  Crowd sourcing is a term first coined by Howe (2006) and standing for the outsourcing of a task traditionally performed by an organization to a large number of undefined people.

spectacular secrecy is gaining ground. Meanwhile in fragmentary, small and subtle ways, which together perhaps constitute a significant trend, visual routes to democratic scrutiny and the active witnessing of state and corporate power are being newly made. These anti-hegemonic counter-mapping projects use the power of maps in ways that subvert, instead of supporting the interests of elite groups. Subversive impulses have always lain embedded in powerful cartographic discourses. For example Pinder (1996) shows how Debordian situationist practices in Paris in the 1950s sought to re-imagine a utopian urban condition, by deploying existing maps in novel ways to problematize the order of capitalist accumulation. This redeployment, or detourment involved what Vidler (2006: 14) describes as "using the enemy's material against itself. " A Debordian approach to counter-mapping recognises this ambivalent potential of creating new images from existing visualizations.

The satellite image may also be re-imagined and subverted. Imagery may be used in artistic works: to reassert the beauty of abstracted landscapes, or to problematise the apparently all-knowing nature of satellite-based surveillance and reveal the bodily practices denied in the objectified military image (see Biemann, 2002; Litfin, 1997). Like other counter-maps these reworkings of remotely sensed imagery often only offer limited visual enhancements to existing imagery. It is through techniques of highlighting, juxtaposition, labelling and linking to other sources that a different political message is communicated. The remainder of this article focuses attention on three contrasting 'counter-imaging' projects that use the Web to deliver focused and annotated access to high-resolution satellite imagery and in so doing reveal some of the secret spaces of the state. We argue however, contra Natsios and Young (2001) that these projects are apposite examples of spectacular secrecy in the way their very existence depends upon the culture of secrecy, in the way they create new kinds of secret knowledge and in the ambivalent and varying politics of resistance that is embodied in their use of imagery.

## 5. Revealing the secret site: case studies

Systematic counter-mapping projects offer a contrasting view onto government secrecy, rendering hidden military bases and security installations visible once more. The following case studies are chosen to reveal the clearly situated nature of these oppositional (re)viewings, and highlight the need to view much more than just the image. These three web sites each deploy existing remotely sensed imagery, but focus the viewer's attention onto specific sites, instead of simply serving a global coverage. Each targets sites that are available on image and map sources in the public domain, drawing attention to the existence of particular facilities.

They also juxtapose the image to other media, inviting critique of official secrecy. We would argue following Wood (2008) that a map or image is always read in the light of its immediate context. Table 1 summarises some of the relevant attributes of the context of these counter-mapping projects: they differ in motivation, institutional context, and content; they map different numbers and kinds of site, with varying geographic and temporal emphases; they also depict sites at different spatial scales and deploy imagery from different sources; the level of interpretation associated with the imagery, the extend of cross referencing, and outside linking and usability also varies. We develop this contextual reading below, describing the significance of each project, before evaluating their cultural impact and relating them to changing conceptions of secrecy. We argue they each in different ways may be understood as illustrating the play of spectacular secrecy (Debord, 1998).

*5.1 Eyeball Series*

Architects John Young and Deborah Natsios are activists and anti-secrecy archivists run the *Cryptome web* site. *Cryptome* is "an archive of spatial and geographic documents on privacy, cryptography, dual-use technologies, national security and intelligence -- communicated by imagery systems: cartography, photography, photogrammetry, steganography, climatography, seismography, geography, camouflage, maps, images, drawings, charts, diagrams, imagery intelligence (IMINT) and their reverse-panopticon and counter-deception potential" (http://cryptome.org/other-stuff.htm). Cryptome is an important node in the network of websites concerned with freedom of information, challenging powerful interests particularly in the areas of surveillance technologies, digital rights and cryptography[3]. It serves as an anti-secrecy web-based archive, and has been described as the world's most dangerous web site (Cook, 2007).

Embedded in the site is an ongoing project consisting of a series of individual 'eyeballing' Web pages, each of which focuses on views of a particular 'sensitive site'. The political agenda in creating 'eyeballs' is to show people the places that the powerful do not want the rest of the community to see (Cook, 2007). The mapping of facilities related to America's continued maintenance of weapons of mass destruction, for example, was released here long before Google chose to serve high resolution imagery, and highlights the hypocrisy of the Bush Government in relation to nuclear non-proliferation. The *Eyeballing* project is dedicated

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[3] Others include the Federation of American Scientists (<www.fas.org>), the Memory Hole (<http://thememoryhole.org>), and the National Security Archive at George Washington University (<www.gwu.edu/~nsarchiv>).

to revealing the murky workings of powerful organisations that wish to operate hidden away from public scrutiny. It complements the rest of the largely textual *Cryptome* archive.

Each eyeball presents a spatial story representing a hidden, sensitive site, encouraging the reader to actively explore and think what happens there. By May 2008 Young has created 510 separate 'eyeballing' Web pages and the thematic scope of the series continues to expand. So far the *Eyeball Series* has covered army, airforce and naval bases, the FBI, the CIA, the National Security agencies, nerve gas storage facilities, nuclear power plants, dams, numerous little known intelligence listening posts, as well as the Kennedy Space Centre, the Statue of Liberty, and government bunkers (e.g. Figure 1). Guantanamo has received particular attention, with many different and frequently updated eyeballs depicting the changing facilities. The private residences of some of the rich and famous are also revealed: for example the Bush family ranch in Crawford, Texas, and Rupert Murdoch's New York penthouse. The majority of secret sites depicted are American, but the project strays sporadically outside the Homeland; for example to map U.S. military/intelligence presence in the UK, or Soviet nuclear facilities, or former Stasi buildings in Germany.

'Eyeballing' exploits the potential of hypertext to author a cartographic collage, piecing together a diverse range of aerial photographs, topographic maps at different scales, photographs, along with occasional interpretative commentaries, annotated with corrections and clarifications emailed in from (usually anonymous) readers. There are also hyperlinks to supplementary documents and other relevant websites, while individual 'eyeball' pages are themselves cross-referenced by hyperlinks. To produce the 'eyeballs', Young utilises public Internet sources of maps and imagery, typically topographic mapping from MapQuest, and Google Maps, supplemented with aerial photography and satellite imagery from Terraserver and USGS. The 'eyeballs' have an unpolished, amateurish look to them. They are presented in a simple sequential listing. Some are richly detailed, for example the page mapping out every nuclear facility in the USA. Others are brief and sometimes almost without commentary, such as a single 1984 photograph of a Cuban 'spy ship'. *Eyeballing* carries advertisements, which often leads to strange juxtapositions of surveillance/militaristic promotion alongside critique of this world, and also maintains a link to Alan Turnbull's the *Secret Bases*.

