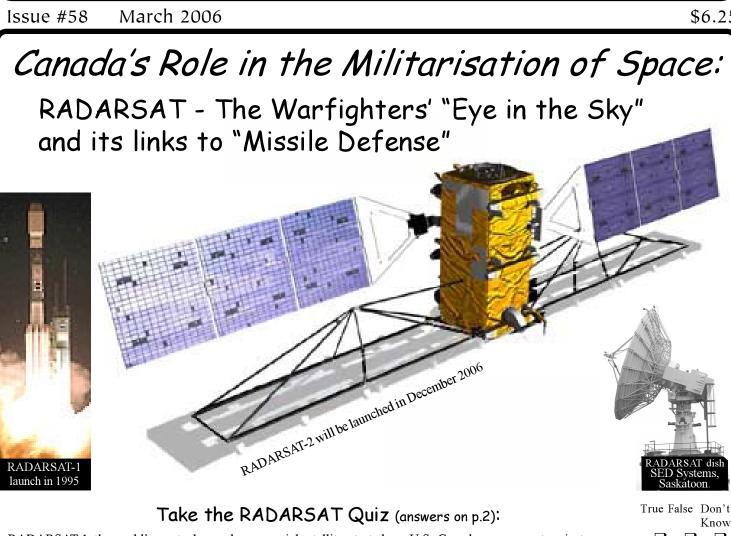


Issue #58 March 2006

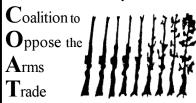


RADARSAT-1, the world's most advanced commercial satellite, started as a U.S.-Canada government project. Canadian taxpayers have paid about 85% of the estimated \$1.145-billion pricetag of RADARSAT-1 and -2. These satellites were privatised to MacDonald, Dettwiler & Assoc. (MDA), then owned by a U.S. "missile defense" firm. David Emerson, former Liberal Industry Minister and new Tory International Trade Minister, was an MDA director. Privatisation contracts and a secret annex to a Canada-U.S. treaty on RADARSAT-2 cannot be examined by MPs. Control of RADARSAT-1 data sales in the U.S. was originally licensed to Lockheed Martin, the world's top war industry. Global and U.S. sales were later sold to ORBIMAGE, another subsidiary of MDA's parent firm, Orbital Sciences. Among ORBIMAGE's top executives are retired U.S. Air Force officers who pushed "missile defense" efforts. In exchange for NASA's launch of RADARSAT-1, the U.S. government controls 15% of RADARSAT-1's operations. Among RADARSAT-1's top users are the U.S. Navy, Air Force, Army and various U.S. intelligence agencies. Portable U.S. military ground stations called "Eagle Vision" directly control RADARSAT operations and downlink its data. RADARSAT-1 images have been used in the US-led wars in Yugoslavia, Afghanistan and Iraq. NATO has used RADARSAT-2 target data to practise first strike attacks during Theater Missile Defense (TMD) war games. \Box

RADARSAT-3, will "the most advanced space-borne land information and mapping mission ever conceived."

Conversion!

Published by the



Acknowledgements

Research, Writing, Editing, Design:
Richard Sanders

Mailing issue #57: Nick Aplin, Hanna Clemann, Susan Fisher, Hedwig and William Henry, June and Johnny Johnson, Pat Johnston, Arthur and Richard Sanders.

Website: Richard Sanders **Union Liaison:** Mandy Rocks

Special thanks to the

Public Service Alliance Canada

for donating paper and photocopying!!

RADARSAT Quiz Answers

true, true.

Canada Post 40008371



Canada's Role in the Militarisation of Space: RADARSAT - The Warfighters' "Eye in the Sky" and its links to "Missile Defense"

Learning from two Commandments of war	3
Hiding RADARSAT: The Warfighters' Secret Weap	on
RADARSAT: From Spin to Secrecy	
Meet "the RADARSAT family of Satellites"	10
The Contracts that Privatised RADARSAT are Secret	11
Secret Military Eye in the Sky	11
Canada-U.S. Treaties: RADARSAT and Military Exports	12
The RADARSAT Law's Secret Annex	
RADARSAT's Role in Missile Defense and NAT	0
RADARSAT, Missile Defense and the Holy Grail	14
RADARSAT-2 to be Launched in December 2006.	
GMTI and Theater Missile Defense.	
From CAESAR to MAJIIC:	
How RADARSAT plugs Canada in to future NATO-led wars	19
Clean Hunter 2001: RADARSAT in a TMD War Game	24
TMD; Coming to a Theatre of War Near You?	24
Strong Resolve 2002: Commando Peacekeepers?	27
RADARSAT-1 & Strong Resolve 2002.	27
Privatising RADARSAT and Selling off its Date	a
The Growing Costs of RADARSAT-1 and -2	28
Meet MDA: RADARSAT given to branch of U.S. "missile defense" firm.	29
Selling Off the Rights to RADARSAT and its Data	
UK Military Agency "Top" Distributor in Europe, Africa & Middle East.	
U.S. Warfighters get their Hands on RADARSAT Data	
Meet Eagle Vision: U.S. Military Bridgehead to RADARSAT	
Some Canadian Military Uses of RADARSAT	
Meet the Staff at ORBIMAGE	
Meet David Emerson	
Meet Mark Garneau: Expert on Weapons, Space and PR	47
Meet the EMS Space and Technology Group	
The War in Iraq: Another Canadian "No-Means-Yes" Policy in Action	50
Meet "Defense" Minister Gordon O'Connor	

