

12-2004

Satellite imagery in media representation of global conflicts

M. Jones
mjones@uow.edu.au

Follow this and additional works at: <https://ro.uow.edu.au/apme>

Recommended Citation

Jones, M., Satellite imagery in media representation of global conflicts, *Asia Pacific Media Educator*, 15, 2004, 193-200.

Available at: <https://ro.uow.edu.au/apme/vol1/iss15/16>

Research Online is the open access institutional repository for the University of Wollongong. For further information contact the UOW Library: research-pubs@uow.edu.au

Satellite Imagery in Media Representation of Global Conflicts

Commentary:

Morris Jones

Abstract

Media organizations relied on commercial civilian “spy satellites” to survey the battlefields and movement of troops during the 2003 Iraq War. Satellite photographs were also used to report the impounding of an American surveillance aircraft on Hainan Island in China, the September 11 terrorist strike, the blackout in New York city, the Black Christmas bushfires in Australia, and the war in Afghanistan. The implications of the technology on accurate and fair reporting of international conflicts in countries inaccessible by journalists, such as North Korea, Iran, Russia and China, is thus worthy of critical examination. This preliminary research, geared for completion in mid-2005, aims to provide a framework for media educators and journalists to appreciate the ramifications of the technology on media accountability.

Eyes in the sky

When Iraqi militants staged an armed rebellion against US troops in the city of Najaf in 2004, television viewers had a prime view of the site (as shown below). The central mosque that had become a stronghold for the local resistance could be seen in a clear image, which then zoomed out to reveal its place at the centre of a labyrinthine urban landscape. This picture was not the product of local camera crews or even an aircraft flying overhead. It had been taken by a satellite 430 miles above the earth's surface.



The use of satellite imagery in newsgathering and news interpretation is a recent phenomenon, and one that has attracted relatively little attention from media educators, academics and most journalists. High-resolution satellite imagery only became available to civilians in 1999, when *Ikonos*, an Earth-observation satellite, was launched by the US commercial operator *Space Imaging* (www.spaceimaging.com) based in Colorado. Other companies, notably *Digital Globe* (www.digitalglobe.com) and *Orbimage* (www.orbimage.com) have since placed other satellites in orbit. These companies offer images of practically any part of our planet. Australia is one of the few nations most photographed by *Space Imaging's Ikonos* satellite.

The quality of satellite imagery is impressive. *Ikonos* can spot features on the ground as small as one metre in size, which corresponds to the pixel size of its camera. *Orbview* operates a satellite at the same resolution. *Digital Globe's QuickBird* satellite offers image resolutions as small as 61 cm and the introduction of 50 cm

resolution on upcoming satellites is anticipated. This allows satellites to show detail in objects such as buildings and vehicles, but not detect or identify people.

Satellite imagery offers several advantages as a newsgathering tool. It allows coverage of areas where it may be difficult, expensive or prohibited to deploy conventional news crews. Satellite photography has been used effectively to cover restricted areas such as suspected nuclear weapons plants in North Korea. It has been useful in areas of conflict, where deploying journalists has been considered too risky. In some cases, a satellite can reach a remote or otherwise inaccessible region before journalists can be physically transported to the site.

Even in cases where locations are easily accessed by journalists, satellite imagery can offer a unique overhead perspective. The site for the 2004 Athens Olympics was extensively photographed by satellite, and these images were used by the media to show the layout of buildings, the extent of construction, and in some cases, the lack of construction. Similar overhead views were used to dramatically reveal the smoking remains of the World Trade Centre following its destruction by terrorists in 2001.

Satellite imagery may be in its early stages as a newsgathering tool, but it has already demonstrated its value and its acceptance by major news organisations. In the future, its application is expected to rise. The need to understand the potential advantages and disadvantages of this new technology has prompted an ongoing research project at the University of Wollongong, Australia. Together with Eric Loo, editor of APME, we have interviewed satellite operators, journalists and satellite imagery analysts in New York, Washington and London about their impressions of satellite imagery. Although our preliminary research is still ongoing, we have already noted several trends in the use of satellite imagery in the news. This commentary reports on some of our preliminary findings.