*5.2 Secret Bases*

The British government has a long-standing reputation for excessive secrecy (cf. Hennessy 2003) and this is reflected, and in many ways reinforced, through state sanctioned mapping of the Ordnance Survey. Started in 2003 the *Secret Bases* site (<www.secret-bases.co.uk>) at first aimed to expose the extent of censorship and deliberate obfuscation in these official topographic maps: it can still be seen how some government sites were been completely unmapped (replaced by the anonymity of a farmer's field in many cases); other bases were deliberately mapped incompletely to mask their size and function; whilst the purpose of other important sites was obscured through innocuous labels, such as 'works', 'depot' or 'disused airfield'. Remotely sensed imagery was used unambiguously as a 'mirror of reality' to expose the textual malfeasance of the mapmakers. Following a slow and gradual liberalization in official policy towards the mapping of these sites, and the release of large scale web-served image sources, the emphasis of Secret Bases has shifted towards the documentation of sites on aerial and satellite coverage. Whilst Turnbull is distinctly an 'amateur'[4], and in some respects a military buff 'collecting' secret bases, the site has amassed a considerable body of facts on the military geography in Britain that are not readily accessible in the public domain.

The site only focuses upon the UK, and concentrates on military bases. Turnbull pays attention to sites that are related to Army, RAF, Royal Navy and the Intelligence Services, as well as infrastructure relating to signals interception, nuclear weapons production and storage, and military research laboratories. These sites are accessible from four main pages, from hyperlinks embedded in extensive textual discussions. In addition research methodology is well documented in a separate web page describing sources, and there are separate pages focusing upon extraordinary rendition and the Trident nuclear weapons programme. Altogether a total of around 300 secret sites is presented in *Secret Bases*.

The structure is more sophisticated than the *Eyeball* project. The user can choose which source to display for many of the sites. Options range from various Ordnance Survey map scales sourced from the publicly available Multi Agency Geographic Information for the Countryside (MAGIC), to the Ordnance Survey online Getamap site, the Multimap online service, Google Maps and Earth or Microsoft Live. A recent innovation has been the use of pilot-sourced oblique aerial imagery. In some cases mapping is juxtaposed to imagery, so as to expose secrets, as the material details of unmapped building and infrastructures appear in

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[4] He also operates a fan site for the long running television soap opera Emmerdale Farm and appears to revel in the publicity and 'cloak and dagger' nature of exposing supposed secrets, and meetings with the security establishment.

one but not the other viewpoint (Figure 2). The site's tone is personal and somewhat light-hearted, including jokey 'spy' graphics and garish coloured icons; a parody of the rather po-faced and bureaucratic British approach to official secrecy, without the hard political edge of the *Eyeball Series*. Turnbull urges the reader to 'Be intrigued, amazed, shocked, outraged – all of the above. But above all, be *entertained* [original emphasis] by the power of public domain information, available from open sources! Analyse my research findings and draw your own conclusions! Read on and enjoy!' (<http://homepage.ntlworld.com/alan-turnbull/cia-rendition.htm>). His site also reveals a desire to be noticed – media coverage is strongly highlighted, with top-level links to external articles written by Turnbull and also to external coverage sourced from his work.

This exposure of secret bases is developed in Turnbull's discursive commentary that accompanies the images. For example in 'revealing' the location of CIA extraordinary rendition flights in the UK (see <http://homepage.ntlworld.com/alan-turnbull/cia-rendition.htm>). The *Secret Bases* project is cogently argued, and offers a comprehensive and regularly updated collection that shows in an accessible fashion the otherwise hidden extent of military-intelligence infrastructure in Britain. Furthermore, Turnbull encourages others to use his methods of cartographic counter-analysis for themselves, claiming: "You can have great fun by using the Internet research tools to search for 'secret sites'"[5].

*5.3 Public Eye*
*Public Eye* is an initiative developed in the mid 1990s by policy analyst John Pike. Since 2000 this initiative has been part of GlobalSecurity.org, which now markets itself over the Web as "the leading source of background information and developing news stories in the fields of defense space, intelligence, WMD and homeland security" (<www.globalsecurity.org/org/overview/history.htm>). Like the *Eyeball Series* it draws upon image sources in the public domain to reveal hitherto unknown information to wider civil society. Pike's remit, however differs from John Young's. His concern is to increase the capacity of the non-governmental community to influence debates. The aim is to compile complete coverage of all weapon-related secret sites, with historical and contemporary image data and site profiles. As a one-stop web-served source of security data, the site has become very much part of the system that it documents, rather than serving as a critical outsider.

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[5] See <http://homepage.ntlworld.com/alan-turnbull/secret4.htm>. Turnbull gives detailed instructions in the use of these different tools.

Pike first employed declassified cold war CORONA imagery, together with declassified U2 aerial imagery, USGS aerial coverage and topographic quadrangles, or JOG graphics, alongside coarser resolution SPOT, and Landsat imagery to provide context around the larger sites. From 2000 onwards Russian imagery became available from Terraserver, along with Space Imaging's IKONOS data and subsequently Quickbird imagery from Digital Globe. The most appropriate sources are used rather than following a standard pattern (see Figure 3).

In *Public Eye* these images are deployed in two complementary programmes. A baseline campaign documented the global inventory of special weapons and related facilities, displaying images of facilities ranging in scale from individual structures up to large areas and displaying imagery of 1100 facilities by mid 2000. Higher resolution imagery has been deployed in the priority campaign focusing attention on the newer or more opaque facilities in particular outside the USA. Online profiles describe existing facilities and the development of a site and are accompanied by maps, imagery and often photographs. Images are almost always interpreted, if only by caption (see Figure 4). They may be accessed from a *Public Eye* section of the Web site that focuses upon imagery, organised on an image a week basis, or from thematic information organised under the headings Military, WMD, Homeland and Space, or from a sophisticated search system. These 'Pictures of the Week' (archived from 2001-2006) feature timely stories that are placed on images, with sufficient precision to elucidate an event, usually with an accompanying storyline and often with captions. Later imagery on the site is almost all sourced from Digital Globe, and has started to use Flash-based animated explanations of the story line. Access to imagery now depends upon the news narrative, rather than an image search per se: it is hard to identify just how many images are available on the site.

The content is disseminated free to air, but commercial adverts are juxtaposed with imagery. In stark contrast to the *Eyeball Series* the impression is of a slick, fast, commercial Web environment. Harris (2005: 18) argues that Pike's work is best understood as part of a realist narrative of transparency which provides "both the narrative structure and the techno-discursive anchor for satellite imagery systems in the social and cultural mindset". Globalsecurity.org situates imagery into a narrative aimed at news organizations, existing, former and potential members of the military, defense contractors, congressional staff, academics, students and the wider public. The Web presence is tailored to five different target audiences: subject matter experts, senior leaders, junior staff and interns, concerned citizens

and news reporters. The emphasis of this market is mainly American. The site serves 500 000 page views each day and only 20% of the 2.5 million monthly visitors are repeat users.