A Note on Sources

With the exception of few short items, this issue was researched and written by Richard Sanders, editor of *Press for Conversion!* The sources referenced in these original, previously-unpublished articles are all publicly-available and consist, almost entirely, of corporate and government documents.

When using these articles, please cite the author and *Press for Conversion!* (March 2006). Please also refer people to COAT's website http://coat.ncf.ca for more info.

Please Spread the Word

Most of this information about Canada's RADARSAT program—and its role in past, present and future wars—has been unknown to the anti-war movement, let alone to the general public.

Please use the material in Press for Conversion! to inform yourself and others, and to lobby and protest.

It is hoped that this information will eventually become common knowledge. That way, it may not be so easy for future governments to spend vast amounts of public funds on projects that are then given away to private corporations for use by warfighters.

Learning from Two Commandments of War: Know the Enemy and Take the High Ground

By Richard Sanders, coordinator, Coalition to Oppose the Arms Trade, and editor, *Press for Conversion!*

bout 2,500 years ago, a Chinese "defense analyst" named Sun Tzu wrote a treatise called *The Art of War*. In it he counselled rulers on a subject that anti-war activists have often said is an oxymoron, namely "military intelligence." Never-the-less his aphorisms are profound. For

"If you know the enemy and know yourself, you need not fear the result of a hundred battles. If you know yourself but not the enemy, for every victory gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle."

example:

Sun Tzu is still being quoted by today's war experts, like John Mahaffey of NATO's Consultation, Command and Control Agency. At a 2004 U.S. Department of Defense (DoD) conference, Mahaffey discussed the lessons learned during a war simulation exercise conducted by the Coalition Aerial Surveillance and Reconnaissance (CAESAR) project (in which warfighters from seven

countries prepared themselves for the day when they could use data from Canada's RADARSAT-2 satellite, see pp.19-27). Mahaffey began this technical paper with a Sun Tzu quotation:

"What enables the wise sovereign and the good general to strike and conquer, and achieve things beyond the reach of ordinary men, is foreknowledge."²

Sun Tzu was actually a latecomer to the field. A thousand years before Sun Tzu's birth, Egypt's Pharaoh Thutmose III created an army that "used agents and reconnaissance techniques to gather tactical intelligence. He was the first to formally recognize the five elements of intelligence, surveillance and reconnaissance: Observe, Locate, Process, Decide and Disseminate."³

We can be sure that even Thutmose III was not the first ruler to use intelligence agents, spies and scouts in wars. For however long humans have been killing each other—whether that is measured in the tens or hundreds of thousands of years—there

The Public Enemy

Over the millennia, the tactics and technologies used of to monitor enemy activities have changed greatly. What's more, the notion of who constitutes the enemy has also undergone considerable change. The extent of these changes is evident in a tsunami of a scandal that is now swirling around President Bush. He has been forced to



What is ISR? "Intelligence, Surveillance, and Reconnaissance are integrated capabilities to collect, process, exploit and disseminate accurate and timely information that provides the battlespace awareness necessary to successfully plan and conduct operations."

Air Force Doctrine Document 2, February 17, 2000.

have, no doubt, been those engaged in the important work of Intelligence, Surveillance and Reconnaissance (ISR).