The supply of satellite imagery to the media is relatively straightforward in most cases when it is used. Indeed, major satellite operators, such as *Space Imaging* with its operating office in Washington, work hard to ensure that journalists have easy access to many images. Satellite operators will generally provide images of newsworthy locations to the media at no cost, requiring only attribution for the source of the imagery with an on-screen or on-page credit. This generosity is carried out by commercial operators as a means of generating brand awareness for their companies. Vice President of *Space Imaging*, Mark Brender says, "In order to brand our technology, we provide imagery to the media at no cost, as long as we get a photo credit on the screen, with the image. Last year, we did US\$35 million in free advertising. When the media uses your product, it has more credibility than advertising. Four times as more credible ... we need to build an industry almost from scratch. We didn't sell our first image until 2000. (Before commercial operators appeared) nobody knew about this technology unless they had security clearances. This is all about building brand awareness that drives other people to use us" (Interview, 30 July 2004, Washington).

The commercial satellite operators recoup their costs through paying customers (principally the US government) and private groups such as land developers, mining firms and farmers. To this extent, major satellite operators do not generally wait passively for media requests. Managers within these firms will generally anticipate

media requests for images of newsworthy locations (such as a city devastated by a hurricane) and ensure that the satellite has captured such imagery. Email bulletins will be sent to mailing lists of news editors who have expressed interest in receiving satellite images. In some cases, archived images of specific locations that were taken before they became newsworthy will be retrieved.

Journalists can also request images of specific locations that could be of interest to them, and such requests are regularly honoured by satellite imagery providers. But the majority of usage appears to be driven by images that are actively released by the satellite companies themselves. This has led us to coin the phrase “satellite spoonfeed” as a model for the tasking and distribution of satellite imagery in the media. The imagery is generally “fed” to the media in a similar fashion to media releases.

The availability of vast digital archives of most major cities, towns and sites in the world produces expansive potential for a new form of photographic journalism. It has been common for media groups to publish “before and after” images of locations that have changed due to newsworthy events. These include buildings in the Gaza strip destroyed by Israeli forces, and a military base in Qatar that suddenly underwent a surge of new construction in the months leading up to the 2003 invasion of Iraq. A recent image of a location will be supplemented with an archived image that could be up to three years old. Some news organisations, such as *Washington Post* and *New York Times* send their reporters to the battle zone with global positioning system (GPS) receivers and satellite phones. They provide the home office with coordinates of where burned out villages are located. The graphics department in the news room, for instance, will then contact *Space Imaging* with the coordinates and requests imagery from the archives. The aerial perspective is a highly useful means of documenting large-scale change due to war, accidents or natural disasters. We have conceptualised the term “retrospective reporting” to classify this potent form of utilising satellite imagery for the “before and after” scenario.

Another example of this form of contextual reporting was demonstrated in a page one story in the *New York Times* on May 28, 2004. Images supplied by *Space Imaging* and *Digital Globe* were used to show the north-east region of Baghdad where an industrial park had been looted. Most of the buildings had been stripped down. A *New York Times* reporter was there on the ground to report the looting. However, the imagery provided the broader context and emphasis to the story. These images were splashed two-thirds across page 1 of the *New York Times*.

Satellite imagery can also be used as a tool to help ground-based reporters put their images and stories in context. In some cases, it helps them to physically navigate to sites of interest. We encountered stories of reporters in remote locations communicating with their editors on satellite telephones, who would have satellite images of the region being explored by the reporter. In some cases, editors could navigate their distant colleagues by giving verbal directions across the telephone, using the satellite image as a photographic map. The process is analogous to ground controllers communicating with astronauts in space across a radio link, and we are conceptualising the term “mission control journalism” to describe this process.

The power of satellite newsgathering has been effectively demonstrated by major news organisations, but it is not without its problems. We have discovered that the

interpretation of satellite imagery is a difficult process, particularly with regard to military infrastructure. Military and intelligence agencies, the principal users of satellite imagery, employ large numbers of specially trained analysts to examine the images they receive. Such skills are not widely available in the civilian realm, and few journalists seem equipped to properly examine complex subjects in satellite imageries.

The best-known imagery analyst who has worked with the mass media is John Pike, the director of *Globalsecurity.org*, a military and international security analysis group based in Washington. Pike is well-regarded by the media for his skills, and appeared extensively in US media reports before, during and after the 2003 Iraq war. However, media groups have generally been reluctant to pay analysts for their services. This serves as a major disincentive for analysts to work with the media, and at the time of study, this lack of revenue was threatening the viability of *Globalsecurity.org*'s future operations. A potential pool of retired military analysts could presumably be tapped by the media as on-screen talent, but as Pike explained, "I think they would like to get paid too."