So *Public Eye* is embedded in a Web site with a much more mainstream and commercial agenda – whose remit is to provide quick access to breaking stories, and background reference material in multi-mediated format. For the organisation to thrive and grow it must be authoritative and appear neutral, but for this to happen advertising revenue must flow. Whatever story is high on the news agenda is featured by Pike. Whilst American bases feature in the site, (and very strongly in the WMD section) the weapons programmes of North Korea, Pakistan, Israel and Iran are of equal concern. Coverage is impressively global. The aim is better policy and more open government, rather than critique alone.

## 6. Conclusions

Clearly all these projects seek to question state secrecy but their impact on public consciousness and government agencies is less clear. They all provide a new vision that stimulates the imagination and hints at more than can actually been seen, making the viewer feel somehow illicit in looking straight down onto some of the most secure and sensitive places on earth. They give a thrill at seeing things we are 'not meant to see', that are for authorised eyes only. They all trade on spectacular secrecy: were the sites they depict not in some way secret then the rationale for these web projects would be lost. The maps and imagery are entirely conventional, legal and publicly available and the subversive *feeling* is created through the focused selection and unconventional arrangement of maps, images, interpretation and commentary. Each project targets the secret sites, but this targeting would have no purpose were the sites fully open to public scrutiny. So any analysis of their significance has to recognise the ambivalent nature of the process of revealing secrets.

The matter-of-fact reality of much of the visual and cartographic information presented in these projects is useful to challenge the myths that grow around secrecy. The *Eyeball Series* in particular helps to 'ground' otherwise murky, anonymous and deliberately intimidating institutions, when one can see that they inhabit ordinary office buildings, in a beltway sprawl around Washington D.C. for example (see Natsios, 2005, for a consideration of the opaque post 9/11 national security apparatus in Washington DC). It begins to reel them back into our everyday reality from some kind of *X-Files* fringe (Dodge, 2003). So this kind of mapping dissolves mystery, trading on Haraway's (1988) disembodied view from nowhere, but also invites a questioning of the power of the unannounced infrastructure around us. A similar

affect is produced by the very different style on *Secret Bases:* here a more satirical and light-hearted style pokes fun at the absurdities of official secrecy. But the affect of the different projects also reveals something of their owners: a seriously paranoid tone emerges from the *Eyeballing* project web site as well as from interviews with John Young (Cook, 2007). A tone that is very much at home in the world of spectacular secrecy of the New Normal, where everything has the potential to be covered up, and where discovering conspiracy and clandestine activity has become a matter of everyday practice (Bratich, 2006).

Even very detailed maps and images, however, can only tell us so much. These projects are working within the constraints of available public spatial data sources, which are often partial and out of date. Military analysts almost certainly work with data that are more current and fit to purpose. They can commission new scenes to be archived, or employ experts to use sophisticated image analysis software to extract patterns from the visual complexity of a scene. In contrast public data sets may lack essential metadata. The *Eyeball Series* and *Secret Bases* are hampered by this dating problem. Also image resolution varies across the globe: of the case studies only the policy analysts consistently acquire dated, high-resolution imagery[6]. The apparent availability of formally secret data may then simply hide a more sophisticated mechanism for preserving secrecy, with access to these inferior data being tolerated, in order to maintain military and state control over the superior and secret resolutions. Revealing new secrets simply leads to other new secrets being maintained (Debord, 1998).

The nature of each of the project interfaces limits their power to critique. None of the projects claim to offer a complete evaluation of secrecy. All select, but the nature of the selection process is not always at all clear. *Public Eye* offers the most comprehensive global coverage, but often only through other headings on the globalsecurity.org Web site. *Secret Bases* is progressively building an impressive national coverage of its rather limited spatial and thematic remit. The *Eyeball* project is much more eclectic and random in its coverage.

Site sophistication varies and limits the kinds of uses that may be made of their counter-mappings. The extent of hyperlinking varies and so does the nature of search capability. The *Eyeball Series* only offers a crude listing of sites by date, supplemented with a Google-based search engine. *Public Eye* also focuses upon timing of events as the prime way in to reveal secrecy along with a Google search. In contrast *Secret Bases* is more graphically

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[6] In 2008 the *Eyeball Series* project started to acquire imagery with the purchase of a Digital Globe image of central Baghdad (see <http://cryptome.org/baghdad-gz.htm>).

sophisticated, allowing the user to switch between different public domain map and image datasets, including Google Earth and Virtual Earth mash-ups with user controlled layers to highlight key sites[7]. However all three sites can also appear rather amateur and 'strategic site-based'. If you want to find out what is dangerous near to your own backyard these projects are of only limited use. Overview maps to allow a consistent or progressive zooming in or out, that might reveal context or association, are not presented on any of these sites. The paradoxical consequence is that all the case studies present a strangely atomised view of a secret world of isolated sites. They focus attention on a specific placing of secrecy, rather than its ubiquity. Debordian spectacular and general secrecy dictates their existence (Bratich, 2006, 2007), but their style denies anything beyond their immediate concerns.

Also, these sites only scratch the surface of what is going on at these hidden and sensitive places. The glimpses of visible structures only give a limited sense of the implications of what is being performed daily. Viewers must rely upon the site's interpretative commentary to understand the image. Critical commentary is constructed by outsiders, who must rely upon public domain sources. Dehqanzada and Florini (2000: 8) acknowledge that "[i]t takes years before an analyst gains the experience and expertise necessary to be able to derive useful information from gigabytes of transmitted data." Experience in recognizing troop movements differs from expertise in recognizing nuclear testing or in environmental assessment. These skills are largely the preserve of the establishment, not the critics. Only *Public Eye* offers really detailed political interpretation, and this is often tied to a news narrative, rather than offering s systematic documentation of the site. On the other hand the other two projects each rely upon a growing community of activists, whose interpretations are disseminated through the projects, for example, the recent identification of aircraft involved in extraordinary rendition flights on the *Secret Bases* web site.

Nor can the interconnections, flows and chains of command, vital to the working of many hidden places, be observed in static images of facilities. By focusing on containers not practices these sites tend to replicate the notion that space can be seen and understood as a set of structures such as fences, buildings, or fixed marks on a map, rather than a set of social practices that are performed in particular places to beckon spaces into being. All three projects therefore tend to reinforce the view of secrecy as the dark opposite of publicity, at the same time as they also make newly secret knowledge. Aerial photographs, topographic maps and

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[7] See <http://homepage.ntlworld.com/alan-turnbull/trident-missiles.htm> for a recent analysis of Trident missile dispositions around the Faslane Naval base in Scotland.

satellite imagery can only hint at the nature of power, they cannot actually show us power relationships. Florini (1998: 60) observes that for secret sites "[t]ransparency reveals behavior, but not intent." The visual media deployed on these sites offer only a limited gaze into the multi-sensory world of spectacular secrecy. In practice secrecy is experienced, and practiced as a process; secrets are diffused by hearing gossip, by talk, and by embodied action as well as by simply seeing the site. Seeing a disembodied image on a screen only reveals a part of the secret world.