Because it has always been perilous to underestimate the importance of collecting and disseminating information about ones enemy, the ability to gather and control data about the killing field, and especially about the enemy's movements and capabilities before and during battle, has been considered an indispensable activity. Indeed, the triple-edged sword of ISR has often made the difference between winning and losing military engagements, regardless of whether they are fought for offensive or defensive purposes.

acknowledge secretly authorising what the American Civil Liberties Union (ACLU) calls "warrantless electronic eavesdropping" on U.S. citizens. The ACLU has long been a kind of unofficial, people's intelligence organization turning the ISR spotlight back onto America's government. Through Freedom of Information requests for 150 clients in 20 states, it has obtained many government documents that

"reveal FBI monitoring and infiltration by the FBI and local law enforcement, targeting political, environmental, anti-war and faith-based groups [including] advocates for the environment, animal rights, labor, re-

March 2006 (Issue # 58) Press for Conversion!



ligion, Native American rights, fair trade, grassroots politics, peace, social justice, nuclear disarmament, human rights and civil liberties."⁴

Although such "domestic spying" in the U.S. is not new, a scandal erupted when the *New York Times* (*NYT*) revealed on December 16, 2005, that—beginning in 2002—Bush authorised the National Security Agency (NSA) to listen in on American's phone calls and emails without having to get a judge's permission.⁵ (The *NYT* then covered up this story for a year, due to a request from the government.⁶)

Another little *Times* article, on the history of NSA spying, said

"Created in 1952, the National Security Agency is the biggest American intelligence agency, with more than 30,000 employees at Fort Meade, MD., and listening posts around the world. Part of the Defense Department, it is the successor to the State Department's 'Black

Chamber' and American military eavesdropping and code-breaking operations that date to the early days of telegraph and telephone communications.

The NSA runs the eavesdropping hardware of the American intelligence system, operating a huge network of satellites and listening devices around the world. Traditionally, its mission has been to gather intelligence overseas on foreign enemies by breaking codes and tap-

ping into telephone and computer communications." (Emphasis added.)⁷

The NSA's newly-authorised and widely-broadened intelligence-gathering "mission" could not be conducted without its "huge network of satellites." How else could the NSA tap into the scary conversations of such disarmingly terrifying "enemies" of the state as animal lovers, tree huggers and peace-loving church ladies? To carry out its orders from on high, the NSA must do what military and intelligence agencies have done since enemies were first invented, they must control the highest possible ground.

So, what else is new?

U.S. police, military and intelligence agencies have been "targeting political, environmental, anti-war and faith-based groups" for decades.

What's new is the technology.

Controlling the High Ground

Space-based platforms, like spy satellites, are merely the latest example of an artificially-created military "high ground." For millennia, people have occupied and modified hilltops for strategic purposes. For example, in the third millennium BC, the Athenian acropolis was a neolithic hill fort.⁸ And, in countless other equally-ancient cultures, communities built defensive earthworks

around the crowns of high hills.

Returning to the martial wisdom of Sun Tzu, his *The Art of War* says:

"He who is skilled in attack flashes forth from the topmost heights of heaven.... It is a military axiom not to advance uphill against the enemy, nor to oppose him when he comes downhill.... All armies prefer high ground to low.... With regard to precipitous heights...you should occupy the raised and sunny spots, and there wait for him to come up. If the enemy has occupied them before you, do not follow him, but retreat and try to entice him away."

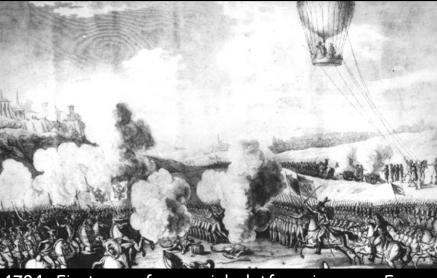
In more recent centuries, architects of the rich and famously violent have put tall castles and fortresses, often atop unscalable cliffs. By thus artificially extending natural "high grounds," powerful elites have used the laws of gravity to overcame ascending enemies with all manner of falling projectiles.

Equally important is that heightened elevation also provides the best surveillance capabilities. Military minds have always sought the advantage of having hidden and secure vantage points from whence enemy forces can be safely watched and assessed.

Always on the lookout for higher terrain to give them even more power over others, war geniuses were quick to exploit early airborne platforms. In 1782, France's Montgolfier brothers were the first to launch *montgolfière* (hot air balloons). A visiting U.S. scien-

Ballooning "may possibly give a new turn to human affairs. Convincing sovereigns of the folly of wars."

1783



1794: First use of an aerial platform in war - France defeated Austria in the Battle of Fleurus, thanks to a balloon conducting Intelligence, Surveillance and Reconnoissance.

tist, Benjamin Franklin, observed one of the first flights of a hydrogen balloon on December 1, 1783. Many military sources, like *Joint Force Quarterly*, say that this future President wrote home excitedly about using balloons

"for spying, dropping bombs, and ferrying invading armies across enemy-dominated seas." ¹⁰

However, in examining Franklin's letters one sees that his perspectives were not so supportive. In fact, he wrote from France on January 16, 1784, to say that ballooning might

"give a new turn to human affairs. Convincing sovereigns of the folly of wars may perhaps be one effect of it; since it will be impracticable for the most potent of them to guard his dominions. Five thousand balloons, capable of raising two men each, could not cost more than have ships of the line; and where is the prince who can afford so to cover his country with troops for its defence, as that ten thousand men descending from the clouds might not in many places do an infinite deal of mischief, before a force could...repel them?" (Emphasis added)11

Unfortunately, Franklin was dead wrong that balloons would convince "sovereigns of the folly of wars." (Just as Alfred Nobel erred in thinking that dynamite was "substance...of such terrible destruction that it would make war for ever impossible." Other such 'geniuses' even naively believed that nuclear weapons would do the same.)