Aside from economic constraints in news organisations, a cultural perception that paying analysts would be akin to "chequebook journalism", generally regarded as a disreputable practice, further hinders the likelihood of this happening.

The identification of large objects such as airports and cities requires no special skills, but evaluating other sites such as industrial plants requires more skills than most journalists can supply. In fact, interpretation can sometimes be difficult for professional analysts. Recent controversies over the failure of US forces to uncover Weapons of Mass Destruction in Iraq illustrate this point.

The technical aspects of collecting satellite imagery are also problematic for some news stories. Satellites travel in fixed orbits, passing over specific areas of the Earth at pre-determined times. It is essentially impossible to steer the satellites into different trajectories to improve their coverage of specific regions. It could take as long as three days for a given satellite to pass over a specific zone that required coverage. In order for a newsworthy location to be imaged, it must be identified and "tasked" by ground controllers as a place to be photographed. Time will pass while the satellite moves into position. More time will pass while the satellite flies over a ground station where the image can be transmitted back to Earth. The image must then be re-transmitted to a control centre, usually in a different location to the ground station, where it is processed and prepared for distribution. It must then be passed on to news editors, who must incorporate it into a media product. Several days could pass before this cycle of operations is completed. This delay is one reason why the media has relied heavily on archived imagery of news sites, which can be quickly retrieved from ground-based servers. By the time an image is collected from archives or orbit, the story may no longer be newsworthy.

The issue of "shutter control" is also potentially problematic. US law allows the US government to place restrictions on the collection and circulation of images of certain regions, specifically military bases. Thus, the potential for censorship of satellite imagery has always dogged the industry. In practice, shutter control has proven to be less of a restriction than some analysts had feared. Specific "shutter control" legislation has never been enacted, but the US government did buy up

exclusive rights to images of Afghanistan prior to the launch of US military strikes there in 2001. This was cynically labeled by some observers as “chequebook shutter control”, as it achieved the same results without the overt use of government veto power. But such restrictions were not introduced for the US-led invasion of Iraq in 2003. The cumbersome nature of overt “shutter control” provisions, coupled with the availability of satellite imagery from non-US companies operating outside the bounds of this legislation, means that censoring satellite imagery will be more difficult in the future.

The potential for the incorrect or fraudulent use of satellite imagery has already been demonstrated by the media. In 2003, the north-eastern region of the US was struck by a massive power blackout that crippled major cities such as New York. An image that supposedly depicted this blackout from space was circulated on the Internet. It revealed massive “dark spots” in an otherwise generally illuminated image of the US at night. This image was printed in at least one reputable news publications. However, it was fraudulent, produced by a prankster who doctored an archived weather satellite image.

Another example was a report of a mysterious train explosion in North Korea near the Chinese border in April 2004. Satellite images were used to observe events in this isolated region, but media sources around the world fell victim to what appears to have been another prank. An image of an explosion from the recent Iraq war was circulated and presented as a satellite image of the North Korean explosion. The potential for errors in utilising satellite imagery are similar to those expressed for digital imagery in general, where doctored images are routinely circulated.

Cultural factors also work against the adoption of satellite imagery in news. Despite the accessibility of images, our studies have revealed that their usage is almost totally dominated by major American news organisations. Outside of the US, usage of imagery is minimal, and so is awareness of its availability. Small to medium sized media organisations seem to avoid it altogether. When imagery does appear in non-US media sources, it mostly seems to be “spoonfed” to these groups through news wire services such as Associated Press. There is no active tasking or direct interaction with satellite companies. Usage in the Asia-Pacific region appears to be extremely minimal.

Satellite operators and news editors interviewed by us decried this situation. Editors openly criticised other news organisations for failing to adopt the technology, claiming that there were no real commercial or technical barriers for doing so. The failure of most news organisations to use satellite imagery was blamed on laziness and inertia. Simple ignorance of the availability of the imagery would seem to be the major factor that has held back its wider adoption.

Brender, who was an assignment editor with the *American Broadcasting Corporation* for 12 years, allocating reporters to stories, finds that he is still working in this role, but instead of sending out camera crews, he directs a satellite. “We [*Space Imaging*] would collect the images ourselves. I was a journalist, and so I will task the satellite in anticipation of requests. When they call, I’m already ahead of them. That’s for big news stories. I’m trying to stay ahead of the media. But sometimes you can’t anticipate requests for feature stories. But hard news can be anticipated.”