Each of the projects uses visual technologies to reveal secrecy, and so each mainly resorts to a strongly dehumanised and distanced view. They replicate the 'god trick', and perhaps reinforce the importance of an objectivist, surveillant geographical imaginary, instead of offering a more embodied alternative. Places are mostly mapped without people or feelings. The *Eyeball Series* does seek to personalise secrecy, by focusing on individuals' roles in the production of secret power and (for some stories) including photographs of individuals, in a 'bricolage' of different media (see Figure 5). *Secret Bases* also sometimes personalizes the practice of spying, but rarely the practices or feelings of people in the sites themselves. A more artistic critique such as that offered by Paglen (2006) is less likely to be tainted by the power of the gaze.

Moreover, organisations with something really worth hiding often put their most sensitive sites fully underground. Maps and images showing access roads and entrance portals to bunker complexes only give the barest hint of their subterranean extent. Also nowadays much of the secret work of the military and intelligence community is actually transacted in cyberspace, in the data networks, servers and webs of encrypted information flows, which are completely invisible to conventional cartographic display of physical facilities. With the growing recognition that detailed vision is no longer restricted it is likely there will be more attempts to conceal secret sites, as more people realise the capability of satellite observation.

Nor should we be naïve about the critique offered in the case studies. The visual medium may imply evidential transparency, but selection, interpretation and context reveal the very positioned and largely unaccountable nature of the critique. Florini (1998: 61) argues NGOs and activists are "unelected, unaccountable, and sometimes less transparent than the institutions they monitor"; nor do they offer any "guarantee of action or progressive change". Whilst the case studies would claim their work advances the cause of open government it could be argued that *Public Eye* merely accentuates the newsworthy in order to increase its

market share, that the *Eyeball Series* is too removed from the policies of secrecy revealed in its sister site *Cryptome* and too overtly activist to be taken seriously, and that *Secret Bases* is a train-spotting-like listing exercise.

Whilst the case studies offer new views there is little evidence of the cultural impact of the critique. Globalsecurity.org lists impressive numbers of hits on its Web site, but the military advertising and marketing of the site suggest only a small percentage of these users are concerned with critique. The *Eyeball Series* does not publish records of the number of hits. *Secret Bases* claimed over 963 290 hits to its site in May 2008, but many of these are likely to be to its *Emmerdale Farm* fan site.

There is indirect evidence of cultural impact in the form of reaction. The *Eyeball Series* and *Cryptome* have been a clear concern to the American establishment since 9/11. Early in 2005 Readers' Digest ran a strongly critical article attacking web-based, security breaches, and focused on Young's *Eyeball Series* website (Crowley, 2005). The article described the site as dangerous and irresponsible and juxtaposed an attack on open government with a cartoon featuring an Islamist viewing a website and proclaiming "Site Maps, Security Overrides, Suggestions. Download Now! It's Safe - It's Easy - It's Protected by the Constitution." Young has been visited by agents from MI6 and the FBI, asking him to remove material, and has had to move his ISP after official pressure to remove his sites from their servers (Cook, 2007). The voices of the right in the U.S. clearly think sites such as the *Eyeball Series* threaten their agenda. In the UK Turnbull's exposure of cartographic silences is strongly compatible with recent UK-based campaigns against excessive monopoly control of spatial data, such as the Guardian Free Our Data Campaign (2007) and the latest revisions of Ordnance Survey maps are beginning to reveal formally hidden and unmapped sites (see Figure 2). He has been invited several times by the media to comment on matters of official secrecy and has built significant contacts inside the security establishment. Once again the play of spectacular secrecy reveals complex inter-relationships between the worlds of those revealing and those charged with preserving secrecy, instead of any notion of binary opposition.

The counter-mapping case studies presented in this paper only give a 'pin-hole' view into the world of secret and sensitive sites and there are dangers exaggerating their cultural impact. Nevertheless they clearly offer a disruptive view, and being freely distributed through the Web, it could be argued that these 'eyeballs' are potent maps of resistance to the growing secret state. They focus attention on sites that would otherwise be lost in space. We would

argue, however, contra Natsios and Young (2001) that they do not really *reverse* the panoptic tools of the watchers. Rather they form part of a much wider democratising process, offering newly secret information, part of the interplay of post 9/11 cultural politics. In an era of spectacular secrecy they offer a redistribution, rather than a reverse of secrecy, analogous to Bratich's (2006:42) observation that "…the moment of revelation did not end secrecy, but intensified and redistributed it." Indeed they show how vision is itself positioned, that the balance between secrecy and publicity is ambivalent and intensely political, and that cultural practices of knowledge production and dissemination are important in the construction of oppositional discourse.

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Table 1: Summary of counter-mapping projects.

| Name | *Public Eye* | *Eyeball Series* | *Secret Bases* |
|---|---|---|---|
| Web location | <www.globalsecurity.org/eye> | <www.eyeball-series.org> | <www.secret-bases.co.uk> |
| Authorship | John Pike, security commentator and activist | John Young, architect and anti-secrecy activists | Alan Turnbull |
| Start date | 1995 | 2002 | 2003 |
| Motivation | To offer intelligence-style photo-interpretation of high resolution satellite imagery of military and nuclear sites. News driven | To document sensitive sites, principally in the U.S. Image driven | To reveal the UK's "hidden" Ministry of Defence facilities and military sites Image driven |
| Institutional cont | Policy analysis agency | Anti-secrecy activist | Individual hobbyist |
| Geographic focus | Global | Chiefly USA | UK |
| Spatial scale | Increasing resolution over time: best available and often commissioned sources | Varies: juxtaposition of publicly available sources | Varies: best available and user controlled |
| Number of sites | 1 100 baseline sites to 2001 Unknown but huge number of subsequent images | 510 eyeballs | ca 300 sites |
| Sources | In house analysis and presentation | Anonymous informants and in-house presentation | Anonymous informants and in-house presentation |
| Interpretative materials | Part of complex array of site specific evidence, including policy-relevant analysis | Only rarely accompanied by rich textual explanation | Detailed descriptive analysis explaining imagery |
| Cross referencing and linking | Images associated with hyperlinked policy or news briefings | Limited cross referencing | Sophisticated internal links |
| Methods | Montage of aerial photographs, maps and texts | Multimedia presentation of maps, images, photographs, text and hyperlinks to other documents | Juxtaposition of map, aerial photograph and satellite-based evidence. Sophisticated use of multiple image sources under user control |
| Usability | Searchable, easy to find site specific images, hard to find all images | Searchable, multiple site specific pages, organised by date | Four main pages, random arrangement, hard to use |

*Figure captions.*

(Note, reduced quality compared to Web versions due to image capture process.)

Figure 1. Part of *Eyeball Series* page on "Site R - Raven Rock Governmental Bunker (originally created March, 2002, last updated October 2006) Source: <http://eyeball-series.org/site-r/site-r-001.htm>.

