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Precise pictures from space will revolutionize television news, both by freeing reporters from relying solely on government-provided information and by freeing viewers from relying solely on what reporters tell them.

Mark Brender, ABC News Producer
Testimony before the U.S. House of Representatives
Subcommittee on Space and Aeronautics
July 24, 1996¹

Our liberty depends on freedom of the press, and that cannot be limited without being lost.

Thomas Jefferson
1776²

¹ “Testimony of Mark Brender before the Subcommittee on Space and Aeronautics, U.S. House of Representatives Committee on Science, July 24, 1996.” On-line. Internet, 24 July 1996. Available from www.fas.org/spp/civil/congress/1996_h/h960724b.htm.

² Peter, L.J. “Peter’s Quotations: Ideas for Our Time.” New York: Morrow, 1979, p. 202.

INTRODUCTION

It is a long-held belief the news media will go to almost any length to get a story. Television reporters have waded into the middle of civil-war firefights to show viewers and readers human suffering up close, used hidden-camera tricks to flush out stories on consumer fraud, and even laid down their lives to expose human-rights atrocities by international governments. Over the last 10 years, in the midst of a telecommunications revolution, the media can now gather and report stories in ways that once seemed impossible.

The advent of commercial satellite imaging has made it possible for print and broadcast media to show photographs and report stories that otherwise may have gone unnoticed. This is especially true during military conflicts like the Global War on Terrorism, where reporters cannot always get access to engagements due to safety and security reasons. However, satellites orbiting hundred of miles above the earth's surface have replaced the cameraman and photographer on the ground in many cases, with their ability to look down into forbidden areas and capture stories. During wartime, access to the battlefield is a critical issue and satellite technology has made this more contentious than ever. Both the news media and the U.S. government are trying to come to terms with exactly what, if any, restrictions should be placed on this technology, due to its intrusive nature and possible ramifications on national security.

The purpose of this research paper is to explore how the mass media uses satellite imaging to gather information during wartime and determine what impact this technology has had, and will have, on advancing the art of news telling during armed conflict. Does satellite imagery impact the U.S. military's ability to effectively wage war in Afghanistan and Iraq? What challenges does this technology present for future military conflicts?

Because satellite imaging has only been commercially viable for the last 30 years, the news media is still trying to fully understand the utility of this imprecise science. With improvements in satellite imaging occurring at a lightning-quick pace, the media, the military and the U.S. government are trying to understand how this technology might affect media coverage during wartime. These issues and dilemmas are addressed in this paper.

The paper is divided into four sections: (1) a technical primer for a broader understanding of exactly how these extraterrestrial cameras photograph and transmit images back to the earth's surface, as well as the history of satellite imaging; (2) the media's use of satellite images during recent U.S. armed conflicts, specifically Operations Enduring Freedom and Iraqi Freedom; (3) legal and regulatory issues facing both the media and the satellite-imaging industry in regards to the use of this technology during wartime, specifically the issue of the U.S. government's imposition of prior restraint; and (4) the ethical issues and responsibilities facing the media regarding the violation of national security, as well as the future of satellite imagery.

The author's research involved a descriptive, qualitative methodology, using primarily documentation out of space-industry journals, books, newspaper and magazine articles, and speech transcripts from noted media and space experts.

BACKGROUND: THE TECHNOLOGY AND HISTORY OF COMMERCIAL SATELLITE IMAGING

How It Works

Satellite imaging, or remote sensing, is defined as the gathering of information to determine the nature or condition of objects on the earth's surface and of phenomena on, below, or above it, through observations from airborne or satellite platforms.³ A remote-sensing satellite system consists of an orbiting spacecraft that has a stable platform carrying sensors, optics, and receiving and transmitting antennas in constant contact with receiving stations on the ground. The resolution of the transmitted image is based on the sensor's resolving power and the distance the satellite is from the earth's surface.⁴ For instance, most of today's commercial satellites have a sun-synchronous orbit⁵ rotating pole-to-pole approximately 400 miles above the earth's surface.⁶ While in orbit, these satellites revisit and photograph the same geographical location every one to five days depending on the location's latitude.⁷

Imaging satellites can photograph vast areas of the earth's surface, producing resolutions of anywhere from 80 meters down to 0.61 centimeters. Satellites with a one-meter resolution can provide clear images of objects such as park benches and cars.⁸

³ "UN Doc. A/AC 105/98, Jan. 20, 1972." Quoted in Paul H. Uhlir, 'The Public International Law of Civilian Remote Sensing: An Overview,' in R.J. Aamo (Ed.) "American Enterprise, the Law, and the Commercial Use of Space," Vol. 11 of "Remote Sensing and Telecommunications: How Free, How Regulated?" 1986, p. 27.

⁴ Davis, R. "Spying on the government: The media, remote-sensing satellites, and U.S. national security policy." *Political Communication*. Vol. 9, 1992, p. 192.

⁵ "An orbit is sun-synchronous when the spacecraft is constantly interposed between the earth and the sun. With respect to remote sensing, this type of orbit is essential to ensure the sensor is always looking down at the earth during daytime when imagery can be taken." From Aamo, p. 2.

⁶ Burdick, H. "Satellite imagery for the broadcast media." *Advanced Imaging*. On-line. Lexis-Nexus, August 1998.

⁷ "QuickBird 1 Specifications: Orbital Information." *EarthWatch*. On-Line. Available from www.digitalglobe.com/company/spacecraft/quickbird.html.