Using balloons to gain a new

high ground also had the opposite effect. By 1794, the French used war balloons to get the upper hand. They were the first to use this technology in war when an army "ordinance officer" rose "above the battlefield...to conduct the first aerial surveillance. As a result of this and later missions, the French win the battle of Fleurus." ¹³

For a 100 years, "tethered balloons were developed...to provide useful artillery spotting lookouts." They were, for instance, used by "both the Union and Confederate armies... for reconnaissance during the American Civil War." 15

But, the rest isn't just hot-air history. One of the next great leaps forward came in the 1920s when Winston Churchill—who was then Britain's "colonial secretary presiding over the creation of Iraq, Trans-Jordan and Palestine"—called Iraq an "ungrateful volcano." 16 What were those "ungrateful" Iraqis grumbling about? It may have had something to do with lessons that Churchill and fellow colonialists were teaching the Iraqi people about the role of air power in forcing regime change. Britain's air force commander at that time was Arthur Harris. He was prone

"[to] boasting that his biplanes had taught Iraqis that 'within 45 minutes a full-sized village can be practically wiped out and a third of its inhabitants killed or wounded.""¹⁷

(Later, he became famous, as Arthur "Bomber" Harris, for his role in leading the highly controversial firebombing of whole German cities during WWII.)

Since that war, colonial powers have continued teaching similar lessons to the "developing" world. And, thanks to armies of "defence" planners, "defence" analysts, "defence" scientists and "defence" industries, many great advances have been made in the sphere of air power. These great strides forward in "defensive" weapons technologies have ensured that the civilising lessons of warplanes could be visited upon countless villages, towns and cities the world over. The resulting toll on innocent civilian lives since WWII can be measured in the millions.

Thanks largely to progress in ISR technologies, our government's abilities to teach subject nations about air superiority have reached lofty new heights. But, as any good "defence" expert can tell you; bombs and missiles aren't much good if warfighters don't know where to send them. One such expert, the aforementioned Sun Tzuquoting John Mahaffey, wrote in 2004 of the "Revolution in ISR information":

"Within the last 20 years there has been a marked increase in the number and type of ISR systems available to the commander.... These new capabilities may include ground radar surveillance using GMTI data and SAR imagery, [see pp.14-18] ... [and] electro-optical and infrared imagery, electronic intelligence and passive acoustic sensors.... Their data and information is often a critical component in the successful detection, identification and engagement of opposing forces." ¹⁸

Ultimate High Ground

The use of aircraft, and more recently uninhabited aerial vehicles (UAVs), as platforms on which to place such ISR sensors, represents an incredibly important breakthrough in modern warfare. However, in terms of gaining the highest ground possible, warplanes are obviously trumped by military "platforms" that float above the atmosphere.

As U.S. war planners have been clearly and emphatically saying, for all who care to pay heed, space is the "ultimate high ground" and they will continue to dominate it to fight their wars:

"Space for peaceful purposes - what a bunch of god-damned bullshit that was!"

General Bernard Schriever, "Father" of the U.S. Air Force's space and missile program.

"The highest priority should go to space research with a military application, but because national morale, and to some extent national prestige, could be affected by the results of peaceful space research, this should likewise be pushed."

Pres. General Dwight Eisenhower

'If, out in space, there is the ultimate position—from which total control of the earth may be exercised—then our national goal... must be to win and hold that position.'

President Lyndon B. Johnson

"Space is the fourth dimension of warfare.... Air and space power is the force of the future."

General Ronald R. Fogleman

"The ultimate high ground is space." "We're going to fight a war in space. We're going to fight from space and we're going to fight into space... We will engage terrestrial targets someday—ships, airplanes, land targets -from space. We will engage targets in space, from space."

General Joseph Ashy, then Commander-in-Chief, Space Command

"Space power will help overcome the widening gap between increasing military commitments and diminishing resources.... The globalization of the world economy will also continue, with a widening between 'haves' and 'have-nots.'.... Space power will be ... decisive in war, and preeminent in any form of conflict.... Global Engagement is the application of precision force from, to and through space."