Figure 2. Part of Secret Bases using contrasting imagery and maps for the same area from different dates to exposes the unmapped status of Britain's nuclear weapons factories. <http://homepage.ntlworld.com/alan-turnbull/secret2.htm#atomic>.

Figure 3. Part of *Public Eye* page on North Korea's Yongbyon nuclear facilities (December 2002), <www.globalsecurity.org/wmd/world/dprk/yongbyon-imagery.htm>.

Figure 4. Image with annotations from *Public Eye* page on North Korea's Yongbyon nuclear facilities (December 2002), <www.globalsecurity.org/wmd/world/dprk/images/yongbyon-cib1.jpg>.

Figure 5. Part of *Eyeball Series* page on Michael Hayden, CIA director (May 2006), <http://eyeball-series.org/hayden/hayden-birdseye.htm>.

# Figure 1

23 March 2006. See also birdseye views of Site R and the Site R sewage plant:

http://eyeball-series.org/siter-birdseye.htm

http://cryptome.org/siter-sewage.htm

24 April 2003

Camp David is located about 6 miles from Site R. There is surely a communications link between the two, and perhaps an underground tunnel for communications systems, servicing the systems and personnel. The link might be way of Ft Ritchie which supports Site R. Here is a map showing the three installations. To the right is what appears to be a fiber optic cable linking Site R to Thurmont, MD. There's a warning sign for the cable near a rear gate of Site R at the top of the red line (see photo below).
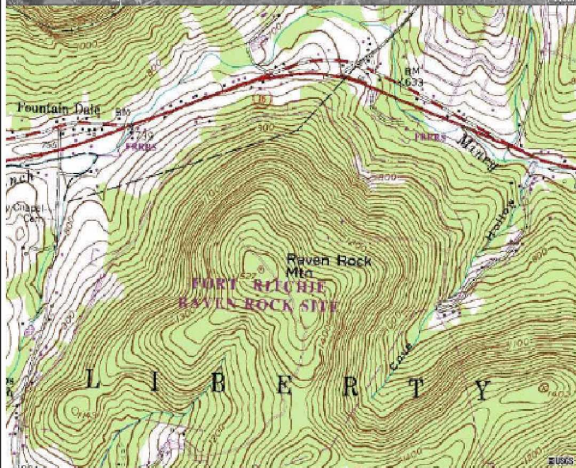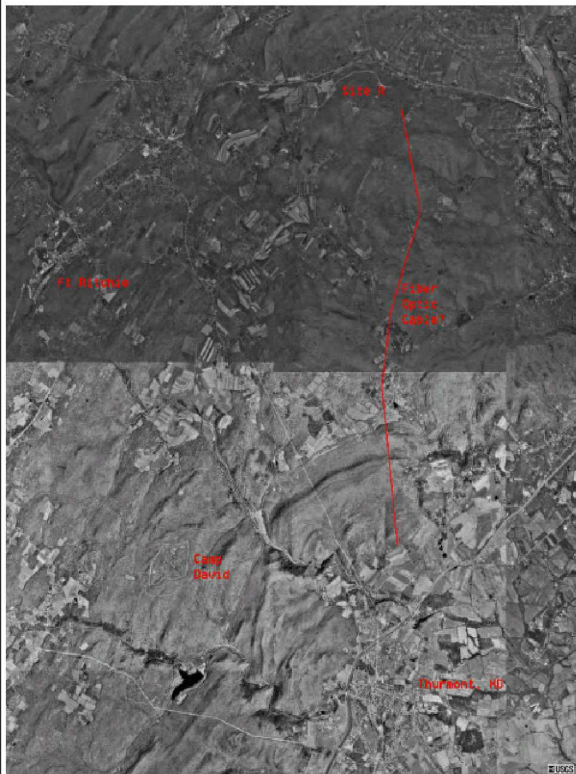






15 August 2002. See history of planning Site R during the Johnson Administration:

http://cryptome.org/dunmcc.htm

10 June 2002. Cryptome visited the Site R neighborhood on 9 June 2002, and took a few photos, presented below.

A note on our visit:

Private houses and farms are located just outside the gates of Site R, and a couple of residents watched us take photos but said nothing. While driving along a forest road looking for Site R gates we were startled to see a Maryland Police car following, no flashing lights, no siren. Nervous that somebody had reported our poking around the secret site, we stopped and asked the officer if that was the case. He said no, he was on his way to check on the Raven Rock Lutheran Camp which abuts Site R. We asked if there was any problem with us nosing around and he said no. Later, we remembered that Site R is in Pennsylvania and the Lutheran Camp is in Maryland.

We encountered not a single suspicious person during our visit -- other than ourselves. We suspect the site is regularly scoped by nosy nellies and the residents and the military care not a whit so long as you don't climb a fence, set off an alarm and scare yourself into needing EMS.

17 March 2002

Maps and aerial photos from Map Quest and TerraServer.

## Site R - Raven Rock

This offers information on a hardened US military communications facility, Site R (Raven Rock) Alternate Joint Communications Center (AJCC), located beneath Raven Rock mountain, near Waynesboro, PA, reported to be the bunker used by Vice President Cheney during the months after 9/11.

News report on Site R:

March 14, 2002:
http://www.citypaper.net/articles/031402/cs.cover.shtml

December 20, 2001:
http://www.s-t.com/daily/12-01/12-20-01/a02wn016.htm

December 16, 2001:
http://www.post-gazette.com/columnists/20011216homefrontp5.asp

On Mount Weather and Site R, November/December 2001:
http://www.bulfatomsci.org/issues/2001/nd01/nd01schwartz.html

June 28, 2000:
http://www.newhousenews.com/archive/story1a062800.html

May 1, 2000:
http://www.fcw.com/fcw/articles/2000/0501/pol-war-05-01-00.asp

April 26, 2000:
http://www.cnn.com/2000/TECH/computing/04/26/dod.plans.online.idg/

http://www.fas.org/nuke/guide/usa/c3i/raven_rock.htm

Site R is the Alternate Joint Communications Center (AJCC) located in Raven Rock mountain [hence the name Site R] just over the Pennsylvania State Line near Waynesboro, Pa. The DISA Site-R Computer Operations staff provides computer services to the NCA, the Joint Staff, the OSD and other DoD agencies through Memorandums of Agreement (MOAs). The facility functions as the disaster recovery site for the JSSC's GMC and DISA GCC. The various service [Army, Navy and Air Force] Emergency Operations Centers (AFEOC) are also located at Site R. Support is provided 24 hours per day, 7 days per week. The facility's Operations Center, DCS Technical Control Facility, the Northeast Dial Service Assistance Center and Information Center provide planning, installation, operation, and maintenance of over 38 communications systems (switching, transmission, data distribution, visual information, and power generation) that support the various customers of the Alternate Joint Communications Center Site R.