⁸ Quickbird, paragraph 13.

Two types of sensors typically operate aboard commercial imaging satellites: (1) panchromatic (black and white) sensors capable of producing images of between one- and five-meter resolution; and (2) multispectral (color) sensors with resolutions of between four and 30 meters depending on the satellite.⁹ When the sensor collects the image, it immediately stores it and then forwards it via a downlink to an affiliated ground station, wherein the data is returned to the satellite's parent company through landlines and satellite links for storage in the company's archives.¹⁰

The Birth and Commercialization of Imaging Satellites

Today, satellite imaging is a thriving commercial venture – a sophisticated form of digital space photography, producing clear pictures of buildings, rivers, vehicles and other earthly things. However, it first burst on to the scene as a tool of the U.S. government in the Cold War years of the 1960s, with a network of satellites keeping an eye on communist adversaries around the world.¹¹ The first U.S. reconnaissance satellite was launched in 1960 and, by the mid-1960s, military satellites were capable of resolving objects as small as two feet from an altitude of 100 miles. Meanwhile, multispectral photography and infrared scanning was developed to track nighttime activities and detect camouflage.¹²

Remote sensing went commercial in July 1972 when the National Aeronautical and Space Administration (NASA) launched the Earth Resources Technology Satellite (ERTS-1), the first of many Landsat satellites.¹³ NASA proceeded to operate the quasi-commercial Landsat

⁹ "IRS-1D Satellite Imagery Available for Sale Worldwide." *SpaceImaging*. On-line. Internet, 20 October 1998. Available from www.spaceimaging.com/home/newsroom/releases/IRS-1Dworldwide.html

¹⁰ "QuickBird 1 Specifications: Data Storage and Transmission." *EarthWatch*. On-line. Available from www.digitalglobe.com/company/spacecraft/quickbird.html.

¹¹ Aamoth, R.J. *From Landsat to Mediasat: The Development of Remote-Sensing Technology and the First Amendment Right of the Press to use that Technology for News Gathering*. Washington, D.C.: National Legal Center for Public Interest, 1986, p. 2.

¹² Peebles, Curtis. "Guardians: Strategic Reconnaissance Satellites." Novato, CA: Presidio, 1987, p. 175.

¹³ Davis, p. 193.

program for the next 12 years, sending satellites into orbit that, at first, could only produce 80-meter resolution, but by 1980 had increased the capability to 30 meters.¹⁴ While these low-resolution space birds were suitable for tasks such as forestry, oceanography, mineral and petroleum exploration, land management and cartography, the mass media had little use for it.¹⁵

The Land Remote-Sensing Commercialization Act of 1984 (also known as the Landsat Act) turned control of the Landsat satellites over to the Earth Observation Satellite Company (EOSAT), a private organization that offered satellite images to anyone able to pay for them.¹⁶ The act was significant because it was the first time a private enterprise had control of imaging satellites, with a wealth of satellite technology changing hands from the government to the commercial sector. However, the act did recognize the need for government oversight “to assure that private sector activities are in the national interest.”¹⁷ The U.S. Department of Commerce was placed in charge of the commercial satellite program with the primary responsibility of issuing remote-sensing licenses. The act requires the Secretary of Commerce to consult with the Secretary of Defense on national security issues and with the Secretary of State on foreign policy matters before issuing licenses to private companies.¹⁸

In 1986, France’s SPOT Image became the first company to launch satellites capable of capturing 10-meter resolution images.¹⁹ This advancement meant that images as small as sports stadiums could be photographed clearly. It was through SPOT that international media first began to make significant use of remote sensing. In April 1986, news agencies around the world used SPOT and Landsat images of the Chernobyl nuclear disaster region to show television

¹⁴ Davis, p. 193.

¹⁵ Burdick, paragraph 9.

¹⁶ Aamoth, p. 6.

¹⁷ Seay III, George E. “Remote Sensing: The Media, the Military, and the National Security Establishment – a First Amendment Time Bomb.” *Journal of Air Law and Commerce*, Vol. 59, September/October 1993, p. 246.

¹⁸ Seay, p. 246.

¹⁹ Burdick, paragraph 10.

viewers out-of-control fires and spreading radiation in an area sealed off for a 100-mile radius.²⁰ With the images as evidence, world news organizations were able to question Russian claims about the severity of the accident.²¹ Over the next three years, remote sensing was used to expand U.S. media coverage on such stories as Russian and Iranian radar and missile sites, Iraqi poison gas facilities, Amazon rain forest deforestation, and chemical weapons plants in Libya.²²

In 1988, two Indian remote-sensing satellites and a Russian-owned one were launched to provide commercial images with five-meter resolution, which marked the first time objects such as buildings and other similar-sized structures could be identified through remote sensing.²³ It is interesting to note the Russian satellite, Soyuzkarta, is also capable of photographing images hundreds of feet below the ocean surface; however, the news media has not had much use for this technology as of yet.

In 1994, President Bill Clinton signed Presidential Decision Directive 23 (PDD-23) into law, affording American private companies the opportunity to launch satellites with one-meter capability, high-resolution sensors previously reserved for the government's intelligence community.²⁴ PDD-23 led to U.S. Commerce Department licenses being issued to several companies intent on launching satellites capable of one-meter resolution.²⁵ This was accomplished with the launch of Space Imaging's IKONOS satellite in September 1999, which remains the world's most capable commercial remote-sensing satellite with one-meter panchromatic resolution that can be colorized for better detail.²⁶ Nine U.S. remote-sensing

²⁰ Gipson, M. "A look at breaking news uncovered by satellites." *Technology*, 5 June 1989, p. 30.