“Currently [July 30, 2004] we are photographing Madison Square Garden in New York. Why? Because the Republican National Convention will be held there. I know that two days before the convention, journalists will call. I will ask why they are calling so close to the event when this was predictable. But journalists don’t plan ahead for future stories, and don’t plan ahead for images. I will get a call on Christmas Eve for images of Bethlehem. I will get a call a day before the swearing in of a new President for an image of The Capitol. Nobody thinks ahead of how to use this technology and integrate it into planning early,” Brender said.

It is also noteworthy that most media organisations are presently fighting to remain viable, due to management reshuffles, commercial competition and tight economic conditions. Media groups that are preoccupied with day-to-day questions of survival are unlikely to dedicate much time to developing new sets of skills. Angela Frier, Head of Foreign News and International Relations at *ITV News* in London bluntly stated that increasing the use of satellites was far down her personal “wish list” for changes she wanted to implement in her work, despite the fact that her organisation had used imagery.

“We wouldn’t buy satellite images. We don’t have the resources for it. You need to ask yourself how useful it would be in a news broadcast. It’s probably only going to be used for five to ten seconds. You won’t be able to analyse it in great detail. It might make it interesting if we were able to analyse it,” Frier said.

“I don’t think it’s [satellite imagery] hit many peoples’ radar. It’s something that pops up occasionally, but satellite images are not seen as a “must have” for most stories ... The USA is much more into satellite images for weather, so audiences might expect it more.”

“To be honest, it’s way down the pecking order of things that I would want as a news practitioner. It’s a useful tool, but I would rather have moving pictures”, Frier said. Sometimes satellite images are useful for nuclear stories in locations that are inaccessible. However, Frier said imagery could not show events, action or small details. Thus, an analysis of an image can only go so far.

Currently, satellite imagery is mostly used to support stories dealing with conflict, natural disasters or environmental topics. This is partially due to the mechanics of satellite operations. They can be used safely to cover dangerous situations, and also provide broad views. But imagery could also be used to support more general areas of newsgathering, if such stories involve large-scale objects in outdoor locations. Hindu pilgrimages to the Ganges River, involving the convergence of large numbers of people, have been photographed by satellite.

An emerging trend, requiring a certain degree of analytical skills, is deductive journalism using satellite imagery. An extreme example of this has been practised in studying the Korean peninsula. At night, satellite images reveal South Korea awash with light, especially around major urban regions such as Seoul. The presence of so much light indicates the widespread availability of electricity, which implies an advanced level of industrial and economic development. But impoverished North Korea remains largely dark. The satellite image thus serves as a way of measuring industrial and economic prosperity.

A similar “lighting trick” was used to reveal the amount of activity on Manhattan Island in New York City. Conventional census records suggest that few people live in certain regions of Manhattan, but a “light survey” shows the area to be awash in activity and thus population. The implication derived is that people who do not classify Manhattan as their place of residence are populating the region through work and other activities.

The scenario so far

It is expected that only a small proportion of all news stories could be supported by satellite imagery, due to technical issues, such as the following:

1. Resolution
Physical objects must have a size and scale appropriate for a satellite image.
2. Visibility
Events must take place in a region that is visible from overhead, during daylight hours.
3. Time Scale
Events must be predictable in terms of time, or must take place over a time period of several days, to allow imagery to be tasked.
4. Communicability
The use of imagery must contribute to an appreciation or understanding of the story.

Stories that could not be assisted by satellite imagery

- Minor accidents or criminal activities
- Media conferences and institutional events such as government meetings
- Financial or corporate announcements
- Celebrity appearances
- Most forms of sporting events

Stories that are suited to satellite imagery

- Major natural disasters such as earthquakes or storms
- Wars
- Major displacements of people such as refugee camps
- Major terrorist activities such as the destruction of large buildings
- Major industrial accidents involving explosions
- Major protest gatherings or pilgrimages

MORRIS JONES, PhD, is a freelance space journalist. He is assisting Eric Loo (eloo@uow.edu.au) from the School of Journalism & Creative Writing, University of Wollongong in researching satellite imaging technology. The research is funded by a University Research Committee Small Grants scheme.

Email: morrisjones@hotmail.com