DoD description now removed from the Web, in Google cache:

http://www.google.com/search?q=cache:T4dz9XxK9DgC:www.disa.mil/jssc/jc6.html++%22site+r%22&hl=en

US Army 1111st Signal Battalion at Raven Rock ("Signal Masters of the Rock"):

http://www.asc.army.mil/1111th/1111.htm

Budget for Site R Integration Program (SRIP), 2001:

http://www.dtic.mil/descriptivesum/Y2002/DISA/0302016K.pdf

Informative Defense Data Network Management Bulletin from 1994 showing Site R's routing servers to worldwide military bases:

http://cryptome.org/bul-9411.txt

A dispute over prices at Site R eating facilities:

http://www.flra.gov/decisions/v26/26-061-3.html

See also:

Security for AJCC:
http://books.usapa.belvoir.army.mil/cgi-bin/bookmgr/BOOKS/R190_15/CCONTENTS

http://coldwardc.homestead.com/files/

http://www.sauderzone.com/ubtlinks.htm

http://www.cowan70.freeserve.co.uk/military_bases/ravens_rock.htm



Northwest portals and guard building, perhaps with emergency service equipment.
See distant photo below of the left hand portal taken on 9 June 2002 by Cryptome.



Northwest portal at right in photo at left.

Source for these 4 photos: http://www.angelfire.com/realm2/bushlostfl/siteR.html

## Atomic Weapons Establishments (AWE)   UPDATED December 2007

Now, let's consider two classic examples of Britain's "top secret" sites which just didn't feature on maps ... until January 2005!

The UK Government's key atomic weapons sites are located at Burghfield and Aldermaston, both in Berkshire. But by studying the OS maps, you'd have thought they might be hidden underground! The Atomic Weapons Establishment (AWE) at Burghfield was last included on an OS map way back in 1974 and had never been seen since. Rather comically, AWE Aldermaston (which is actually the size of a small town) kept appearing and disappearing, depending on which issue of the OS map you were looking at and which scale. It reminded me of the legend of Brigadoon!

Until December 2004, the older OS map data through the Multimap website just showed **AWE Aldermaston** (pictured below) as plain woodland and **AWE Burghfield** (pictured further below) as a completely empty field! Ordnance Survey's Get-a-map site, which obviously has all the latest definitive data, correctly showed the Aldermaston site (innocently labelled "Depot") at **1:50000**. But when you viewed the same area at **1:25000**, the site suddenly reverted to Burnham's Copse!

However, all this changed suddenly in January 2005, when OS updated their **online** 1:25000 map data to show both AWE Aldermaston and AWE Burghfield in **full detail**, but the 1:50000 scale data for Burghfield was to take another 18 months before being updated.

The Royal Mail address database correctly lists AWE Aldermaston (with the post code **"RG7 4PR"**). However, AWE Burghfield is hidden away masquerading under the innocuously sounding address, **"1 The Mearings, Burghfield, Reading, RG30 3RR"**, which turns out to be the main high security gate! Try plugging those post codes into Multimap and Getmapping and see what happens!

Before January 2005, even on Get-a-map, AWE Burghfield was conspicuous by its absence at both **1:50000** and **1:25000** scales. It is actually situated in the space between Burghfield Place, Burnthouse Bridge and Grazeley Green. It wasn't until July 2006 that the Burghfield atomic weapons site finally made it back onto OS maps at 1:50000 scale after 32 years in the secrecy wilderness!

Consider AWE Burghfield again but this time, view the aerial photograph on Multimap's site and overlay the map, which has now caught up and also features the new data! Try the same with AWE Aldermaston's aerial photo and the map overlay.

Indeed, this hilarious "now you see it - now you don't" trick (below), showing glaring discrepancies between OS maps and Getmapping's aerial photos, was the original inspiration for this whole website back in 2003!

In December 2007, Burghfield was featured in full Bird's Eye detail (also below), revealing the nuclear warhead assembly and disassembly area for the UK's Trident Missiles.

The double-fenced compound comprises special mounds known as "Gravel Gerties", after a character in the Dick Tracy comic strip. They are designed to contain any plutonium release in the event of an accidental detonation of the conventional explosives in the warheads. Note the numerous lightning conductor towers!

The storage depot for the nuclear-armed fully-assembled Trident Missiles is up in the mountains of Scotland, as featured in Secret Bases Part 3. Check out new high resolution aerial photography of the Trident bunkers and submarine arming jetty on my **special implementation** of Microsoft Virtual Earth (right).



**Aerial Photo of AWE Burghfield**
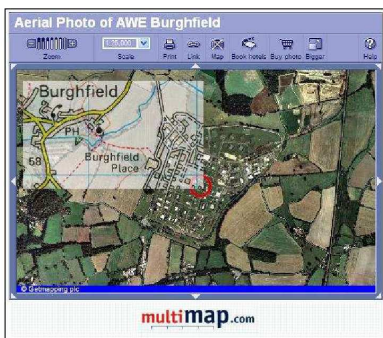
*The original inspiration for this "Secret Bases" website!*
*Getmapping's aerial photo with an OS map overlay on Multimap*
*AWE Burghfield – Now you see it, now you ~~don't~~ DO!*
**Courtesy of www.multimap.com**



***Bird's Eye view (looking north) of AWE Burghfield***
*Trident Missile nuclear warhead assembly / disassembly compound*
*comprising special plutonium containment mounds – "Gravel Gerties"*
**Aerial photo data courtesy of http://local.live.com – COPYRIGHT © Windows Live Local**
**Aerial photo data courtesy of www.blomasa.com – COPYRIGHT © Blom ASA**



***Bird's Eye view (looking east) of***
***AWE Burghfield's "Gravel Gerties" with lightning conductor towers***
**Aerial photo data courtesy of http://local.live.com – COPYRIGHT © Windows Live Local**
**Aerial photo data courtesy of www.blomasa.com – COPYRIGHT © Blom ASA**

Just to the north east of Burnthouse Bridge, you can make out the remains of a **disused train branch line**. This line once connected into the nearby main line which, further south, goes right past the former munitions depot at Bramley (mentioned earlier). The maps and photos of the Bramley munitions depot show that it, too, was once connected into the same main line. During WWII, the AWE Burghfield site was a conventional munitions factory.

For the residents living next to these sites, they are all too real. Especially when they have been forced to use bottled water because of suspicions that the local supply had been contaminated by toxic chemicals.

The AWE sites and all other sensitive UK military and Government sites, such as Faslane nuclear submarine base, are patrolled by Ministry of Defence Police (MDP). Their main training centre and MDP HQ is contained within a deserted WWII USAF airbase at **RAF Wethersfield**, a few miles north west of Braintree in Essex.

There are two Operational Support Units (OSU), for rapid emergency deployment of MDP Officers. The southern OSU is at Wethersfield HQ, while the northern OSU is within **RAF Dishforth**, between Ripon and Thirsk in North Yorkshire. The unit is strategically situated alongside the A1(M), with good access to all major routes. Dishforth Airfield is also home to the Army Air Corps and their fleet of Apache Attack and Puma helicopters.