²¹ Davis, p. 194.

²² Gipson, p. 30.

²³ Burdick, paragraph 12. Also Davis, p. 194.

²⁴ Graham, M. "High Resolution, Unresolved." *The Atlantic Monthly*. On-line. Internet, July 1996. Available from <http://www.theatlantic.com/issues/96jul/satellite/satellite.htm>.

²⁵ Burdick, paragraph 13.

²⁶ Biesecker, Calvin. "Orbimage to Acquire Competitor Space Imaging." *C4I News*. On-line. LexisNexis, 29 September 2005.

satellites have since been launched featuring similar functionality as that found in IKONOS, but no foreign, commercial, remote-sensing companies have such capabilities yet.²⁷

George W. Bush's National Security Presidential Directive on commercial remote sensing, completed April 23, 2003, replaced PDD-23. It sought to bolster the commercial imagery business by encouraging the government and intelligence community to fulfill their satellite imagery needs through U.S. commercial sources as much as possible. In response to it, the National Geospatial Intelligence Agency (NGA), the "agency of primary responsibility" for meeting foreign policy and national security imagery requirements, awarded contracts in 2003 and 2004 worth approximately \$1 billion to space imaging companies GeoEye and DigitalGlobe to develop the next generation of remote-sensing satellites.²⁸

In 40 short years, the remote-sensing industry has advanced light years from its humble beginnings in the post-Sputnik era. Photograph resolution has improved from a modest 80-meter image down to a robust half-meter image. The technology's utilities, from oceanography to farming to weather to newsgathering, are impressive. But perhaps most importantly, public access has evolved from the privileged few to the masses, allowing for most anyone, including news media reporting on U.S. military conflicts, to obtain crisp, clear satellite photography within 24 hours.

²⁷ "Remote Sensing Rivals Are Upbeat." *Satellite News*. On-line. LexisNexis, 23 February 2004.

²⁸ "Government, Industry Give Remote Sensing Policy Good Marks." *Inside the Air Force*. On-line. LexisNexis, 30 April 2004.

ISSUES AND ANALYSIS:

MEDIA USE OF COMMERCIAL SATELLITE IMAGERY DURING U.S. ARMED CONFLICTS

Picture Perfect

For the last 20 years, news media organizations have found many applications for satellite imagery. Both print and broadcast media have used the extraterrestrial digital photographs to supplement written or reported stories from areas the media were not permitted access. Recent uses include the reporting of environmental stories, where images are used to show the movements of hurricanes and the effects of earthquakes, volcanic eruptions and oil spills.

With a turnaround time of between 18 hours and five days, satellite imagery oftentimes does not fit into the plans of media organizations that produce immediate news; however, for giving legs to a timely story that is picture-poor or where images from the ground can't tell the whole story, satellite photographs are an ideal complement to their earthly camera counterparts.

Former ABC World News Tonight Senior Producer Dean Hovell said that many times satellite images are used to show places otherwise inaccessible to the news media, in particular war zones and hostile regions.²⁹ Examples include when ABC News used satellite images of the Osama Bin Laden terrorist camps in Pakistan in 1999 showing before and after photographs of cruise missile attacks, demonstrating to the viewing public how effective and accurate the strikes were. Satellite imagery was also used to locate and report on mass-grave sights in both Kosovo and Iraq.³⁰ Additionally, high-resolution images were used extensively to cover the story of the U.S. Navy surveillance aircraft that made an emergency landing at a Chinese airbase on Hainan

²⁹ Hovell, Dean. Telephone interview, 5 March 1999.

³⁰ Cerkez-Robinson, Aida. "Experts investigate news methods of using satellite images to locate mass graves." *Associated Press*. On-line. LexisNexis, 31 May 2005.

Island after colliding with a Chinese fighter jet in 2001. Those images showed the Navy aircraft parked on the runway of the restricted Chinese base.³¹ Hovell also said ABC has used satellite images to show North Korean missile sites and other military installations where foreign media members are not permitted.³²

The utility of satellite imagery to news organizations during wartime is obvious. Barbara Cochran, the president of the Radio-Television News Directors Association (RTNDA) summed it up, saying, “The use of remote-sensing imagery has become a routine and important part of newsgathering, facilitating more compelling coverage.”³³ Media members who cannot gain access to military operations can still provide some context to their stories if they can acquire imagery applicable to the topic. In recent years, journalists have used satellite photography to cover the siege of Fallujah and the possibility of weapons of mass destruction located at the Tuwaitha (Iraq) nuclear facility.³⁴ During Operation Iraqi Freedom, CBS News obtained and broadcast one-meter images of bombing raids in Baghdad within hours of it happening, according to CBS producer Dan Dubno.³⁵ “CBS used imagery to identify conflict areas, to elaborate on high-value assets like oil fields and dams, and to track troop movements. Literally hundreds of images were obtained and dozens were broadcast during the war,” Dubno said.³⁶ Likewise, the New York Times acquired high-resolution imagery to show the house in Mosul where Uday and Qusay Hussein were shot and killed by U.S. forces.³⁷

³¹ “Journalists Waiting For ‘Satellite Spoonfeed’.” *Space Daily*. On-line. LexisNexis, 7 December 2004.