Vision for 2020

"With regard to space dominance, "Military forces have always viewed the 'high ground' position as one of dominance. With rare exception, whoever owned the high ground owned the fight. Space is the ultimate high ground of U.S. military operations."

> we have it, we like it, and we're going to keep it Space is in the nation's economic interest."

Strategic Master Plan FY04 and Beyond,

U.S. Airforce Space Command.

Keith Hall, Pres. Clinton's Assistant Sec., Air Force for Space; Director, National Reconnaissance Office.

"Space is a medium requiring exploitation for military purposes. Space Control is the first order of business."

Major Kevin Kimble, Space Command

"Set our sights high, on that high frontier and be the space warfighters our nation needs today—and will need even more in the future."

"Space is...a requirement for conducting military operations."

"It is time to push up the 'space superiority throttle.'... "Warfighting CINCs [Commanders in Chief] recognize [Space-Based Lasers] SBL's inherent capability to support other DoD missions such as air defense, global surveillance, space control and target detection."

Air Force General Ralph E. Eberhart, Commander, Air Force Space Command, then commander-in-chief, **Space Command**

"[It is] possible to project power through and from space in response to events anywhere in the world... Having this capability would give the U.S....an extraordinary military advantage.... The U.S. Government should pursue relevant capabilities to ensure the President will have the option to deploy weapons in space." Report, [Rumsfeld] Commission to Assess U.S. National Security Space Management and Organization.

> "Weapons will go into space. It's a question of time."

Pete B. Teets, Undersecretary, Air Force.

"Effective use of spacebased resources provides a continual and global presence over key areas of the world...military forces have always viewed the 'high ground' position as one of dominance. With rare exception, whoever owned the high ground owned the fight. Space is the ultimate

high ground of U.S. military operations.... Today, control of this high ground means superiority.... Tomorrow, ownership may mean instant engagement anywhere in the world.... Planners should consider... the capability to deliver attacks from space.... Space Force Application, focuses on missions carried out by weapons systems operating from or through space for holding terrestrial targets at risk.... Space forces extend the reach, precision and intensity of U.S. military power and operations." Strategic Master Plan FY04 and Beyond, U.S. Airforce Space Com-

These are but a few of the many military statements cited in Press for Conversion!, #55, December 2004.19 They leave no doubt about the high goals which U.S. war institutions have set for themselves in space. U.S.-based anti-war organisations, like the Global Network Against Weapons and Nuclear Power in Space, have done an excellent job exposing the folly of spacebased warfare. Similarly, activists in Canada and elsewhere are understandably wont to point fingers at the bellicose ambitions that the U.S. militaryindustrial complex has for space.

The Enemy is Us

Canadian antiwar activists would however do well to heed the prophetic ramblings of the world's most famous fictional possum, Pogo, who first cried out from a 1970 "Earth Day" poster: "We have met the enemy and he is us."²⁰ (Pogo's creator, Walt Kelly, wrote of McCarthyism in *The Pogo Papers*

(1953) saying: "we shall meet the enemy, and not only may he be ours, he may be us."21)

It is appropriate that by standing back and observing the globe from a satellite's perspective, the false duality of 'us' and 'them' can be dissolved; not only the political borders between the U.S. and Canada, but the wide intracultural gulf between 'civil' and 'military.'

So, for Canadian antiwar activists, rather than pointing the finger at America's militarisation of space, we should take a closer look at our own country's leading role in the race towards corporate hegemony. Being America's closest friend and neighbour, and its biggest supplier of military equipment, Canada is more deeply integrated into the U.S. war machine than any other nation.

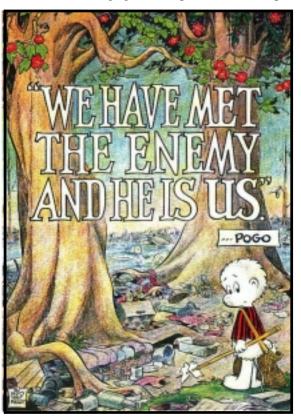
Canadian officials are 'at the table' as partners in the world's strongest military pacts; NATO and NORAD. There are

hundreds of bilateral Memoranda of Understanding to bind the armed forces and corporations of North America. Canadian warfighters often join U.S. wargames and strive with them to make our militaries even more interoperable. Our forces fight side by side in aggressive wars to overthrow regimes that our corporate/political masters don't like and to maintain other regimes that benefit the unjust global status quo.

The list of examples of Canadian complicity in U.S. empire building is extensive. Suffice it to say that Canada is not the innocent bystander that so many naively imagine. Therefore, before throwing metaphorical stones at the big glass house that borders us, we would be wise to look carefully into those panes not only to investigate what lies inside the belly of the beast

but, more importantly, to see our own shady reflection therein. Although it is relatively easy to rhetorically break our ally's huge windows, Canadian anti-war activists should take on the harder task of shattering national illusions about Canada's mythic peaceloving status.