AWE have another small site at **AWE Blacknest** at Brimpton Common, just a couple of miles to the west of AWE Aldermaston. This site, within an old country house, contains large computer systems and is staffed by scientists researching seismological activity, in order to verify nuclear test bans.

A former top secret remote AWE facility, involved in testing nuclear weapon triggers, can be seen at **Orford Ness** on the coast of Suffolk. The derelict remains of strange buildings resembling pagodas can be spotted on the beach. Further north up the coast, the remains of the 1960s **Cobra Mist** over-the-horizon radar project can be found. All these Orford Ness features are pictured further below in exclusive Pilot's Eye Views.

On the images of AWE Aldermaston and AWE Burghfield below, hover over each image with your mouse pointer to compare each aerial photo with the corresponding OS map. Click on each image to switch the map between the different scales and data revisions!

---

# Figure 2

## AWE Aldermaston's "Burning Ground" annexe

Using the latest hi-res imagery on Google Earth and Google Maps, next to AWE Aldermaston itself, you can spot a mysterious **secure depot**, hidden in a **clearing** in a wood called The Birches. Furthermore, the depot is clearly connected directly into AWE Aldermaston using an underpass beneath Red Lane, a minor public road which runs alongside the complex's eastern boundary.

In June 2006, I made a formal application to the MoD under the terms of the Freedom of Information Act. The official response revealed that the depot is used by AWE Aldermaston as a "burning ground" to incinerate non-nuclear explosive waste material.

In my special implementation of Google Maps further below, look out for some other Secret Bases in the area clustered closely together, the purposes of which are revealed later in this page. Keep on reading!
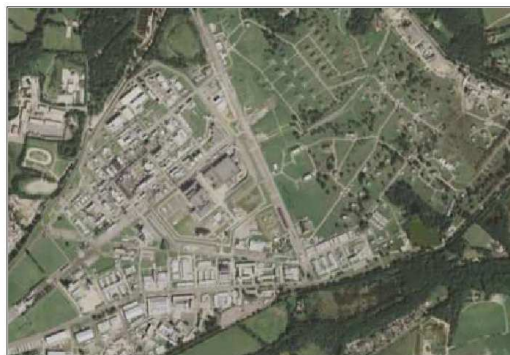


***Aerial view of AWE Aldermaston***
Hover over the image with your mouse pointer to compare the aerial photo with the map!
Click on the image to switch the map between 1:50000 and 1:25000 (2004 / 2005) scales!

Map images generated from the Ordnance Survey Get-a-map service
Reproduced with permission of Ordnance Survey and Ordnance Survey of Northern Ireland

Aerial photo data courtesy of http://earth.google.com – COPYRIGHT © Google Inc
Aerial photo data courtesy of www.bluesky-world.com – COPYRIGHT © BlueSky International Limited



***Aerial view of AWE Burghfield***
Hover over the image with your mouse pointer to compare the aerial photo with the map!
Click on the image to switch the map between 1:50000 (2004 / 2006) and 1:25000 (2004 / 2005) scales!

Map images generated from the Ordnance Survey Get-a-map service
Reproduced with permission of Ordnance Survey and Ordnance Survey of Northern Ireland

Aerial photo data courtesy of http://earth.google.com – COPYRIGHT © Google Inc
Aerial photo data courtesy of www.bluesky-world.com – COPYRIGHT © BlueSky International Limited
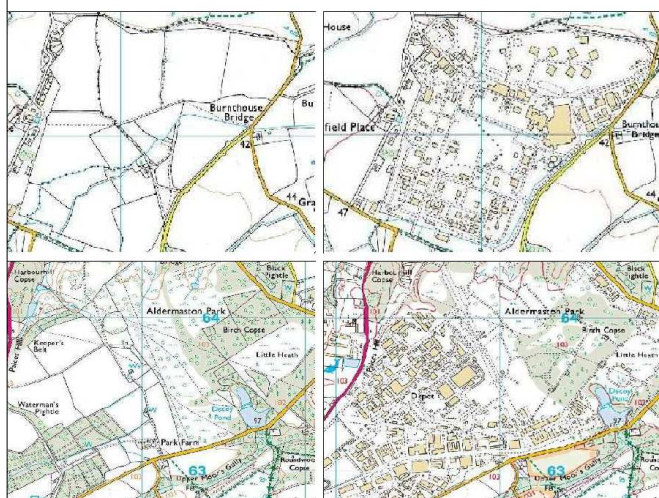


***"The Truth Is Out There" ... finally!***
*AWE Burghfield (top) and AWE Aldermaston (bottom) suddenly emerge*
*from farmers' fields after a record breaking mysterious absence of 30 years!*

*Ordnance Survey's 1:25000 scale map data from 2004 (left) and 2005 (right)*

Map images generated from the Ordnance Survey Get-a-map service
Reproduced with permission of Ordnance Survey and Ordnance Survey of Northern Ireland

# Figure 3

## WEAPONS OF MASS DESTRUCTION (WMD)

### Yongbyon [Nyongbyon]

| | |
|---|---|
| Credit: spaceimaging.com. Copyright (c) Space Imaging. ALL RIGHTS RESERVED. Online and news media distribution or publishing requires permission from Space Imaging. | |
| Credit: DigitalGlobe. Copyright (c) DigitalGlobe. ALL RIGHTS RESERVED. Online and news media distribution or publishing requires permission from DigitalGlobe. | |
| Click on the small image to view a larger version | |
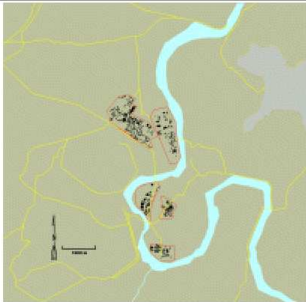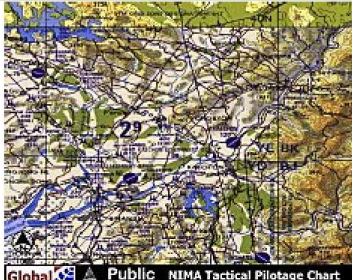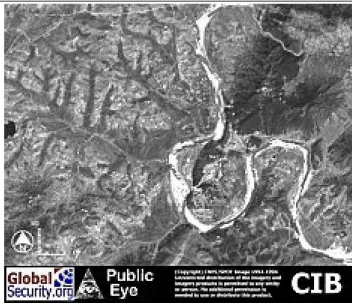


CIA Map of East Asia centered on North Korea



CIA Map of North Korea, depicting the area around Yongbyon



Yongbyon Area



Yongbyon Area



Tactical Pilotage Chart of the Yongbyon and surrounding region.



NIMA 1:250,000 Joint Operations Graphic of Yongbyon and surrounding area. THe area in red contains the Nuclear research center and associated reprocessing facilities.