³² Hovell.

³³ “RTNDA Protests Government Action Denying Media Access to Satellite Images.” On-line. Internet, 7 November 2001. Available from <http://www.rtna.org/news/2001/sat.html>.

³⁴ Jones, Morris. “On Show 24/7 From Orbit To The Desktop.” *Spacewar.com*. On-line. Internet, 24 February 28, 2005. Available from <http://www.spacewar.com/news/eo-05x.html>

³⁵ Dubno, Daniel. “Satellites Change How We See the Earth.” *CBSNews.com*. On-line. Internet, 3 June 1999. Available from <http://www.cbsnews.com/stories/1999/06/03/tech/digitaldan/>

³⁶ Lafleur, p. 33.

³⁷ Dubno, paragraph 8.

When news media organizations are willing to wait for the footage from space, satellite images often provide breathtaking evidence otherwise unavailable to the public, and the turnaround time is only getting shorter. One-meter resolution images can be available to the news media within 24 hours, as opposed to the 2- to 15-day waiting period of just five years ago, according to John Neer, SpaceImaging's chief operating officer and president.³⁸ Neer said that "for emerging current events, the availability of timely data, accurate information, and this high-resolution content data is really what the media will principally benefit from."³⁹ He said imaging companies even have the ability to retask satellites to cover a particular area of interest for more expediency of information, which proves useful to media organizations, and just as disconcerting to military officials, when it comes to covering a particularly hot story during an armed conflict.⁴⁰

Media representatives have particularly made extensive use of satellite imagery during wartime through the creation of three-dimensional computer presentations of geographic regions.⁴¹ Through this process, reconstructions are made with the aid of satellite images detailing the terrain. Using satellite images of the same area taken from many different angles, computer programmers are able to design a program that gives viewers a bird's eye view of the area. Already widely used in urban and emergency planning, 3-D reconstructions have been used in television news to show what low-level military flights over Baghdad, Qandahar, Sarajevo, Mogadishu and other hot spots look like from the pilot's perspective.⁴²

³⁸ Hernandez, Debra Gersh. "Eyes in the Sky." *Editor & Publisher Magazine*, 27 April 1996, p. 52.

³⁹ Hernandez, p. 52.

⁴⁰ Hernandez, p. 52.

⁴¹ "The Marketplace: Three Dimensional Imaging." *SpaceImaging*. On-line. Internet. Available from http://www.spaceimaging.com/home/overview/profile/si_profile.html.

⁴² Hovell Interview.

Reconstructions are made to assist in telling a story that cannot be captured through conventional photographs.

A Nice Complement

There is a scene in the 1992 Harrison Ford action movie “Patriot Games” where Central Intelligence Agency (CIA) analysts watch on a monitor inside CIA headquarters in Langley, Va., the nighttime takedown of a remote Libyan terrorist camp by American special operations forces via a live satellite feed. While that top-secret technology exists through government and military channels, the commercial industry does not have that ability. It is a tool media members only wish they had access to.

The belief that satellite imagery can revolutionize television news coverage during wartime, or any other time for that matter, does not seem realistic provided the fact that locating and identifying a major story through remote sensing is nearly impossible. Since imaging satellites are locked into a polar orbit and can only image a specific area every one to five days, the ability to capture a story as it happens is unlikely.⁴³ A commercial satellite cannot be flown over a prescribed area, hover and then capture pictures in real time. Rather, it records images of whatever is available at the time it is passing over that certain spot. Therefore, the odds of getting satellite imagery of a firefight or a military battle as it happens are infinitesimal.

The more feasible media impact is the satellite image’s ability to showcase a story that already exists. It can enhance the media’s ability to report on established events to which access has been denied, like it has during both Operations Iraqi Freedom and Enduring Freedom.

There are some news media representatives who think that exposing injustices and uprisings through satellite image will end conventional warfare. For instance, Mark Brender, GeoEye’s director of operations, believes that since news organizations will use satellite

⁴³ Burdick, paragraph 20.

imagery to spot preparations for attacks worldwide and send media in to expose it, nations will be hard-pressed to catch their opponents off-guard and may reconsider with the world watching their every move.⁴⁴ Hovell believes that if today's imaging satellite technology had been available in August 1990, the entire Persian Gulf War may have been prevented. He said:

I remember the night before the invasion of Kuwait, we [at ABC News] did a report that Iraq had moved 300,000 troops to the border. The next day, the invasion occurred. Had we had satellite imaging at that time...we could have anticipated the build-up and it would have given us time to move our troops into the area and maybe hold off the whole darn thing. It certainly would have made Iraq think twice about it.⁴⁵

Although there are clearly limitations to the extent the news media can rely on remote sensing, the increasing resolution of images is making those limitations smaller every year. Marcia De Sonne, director of technology assessment for the National Association of Broadcasters, said:

The technology over time is going to make this [satellite imaging] a lot easier. It's going to get a lot better and a lot less expensive. Once costs come down, it'll be more attractive to news organizations. News wants the images in six hours and, years from now, that could be feasible.⁴⁶

While the cost of a satellite image typically ranges from \$600 to \$3,000,⁴⁷ media organizations often pay little to nothing for images. Satellite firms are generally willing to supply the media with images at no cost, seeing it as a useful way of generating attention to their products.⁴⁸

⁴⁴ Powell III, C.A. "Satellite Imagery: The ethics of a new technology." *Journal of Mass Media Ethics*, Vol. 13, Spring 1998, p. 96.