For example, Canada is part and parcel of the longstanding U.S. effort to use the high ground of space to domi-



Earth Day poster by Walt Kelly (1970)

nate future wars here on earth. And, contrary to popular misconception, Canada is also playing major roles in the both the "missile defense" weapons program, and the war in Iraq.

The job of understanding and publicising the contradiction between Canada's illustrious peace image, and our actual complicity in preparing for and engaging in war, should be a central task of Canada's peace movement.

In this self-reflexive spirit, this issue of *Press for Conversion!* examines Canada's participation in the militarisation of space, by focusing on a major contribution called RADAR-SAT; a billion-dollar publicly-funded satellite system that the Liberal government proudly privatised. After many years in the works, this satellite's next generation, RADARSAT-2, is sched-

uled for blastoff in December 2006. When launched into public consciousness, news of RADARSAT-2 will likely be whitewashed with one-sided stories about its wondrous contributions to protecting ecosystems and humanity.

Whether Canadians learn the more complex truth—that RADARSAT has a dark military side—will largely be up to Canadian anti-war activists. The

material herein only begins to scratch the surface of a mound of data about RADARSAT and how it will continue to be used by warfighters. Hopefully, antiwar activists will use the information in this exposé of Canada's role in space warfare, in campaigns of public education and political action.

Facing Reality

Not that we can actually stop warfighters from claiming their prize. Militarists will have ready access to RADARSAT-2 data, just as they have used countless images from RADARSAT-1 since its launch in 1995.

We must face this harsh reality with the sad understanding that this has long been the way of our world. For many thousands of years, military institutions, their weapons and intelligence-gathering techniques and technologies have been used to change the political and

economic landscape of our planet. Armed men, engaged at the front end of the business of war, have been moved about like pawns to serve the interests of those elements in society with the most economic clout.

However, on the bright side, we can also take heart that for however long *some* of our brethren have greedily organised widespread destruction, murder, slaughter and warfare, *others have been trying to stop them*. And, for those of us now struggling to continue this age-old tradition of exposing and opposing the forces of war, we would do well to also try to keep on top of the mountainous task of monitoring the platforms and movements of our adversaries. For just as they are surely watching us, we too must do our best monitor and understand them.

Planetary Panopticon

In 1999, a *Village Voice* article on the privatisation of satellites—which concludes by referring to Canada's RA-DARSAT—begins by saying:

"As the new millennium dawns, the omniscient eye fixes its gaze towards Earth. The eye, as in Foucault's treatment of the Panopticon, holds power

over us: watched without seeing our watcher, we internalize rules, assuming our actions will constantly be seen. But is anyone watching the watcher?"²²

The author here refers to the Panopticon, or "inspection house," which was devised by philosopher and "social reformer," Jeremy Bentham. His design was described in letters in 1787 (between the time that of the Montgolfier's first flight and the military use of their balloons). Panopticon is a Greek neologism meaning 'allseeing place.' Bentham's plan was envisioned primarily as a solution to prison design but he also promoted it in much broader terms as a whole

"new principle of construction applicable to any sort of establishment in which persons of any description are to be kept under inspection; and in particular to penitentiary-houses, prisons, houses of industry, work-houses, poor-houses, lazarettos [ships or buildings used to quarantine people with contagious diseases], manufactories [factories], hospitals, madhouses and schools."²³

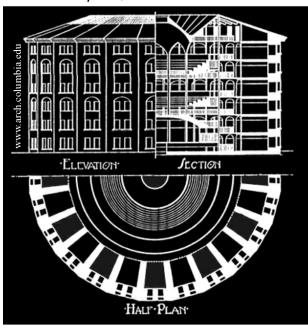
Bentham, who also developed "a plan of management adapted to the [Panopticon] principle," wanted inmates to be under constant surveillance by an inspector

"who was a kind of secular version of the allseeing god's-eye. But while the inmate is seen by the inspector, he himself cannot see."25

The French philosopher and historian, Michel Foucault (1926-1984), critiqued Bentham's Panopticism and raised concerns that whole societies are increasingly coming under the watchful gaze of centralised bodies of governing overseers. He described how modern states monitor and control the behaviour of their members by using complex systems of power and knowledge. Foucault discussed these two systems as an interconnected whole that he hyphenated into one concept that he called "power-knowledge." ²⁶

The Panopticon (1787)

In the "inspection house," an everwatchful central authority watches over everyone, but can never be seen.