CIB imagery of the Yongbyon area



CIB imagery of the area surrounding Yongbyon

Figure 4

# Figure 5

Michael Vincent Hayden Birdseye                                    http://cryptome.org/hayden-birdseye.htm

8 May 2006. A sends property listing for Michael Vincent and Jeanine C. Hayden.

7 May 2006

Also:

http://eyeball-series.org/hayden-eyeball.htm
http://eyeball-series.org/negro-eyeball.htm

Hayden and DIA plans and birdseyes from http://www.local.live.com

Air Force General Michael V. Hayden is expected to be named Director of the Central Intelligence Agency tomorrow. Currently he is Principal Deputy Director of National Intelligence.

US Search [below] shows an address for Michael Vincent Hayden, Age 61, at 62 Wendover Avenue SW, Bolling AFB, Washington, DC 20032. And shows several previous addresses for Hayden, including Ft. Meade, MD.

The location of the National Intelligence Directorate (NID) is not readily public, except that it is likely located at Bolling Air Force Base, Washington, DC. The Defense Intelligence Agency (DIA) is located at Bolling, and due to the sophistication and size of its facility, it may also house NID.

When Hayden is appointed DCIA, it is not clear if he will leave GOQ to which he is accustomed. None are near CIA headquarters, but he might be armored-SUV-delivered from Ft. Myer, VA, nearby the Pentagon, aping Rumsfeld. Or sub-let from Prince Bandar down the parkway. At CIA he will be closer to the National Counterterrorism Center.

*General Office Quarters, United States Air Force*, Volumes 1, 2 and 3, March 16, 2001, Baker and Associates, Architects, Planners, Engineers, provides detailed descriptions of USAF general-grade housing, with drawings and specifications. GOQ at Bolling is featured in Volume 3.

http://jllpsc.com/EAFB-HF_GOQ_Guide_Vol_1.pdf
http://jllpsc.com/EAFB-HF_GOQ_Guide_Vol_2.pdf
http://jllpsc.com/EAFB-HF_GOQ_Guide_Vol_3.pdf

If these are yanked, Cryptome has copies.

These are available on the website of Jones Lang LaSalle, Privatization Support Contractor (PSC), which lists military installations where it provides privatization services:

http://jllpsc.com/About_the_Military_Housing_Pri/Project_Summary/project_summary.html

Among the installations:

http://jllpsc.com/BBL_Group/bbl_group.html

BLB Group

Housing Privatization Project

Jones Lang LaSalle is pleased to announce that we have been selected by the U.S. Air Force to provide Privatization Support Contractor services for the Barksdale AFB, Langley AFB, and Bolling AFB group project. This combined project is referred to as BLB Group. A total of almost 3,568 housing units will be privatized at three bases: Bolling AFB, Langley AFB, and Barksdale AFB. The project owner will finance, plan, design and construct improvements as well as own and operate the rental housing for 50 years. The project owner will finance, plan, design and construct improvements as well as own and operate the rental housing for 50 years.

Jeanine Hayden writes [Google cache]:

**Growing Up Military**

By Jeanine Hayden, [National Military Family Association Inc.]Volunteer

My husband has been on active duty for nearly four decades. There was an opportunity for us, when my husband was at the ten year point in his career, to leave the service and settle in the beautiful state of Vermont. At the time I pictured our children growing up in a kind of old-fashioned, bucolic existence. They would never have to move again. They could make life-long friends. They could have a continuity and stability in their lives that we all long for on a regular basis. But we chose the other path and they grew to adulthood as military brats.

When I look at them now and see what wonderful, accomplished adults they have become, what great spouses and parents they are, what a wonderful view of the world they have, I am so happy that we chose this military life. But I am looking at this in hindsight. Our kids have weathered the trials of growing up military. I know that many who are reading this are in the middle of living this challenging, sometimes overwhelming life. And I know that you have many worries and fears as to how this lifestyle is affecting your families.

Children in military families must develop strength and endurance to face the challenges of a military childhood: Mom or Dad's frequent deployments, the regular uprooting from a familiar home and school to move to some strange new place, the constant need to develop new friends and activities. We ask so much of these military kids. Are we doing right by them? Will they turn out okay? Is it too much? Can they handle it?

I believe that they can and do. I believe that this kind of growing up experience is so profound and enriching to individuals, despite the many challenges, that those who don't experience it have missed out on a great adventure.

I asked my own children and other young adults who grew up moving around the USA and the world with their own military families to share some of their own reflections. These were some themes that emerged in their comments. [More at URL]

## Michael Vincent Hayden
## Birdseye

USAF General Officer Quarters, Bolling AFB
Source

** FILE ** Gen. Michael V. Hayden, the Principal Deputy Director of National Intelligence, speaks at the National Press Club in Washington, in this Jan. 23, 2006, file photo, publicly defending the National Security Agency program of warrantless electronic surveillance of communications entering and leaving the United States. Hayden, 61, is the leading candidate for CIA director, which President Bush is expected to nominate as early as Monday, May 8, 2006. (AP Photo/Lauren Victoria Burke)

Author James Bamford, who has written several books o... March 2, 2006. Bamford said Sunday, May 7, 2006, tha Michael V. Hayden, gets the job as director of Central I agency that has low morale and is trying to find its plac

President Bush, left, looks on as White House Chief of Staff Andrew Card, right, swears in Air Force Lt. Gen. Michael V. Hayden, center, as Deputy Director of National Intelligence in the courtyard of the New Executive Office Building of the White House, Wednesday, May 18, 2005 in Washington. Also on stage holding the Bible is Hayden's wife Jeanine.(AP Photo/Pablo Martinez Monsivais)

** FILE ** Deputy National Intelligence Director Gen. Hill in Washington in this Feb. 28, 2006, file photo wil deputy and former National Security Agency chief, Hay is expected to nominate Monday, May 8, 2006. (AP Pho

CIA Director Porter Goss, second from left, and his wife, Mariel, talk with Kathy Douglas, left, on the front porch of Montpelier during a ceremony Saturday, April 29, 2006, celebrating the renovated exterior of James Madison's Montpelier near Orange, Va. The Montpelier Foundation and the National Trust for Historic Preservation unveiled the renovated exterior of Madison's grand mansion, ending the first phase of a $29 million restoration project that sponsors boast "may be the most important one going on in the nation today." (AP Photo/The Free Lance-Star, Suzanne Carr Rossi)

President Bush, right, announces that CIA Director Port... House, Friday, May 5, 2006 in Washington. (AP Photo/

Central Intelligence Agency Director Porter Goss' country store in Orange County, Va., is seen Sept. 18, 2005. Goss moonlights as a farmer at his 575-acre property in the rolling hills of central Virginia, and sells organically grown tomatoes, raspberries and pears, to name a few, to locals at his general store. (AP Photo/Katharine Slusher)

Goss' Retreat Farm, on Retreat Road, near Rapidan, VA

http://www.cryptome.org/goss2-eyeball.htm

62 Wendover Avenue SW, Bolling AFB, Washington, DC

Looking North

Looking East

Looking South