⁴⁵ Hovell.

⁴⁶ De Sonne, Marcia. Telephone Interview, 16 March 1999.

⁴⁷ Keeley, James F. and Rob Huebert. *Commercial Satellite Imagery and United Nations Peacekeeping: A View From Above*. Burlington, Vermont: Ashgate, 2004, p. 52.

⁴⁸ "Journalists Waiting For 'Satellite Spoonfeed'." *Space Daily*. On-line. LexisNexis, 7 December 2004.

LEGAL AND REGULATORY ISSUES FACING THE MEDIA AND THE SATELLITE IMAGING INDUSTRY

Big Brother is Watching

Because of the ever-increasing capabilities of commercial imaging, the U.S. government has taken a more intense interest in the news media's use of satellite images. Some media members now worry over impending restrictions that might be issued in the near future.

As mentioned earlier, the satellite imaging industry falls under the jurisdiction of the U.S. Commerce Department. More specifically, the responsibility for regulating and issuing licenses falls to the National Oceanographic and Atmospheric Administration (NOAA).⁴⁹ In language included in 1984's Landsat Act, readopted in 1994's Presidential Decision Directive-23, reaffirmed in the 1998 Commercial Space Act signed, and reiterated in 2003's National Security Presidential Directive (NSPD), the NOAA has the right to deny the issuing of a license or halt satellite operations in collaboration with the Secretaries of State and Defense over foreign policy and nation security considerations.⁵⁰ Those agreeing to licenses must state in writing they will adhere to U.S. international obligations and national-security concerns. Violators face revocation of license, license retention but future system limitations, or civil penalties of up to \$10,000 per day for each violation. Furthermore, the NOAA has the right to seize any object, record or report deemed to be in violation of U.S. law.⁵¹

⁴⁹ Divis, D. "Shutter control rattles industry." On-line. Lexis-Nexus, 1 September 1998.

⁵⁰ Divis, paragraph 8.

⁵¹ "U.S. Commercial Remote Sensing Policy." *SpatialNews.com*. On-line. Internet, 13 May 2003. Available from <http://spatialnews.geocomm.com/dailynews/2003/may/13/news11.html>.

This right to impose shutter control – a broad latitude to turn off satellites when images might ‘compromise’ national security, international obligations and/or foreign policies⁵² – is seen as both a potential threat to the solvency of the U.S. satellite imaging industry as well as a concern to news media members, who fear government intercedence when using sensitive satellite images. The NSPD states the NOAA has 30 days to explain to the satellite imaging industry why it imposed shutter control.⁵³

Members of the news media agree that the government’s authority to impose restrictions on the use of satellite imagery is acceptable in the rare times that it does impact national security. However, they have also long argued that that authority should be no broader than the one used to stop the airing or publication of other sensitive information, and when it is exercised should be subjugated to the same judicial process.⁵⁴ Cochran, speaking for the RTNDA on behalf of many media organizations, acknowledged threats to national security that are “serious, direct and immediate” would justify discrete government action to not allow an image or images from being disseminated.⁵⁵

The debate between the national news media and the government on the restriction of commercial imagery has dragged on for 20 years. Still, shutter control has yet to be officially used, although other less drastic and regulatory methods have been instituted. During Operation Enduring Freedom, the U.S. government bought exclusive rights to the IKONOS satellite, acquiring all of its imagery over Afghanistan at a cost of \$2 million per month. Journalists, wanting to use images to give context to stories occurring in the restricted mountainous terrain,

⁵² Hitchens, Theresa. “Commercial Imagery: Benefits and Risks.” Lecture. Center for Defense Information, Washington, D.C., 24 February 2004.

⁵³ Divis, paragraph 15.

⁵⁴ Brender, paragraph 13.

⁵⁵ “RTNDA Protests Government Action Denying Media Access to Satellite Images.” On-line. Internet, 7 November 2001. Available from <http://www.rtna.org/news/2001/sat.html>.

referred to this move as “checkbook shutter control” and voiced their displeasure to the Commerce Department.⁵⁶ Yale journalism professor Ernest Miller concluded that this preclusive buying should “be understood as shutter control by means other than those enumerated in the current regulations.”⁵⁷ The U.S. government has also pressured foreign governments to restrict the sale of satellite imagery, most recently when President Bush convinced the French Defense Ministry to ban sales of SPOT images over Afghanistan in 2001.⁵⁸

Much of the shutter-control argument stems from the nonspecific wording in the law giving regulatory powers to the Commerce Department. The law states the State and Defense Department may impose shutter control when “national security or international obligations may be compromised.”⁵⁹ While neither the State nor Defense Departments has yet to shut down satellite coverage on anyone affiliated with commercial imaging, news media included, the foundation for a potential court battle has been laid.

Court Cases: United States vs. The Media

Since no U.S. cases involving satellite imaging have yet to be heard in court, American news media members have rallied around several previous Supreme Court decisions to make a point of their First Amendment rights against governmental prior restraint of satellite images. The First Amendment states Congress cannot make laws abridging the freedom of speech or of the press.⁶⁰ The amendment has been tested before the Supreme Court several times in cases that have defined the media’s limits to their rights to gather and disseminate information.