Jeremy Bentham said his "new principle of construction [was] applicable to any sort of establishment in which persons of any description are to be kept under inspection;...penitentiary-houses, prisons, houses of industry, work-houses, poorhouses, lazarettos [to quarantine the contagious], manufactories [factories], hospitals, mad-houses and schools."

Foucault saw the "carceral state," stemming from Bentham's Panopticism, as a precursor to the totalitarianism of a "police state." In this prison-like society, central governing authorities demand the right to know everything about their citizenry, but keep secret all data about themselves.²⁷

With increasing ease one can recognise the accuracy of Foucault's dystopian vision of the modern security state, especially in the reality of the post-9-11 world. Authoritarian laws like the Patriot Act—which drastically erode basic civil liberties while enhancing state powers to spy on, and exert influence over, their citizenry—have spread like a contagion through numerous countries, including Canada.

In our closely-monitored world, replete with cameras and other sensor devices, the ultimate Big Brother-style

technologies for overseeing the earth's 6.5 billion inhabitants, are aboard satellites that occupy the military high ground above the earth.

Watching the Watchers

ISR is of central importance to warfighters. Likewise, its value should also recognised by those using peaceful means to "fight" against war. Not that the anti-war movement should even dream of using military technologies, like the highlyexpensive ISR sensors that clutter the collective heavens above us. The anti-war movement would benefit from paying more heed to conducting our own intelligence, surveillance and reconnaissance activities. Our ISR must, out of preference and practical necessity, be of a more grassroots, down-to-earth nature.

One of the world's most famous advocates of nonviolence—who is said to have trod the sands of the Middle East about two thousand years ago—is reputed to have said: "Love your enemy." This man apparently refused all pleas to take up arms against the oppressive colonial regime under

which his people lived. Neither would he allow his friends and followers to exercise their 'right' to carry swords. However, he is reputed to have gone further to say that even if struck in the face he would not raise an arm in defence but would, instead, offer the other cheek.

For centuries, the powerful words associated with this ultrapacifist have been quoted by anti-war activists.

However, in glaringly perverse examples of cultural misappropriation, Christian parables and symbols are routinely exploited to support institutions of colonialism and war like those that tried, tortured and executed this religion's founder.

Ironically, though peace activists strive for the day when society will "study war no more," heeding the call to love ones enemy may actually require the studious understanding of military culture. Activists may even benefit from appropriating certain pearls of

wisdom from ancient military traditions. For example, although peace activists take the moral "high ground" by rejecting any idea of using violence, there may actually be something for us to learn from studying the philosophies of such profound warriors as Sun Tzu.

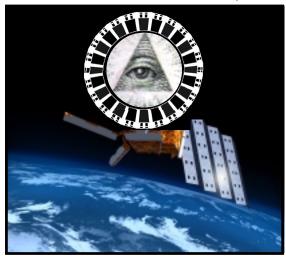
To start with, we need to keep closer tabs on what the world's militarists are doing with the data from our commercial satellites-like RADAR-

SAT—and other ISR technologies that our taxes have been conscripted to pay for. In particular, we would do well to at least monitor how military forces and our political overseers are using those 'eyes in the sky' to train their deadly sights on us.

References

- 1. Sun Tzu, The Art of War, (Trans. by Lionel James, 1910.) chap. 3, axiom 18. www.chinapage.com/ sunzi-e.html
- 2. John Mahaffey, "Observations on the Tasking and Allocation of ISR Systems in a Coalition Environment," 2004 Command and Control Research and Technology Symposium, Command and Control Research Program, U.S. Department of Defense. www.dodccrp.org/events/2004/ CCRTS_San_Diego/CD/papers/ 080.pdf
- 3. Editorial, "Pharaoh Thutmose III was the first to develop Intelligence, Sur-

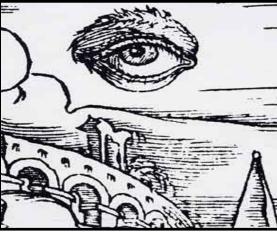
In our closely-monitored world, Big Brother-style ISR sensors, aboard satellites occupying the military's ultimate high ground, turn the entire world into a Panopticon.



veillance and Reconnaissance," Defender (Published by the Raytheon Co.) www.raytheon.com/missions/stellent/ groups/public/documents/legacy site/ cms01_045987.pdf

- The Government is Spying on us www.aclu.org/spyfiles/
- James Risen and Eric Lichtblau, "Bush Lets U.S. Spy on Callers Without Courts," New York Times, Dec. 16,

www.commondreams.org/headlines05/ 1216-01.htm



Who will Watch the Watchers?