⁵⁶ LaFleur, p 33.

⁵⁷ Simpson, Christopher. “Press Access to Satellite Images is a Casualty in This War.” *Nieman Reports*, Winter 2001, p. 34.

⁵⁸ Hitchens, paragraph 71.

⁵⁹ “Satellite Image Rules Offered by Agencies: Commerce Department Recognizes Potential for Prior Restraint Against Media Use of Images for News Coverage, Claims it Will Be Sensitive to First Amendment Interests.” *The News Media and the Law*, Fall 1987, p. 16. Also Morton, paragraph 32.

⁶⁰ *U.S. Constitution, Amendment 1.*

The first case to test the U.S. government's right to prior restraint in regards to media occurred in 1931 in *Near vs. Minnesota*, which involved a Minnesota law that allowed for the prevention of publication of printed material that the state thought to be controversial.⁶¹ Chief Justice Charles Hughes wrote:

The protection even as to previous restraint is not absolutely unlimited. But the limitation has been recognized only in exceptional cases: When a nation is at war many things that might be said in time of peace are such a hindrance to its efforts that their utterance will not be endured so long as men fight and that no Court could regard them as unprotected by any unconstitutional right. No one would question that but a government might prevent actual obstruction to its recruiting service or the publication of the sailing dates of transports or the number and location of troops.⁶²

The ruling, which cited that publications should only be suppressed if they present an immediate clear and present danger, set the standard for the next major Supreme Court decision – *New York Times Co. vs. United States*. This famous 1971 “Pentagon Papers” case involved the U.S. government's attempt to prevent the publishing of a classified paper with details about the Vietnam War that was leaked to *The New York Times* and *The Washington Post*.⁶³ The Court ruled in favor of the media, stating the document was improperly classified and its publication had no impact on national security. Justice Hugo Black wrote, “The word ‘security’ is a broad, vague generality...and the guarding of military and diplomatic secrets at the expense of informed representative government provides no real security for our Republic.”⁶⁴ Much like the *Near vs. Minnesota* decision, Justice Potter Stewart concluded that, to authorize Executive Branch prior

⁶¹ *Near vs. Minnesota. Supreme Court Ruling, 283 U.S. 697, 1931.*

⁶² *Near vs. Minnesota. Supreme Court Ruling, 283 U.S. 716, 1931.*

⁶³ *New York Times Co. vs. United States. Supreme Court Ruling, 404 U.S. 713, 1971.*

⁶⁴ Burch, Elizabeth. “National Security and the Persian Gulf War on Television News.” *Communications and the Law*, Vol. 17, No. 4, p. 10, December 1995, p. 10.

restraint, publication must threaten “direct, immediate and irreparable damage to our Nation or its people.”⁶⁵

The government gained a victory against the media in 1979 through *United States vs. The Progressive, Inc.* In this case, the Supreme Court ruled that a Wisconsin magazine trying to publish information on how to construct a hydrogen bomb was a direct threat to national security.⁶⁶ Citing Justice Stewart’s “direct, immediate, and irreparable damage” quotient from the Pentagon Paper’s case, the Court ruled the government must have a right to exercise prior restraint over material that, if published, could damage national security.⁶⁷ Despite the court’s ruling on behalf of the government, it had little impact on the hydrogen-bomb story itself, since several other periodicals published the material without government interference.⁶⁸

More governmental power for prior restraint was gained in 1972 in *United States vs. Marchetti*, which brought to trial an ex-CIA employee who wanted to publish a book about his CIA experiences against the wishes of the government.⁶⁹ The U.S. Fourth Circuit Court of Appeals ruled the government has a right to stop communications where “disclosure may reasonably be thought to be inconsistent with the national interest.”⁷⁰ The ruling was especially significant because Chief Justice Clement Haynsworth’s wording in his decision was much looser and offered more leeway for the government to exercise prior restraint than previously offered in *Near vs. Minnesota* and *New York Times Co. vs. United States*. The use of the terms “may reasonably be” ideally gives the government much more latitude in deciding when to exercise prior restraint against the media and its use of satellite imagery. However, although it

⁶⁵ Burch, p. 10.

⁶⁶ *United States vs. Progressive*. 467 F. Supp. 990, 1979.

⁶⁷ *United States vs. Progressive*. 467 F. Supp. 999, 1979.

⁶⁸ Reimer, Rita. “News Gathering From Space: Land Remote-Sensing and the First Amendment.” *Federal Communications Journal*, Vol. 321, 1988, p. 40.

⁶⁹ *United States vs. Marchetti*. 466 F.2d 1309, 1972.

⁷⁰ *United States vs. Marchetti*. 466 F.2d 1315, 1972.

has been debated in the halls of Congress and discussed in many forums, prior restraint against the televising and publishing of remote-sensing imagery remains to be seen.

Testifying before the House of Representatives in July 1996, Brender, on behalf of the RTNDA, sought to change government restrictions regarding the use of satellite imagery, hanging on to the media's First Amendment rights. He cited that the Commerce, State and Defense Departments' ability to limit or seize control of satellites and images when national security may be compromised was vague.⁷¹ He said the "may be compromised" standard used did not meet the "clear and present danger" test of prior restraint the Supreme Court had established in *Near vs. Minnesota* and *New York Times Co. vs. United States*.⁷² Furthermore, he alluded to the fact that the NOAA's 30-day grace period to issue a statement to imaging companies regarding its enforcement of shutter control was unconstitutional since prior restraint can only be exercised after the government has obtained the proper judicial approval to take action.⁷³ In recent years, Cochran has issued the same RNTDA concerns to the House Armed Services Committee and Defense Secretary Donald Rumsfeld.⁷⁴

Despite the RTNDA's presentation and similar statements made by the American Society of Newspaper Editors, the Media Institute, the National Broadcasting Co., and the Reporters Committee for Freedom of the Press, the law still stands that the Commerce Department may enforce prior restraint of satellite images whenever national security of international obligations

⁷¹ Brender, paragraph 7.

⁷² Brender, paragraph 7.

⁷³ Brender, paragraph 8.

⁷⁴ "RTNDA Asks Congress to Strike Down FOIA Exemption for Satellite Imagery." On-line. Internet, 8 September 2004. Available from <http://www.rtna.org/news/2004/090804.shtml>.

may be threatened.⁷⁵ If shutter control is enforced, the odds of the news media taking the case to a federal judge are high.

⁷⁵ Hernandez, p. 52. The organizations released a collective statement in Spring 1996: “Current U.S. policy governing remote-sensing images creates the possibility of prior restraint of both the gathering and dissemination of news, because it grants the government shutter control over privately owned commercial remote-sensing systems without the requisite showing of a clear and present danger or a judicial determination that such censorship is justified.”

ETHICAL ISSUES FACING THE MEDIA

Prying Eyes

More than a hundred years ago, before airplanes or satellites or modern cameras even existed, people predicted we would one day live in a world where no place on earth was exempt from the public eye. In 1900, Ladies Home Journal editors wrote, “Flying machines will carry powerful telescopes that beam back to earth photographs as distinct and large as if taken from across the street.”⁷⁶ That lofty prediction has come true. The U.S. government’s concerns about commercial satellite imagery focus squarely on the infringement on national security or foreign policy, and news media representatives are generally quick to concur they want no part of exposing valid military operations.

The RTNDA’s Cochran wrote, “No news organization would risk the disgrace that would come from putting out information that costs the lives of American fighting men and women. No journalist worthy of the name would give away troop movements or strategic plans. Just as in previous military conflicts, journalists have already shown in this one [Enduring Freedom] that they will keep sensitive information secret until it can be safely disclosed.”⁷⁷

Similarly, Cable News Network (CNN) senior correspondent and anchor Judy Woodruff argues that, while media organizations eagerly use satellite imagery, none would do so if it meant compromising national security. She said, “I’m not aware of a news organization right now that wouldn’t bend over backwards not get in the way of operational, something in the works. If the Pentagon comes to CNN and says, ‘Wait a minute, if you show this, you’re putting

⁷⁶ Clarke, Patrick. “Commercial Satellite Imagery Matures as an Asset.” On-line. Internet, 10 January 2006. Available from http://www.military-geospatial-technology.com/print_article.cfm?DocID=461

⁷⁷ “RTNDA Protests Government Action Denying Media Access to Satellite Images.” On-line. Internet, 7 November 2001. Available from <http://www.rtna.org/news/2001/sat.html>.

the lives of our young men and women at risk,' we would back off. That's not what we're about. So that would be taken very seriously."⁷⁸

To the news media's credit, to date there has been no story using satellite imagery that has compromised national security and led to the exposing of operations. For example, even though media had the opportunity in 2003, there were no satellite photographs broadcast or printed showing Coalition troop movements through the Iraqi desert in the Coalition's push toward Baghdad during Iraqi Freedom. Part of the credit for that, however, can be attributed to reporters being embedded with many of the ground units driving toward the Iraqi capital, but the news media did show considerable restraint and good judgment in not showing images that may have compromised operational security.

While it remains a concern, news media and imaging industry self-policing and government determination have kept the careless release of sensitive, national-security information in check. Notable is the fact that, under the rules of their licensing from the U.S. government, imaging companies must wait 24 hours before releasing anything of a one-meter resolution or better, thus preventing the potential for media revelation of immediate operations.⁷⁹

Don't Always Believe What You See

A more pressing problem facing the news media is the misinterpretation of the information presented in a satellite image. There have been several instances where television news programs have misinformed their viewers through the use of satellite images. One classic error occurred following the 1986 Chernobyl nuclear reactor disaster, when one of the major networks interpreted the infrared image's display of vegetation as raging fires simply because the

⁷⁸ "The CNN Effect: How 24-Hour News Coverage Affects Government Decisions and Public Opinion." Lecture. The Brookings Institution, Washington, D.C., 23 January 2002.

⁷⁹ Lafleur, p. 33.

vegetation appeared as red on the photograph.⁸⁰ Another occurred when a British television news report aired a satellite image of a deadly 2003 North Korean train disaster when in fact the image was of a fire in Iraq taken a year earlier. Before discovering the mistake, the image was broadcast worldwide by numerous media organizations via television, newspaper and the Internet. While mistakes like these occur infrequently, the potential for misinforming the public exists nonetheless.

Commercial satellite vendors typically provide their own experts to assist consumers, including media, in correctly identifying what they're looking at, according to Hovell.⁸¹ Additionally, it is standard practice for major media outlets to back up their initial analysis with a second source, quite often from the Department of Defense.⁸² However, news media organizations that fail to acquire expert analyses before using digital images run the high risk of misinforming their publics. Researchers Morris Jones and Eric Loo found the media too often fail to access or train in-house interpreters to work with satellite imagery.⁸³ Likewise, John Pike, the director of Globalsecurity.org, thinks the media are unwilling to pay for external consultants to correctly interpret imagery and thus have very little quality control.⁸⁴

Brender said, "While the use of commercial imagery has increased, the capability of the media to interpret the imagery has not. Until the media seriously considers how to integrate

⁸⁰ Hernandez, p. 53.

⁸¹ Hovell Interview.

⁸² Hovell Interview.

⁸³ "Journalists Waiting For 'Satellite Spoonfeed'." *Space Daily*. On-line. LexisNexis, 7 December 2004.

⁸⁴ "Journalists Waiting For 'Satellite Spoonfeed'." *Space Daily*. On-line. LexisNexis, 7 December 2004.

commercial imagery into the news-gathering process, there will be tabloid-style imagery analysis and mistakes will be made.”⁸⁵

Misinformation and manipulation have been problems the news media have confronted from the beginnings of their existence. Whether the image or information came from outer space or from some stranger on the street, the prudent and responsible action is to confirm the information before reporting it. The media’s social responsibility theory to provide truthful, comprehensive and intelligent information holds just as true with satellite imagery as it does with any other form of photography.

What the Future Holds

The media’s use of satellite imagery only stands to become more pervasive in the years ahead. Government contracts let under the recent Nextview program will see the two U.S. satellite companies, GeoEye and Digitalglobe, build and launch spacecraft capable of imagery with a half-meter resolution or better.⁸⁶ That capability would allow an image to detect the make and model of an automobile or the outline of a human being. Currently, Digitalglobe is scheduled to launch its Worldview satellite in Fall 2006 and GeoEye should send its Orbview-5 craft into space in Spring 2007.⁸⁷ The sharper images these platforms will provide could easily make more media organizations take notice of this technology.

In summary, the news media, the commercial-satellite imaging industry, the government, and the military co-exist peacefully despite the nasty specter of conflict ahead. The news media has used remote-sensing photography to report on stories involving national security, in

⁸⁵ “It Was Bound to Happen...Wrong Satellite Images Depict North Korean Blast.” *Earth Observation Magazine*, June/July 2004.

⁸⁶ “Orbimage Boosts International Presence with Acquisition.” *Satellite News*. On-line. LexisNexis, 26 September 2004.

⁸⁷ “Commercial Imagery Industry Shakeout Expected Soon.” *Satellite News*. On-line. LexisNexis, 27 June 2005.

particular military conflict, but not in violation of U.S. law. Still, the threat of government-imposed shutter control exists because the U.S. government has the ability to do it and the media shows no signs of discontinuing the use of satellite imagery to complement news coverage. Therefore, the media must exercise good judgment to avoid misinterpretation and subsequent misinformation of commercial-satellite imagery, which would no doubt draw the ire and attention of government officials.

CONCLUSION

Satellite imagery is the latest in a century-long line of innovations utilized by the world's media. Previous inventions such as mass production, radio, television, the typewriter and the Internet have advanced the art of news telling, and imaging satellites are one more tool the media can use to bring stories to the public. While the news media has used satellite imagery to some effectiveness to report on wartime activities, remote-sensing technology has yet to be fully realized, in equal parts due to media indifference, technological limitations and government restrictions.

As the media finds more and more use for remote sensing during armed conflict, the U.S. government may well accept the idea of a media that can report on anything, anywhere. Right now, that is not the case, but the two entities are coexisting despite their differences in opinion regarding prior restraint and shutter control.

RECOMMENDATIONS

The potential increase in information flow through satellite imaging is still anticipated by the news media, especially with the next generation of imaging spacecraft due to launch in the 12 months. While some media members still think it will revolutionize the way news is reported, most others, including the author, feel it will remain a supplemental source to reporters and photographers on the ground, adding dramatic, contextual images to a story that already exists.

This research paper did not go into great detail regarding the capabilities of the foreign commercial-imaging satellite industry. While it lags significantly behind that of the United States, remote-sensing companies in China, India, France, Russia and other European nations are prolific and could potentially become peer competitors in the decades ahead. If so, that could spur concern about the news media circumventing U.S. commercial satellite-imaging companies and relying on foreign entities for unfettered access to the battlefield and other national-security issues.

Therefore, the government has a keen interest in keeping the U.S. commercial-imaging industry well ahead of its overseas competitors. This way the media will continue to rely on U.S. technology vice foreign companies and the government can continue to regulate the industry and the media's use of it effectively.

One final interest not covered in this research paper is the news media's interest in and potential use of unmanned aerial vehicles (UAV) for photography of denied-access areas, including war zones. The military already makes tremendous use of UAV technology over the battlefield and media organizations have expressed a desire to follow suit. What affect the

media' use of UAV technology would have on national security and foreign policy, along with what regulations would have to be adopted, would provide for an interesting future study.

It is exciting to envision satellites providing crystal-clear images of people, places and things from 400 miles above the earth; however, the prospect for violations of national security and instances of misinformation and manipulation exist right along with it. The news media will need to remain vigilant and continue to educate its members about how they reports news and what sources they use to report it. Only time will tell exactly how useful satellite imaging will become to the world's mass media.

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