- 6. Paul Farhi, "At the Times, a Scoop Deferred," Washington Post, Dec. 17, 2005. www.washingtonpost.com/wp-dyn/ content/article/2005/12/16/ AR2005121601716.html
- 7. "A Half-Century of Surveillance," New York Times, December 16, 2005. fairuse.laccesshost.com/news2/ nyt150.html
- History of Athens en.wikipedia.org/wiki/History

- of Athens
- 9. Sun Tzu, chapter 4: axiom 9, 7:33, 10:10 and 9:11, op.cit. www.chinapage.com/sunzi-e.html
- 10. Lance Lord, "Forging space warriors," Joint Force Quarterly, Winter, 2002. www.findarticles.com/p/articles/ mi m0KNN/is 33/ai n6082822
- 11. Modern History Sourcebook: Benjamin Franklin: Experiments with Balloons.
 - www.fordham.edu/halsall/mod/franklinscience.html
- 12. 1794, Science and Technology www.answers.com/topic/1794
- 13. Michael Bywater, "Master minds," New Statesman, November 28, 2005. www.newstatesman.com/nssubsfilter. php3?newTemplate=NSArticle Ideas &newDisplayURN=200511280027
- 14. Sir Timothy Garden, "Air Power: Theory and Practice," Naval Postgraduate School Conf.: Strategy in the Contemporary World, Monterey, CA. Sept. 19-21, 2000.
 - www.tgarden.demon.co.uk/writings/articles/2000/000920monterey.html
- 15. Balloons in the American Civil War www.centennialofflight.gov/essay/ Lighter than air/Civil War balloons/
- 16. John Kifner, "Britain Tried First. Iraq Was No Picnic Then," New York Times, July 20, 2003. www.globalpolicy.org/security/issues/ iraq/history/2003/0720britain.htm
- 17. Kifner, op. cit.
- 18. Mahaffey, op. cit.
- 19. Press for Conversion!, #55, Dec. 2004. coat.ncf.ca/our magazine/links/55/
- 20. We Have Met The Enemy and He Is Us www.igopogo.com/we have met.htm
- 21. Ibid.
- 22. Carla Spartos, "Private Eyes: Forget the Government-You Could Be Big Brother," Village Voice, May 19-25, 1999.
 - www.villagevoice.com/news/ 9920, spartos, 5863, 8.html
- 23. Jeremy Bentham, The Panopticon Writings. (Editor, Miran Bozovic, 1995) cartome.org/panopticon2.htm
- 25. Deborah Natsios and John Young, "Reversing the Panopticon," USENIX Security Symposium, Washington, DC, August 16, 2001. www.cartome.org/reverse-panopticon.
- 26. Michel Foucault, Discipline & Punish: The Birth of the Prison, 1995 (translated by Alan Sheridan in 1977) cartome.org/foucault.htm
- 27. Carceral State en.wikipedia.org/wiki/Carceral state

RADARSAT: From Spin to Secrecy

s RADARSAT-1 spins by, much about it is hidden from public scrutiny. Although spies and warfighters are probably its largest users, they often go unmentioned in spin doctors' glowing accounts. For example, a Canadian Space Agency puff piece by Marc Garneau presents RADARSAT-1 as a completely virtuous defender of humanity and global ecosystems, but neglects any mention of its use in war. As he says, from:

"protecting our Arctic seas to monitoring potential oil spills in Brazil's delicate ecosystem, RADARSAT-1 has been benefiting people from all walks of life, across Canada and the world."1

Knowing that RADARSAT's valuable role in war would not be viewed favourably by Canadians, who naively see their nation as a global defender of peace and human rights, Garneau, the former military weapons specialist (see p.47), excluded the fact that RADARSAT has provided vast amounts of data for intelligence, surveillance and reconnaissance tasks during recent U.S. wars. (See pp.33-38.)

When pressed, RADARSAT International president John Hornsby said 35% of RADARSAT data was sold to the military. This may not include that 15% of RADARSAT-1's time given to the U.S. government, in lieu of NASA's launch services.3

When RADARSAT's military uses are mentioned, the discussion is crafted to "spin" the view that RADAR-SAT is enlisted to "defend" democracy. Canadian values and national security. Couching it in such terms is typical of corporate media that consistently refer to profit-seeking arms makers as "defence" companies.

RADARSAT is, in fact, a major Canadian contribution to U.S.-led wars that have killed tens of thousands of innocent civilians in order to defend

References

- 1. Marc Garneau, "Canada's Eye in the Sky - RADARSAT-1's Triumph," CSA Communique, June 12, 2002. www.ccmc.nf.ca/diffusion/issues/ 2002/issue 13,19.htm
- 2. Standing Committee, Foreign Affairs

large corporations, particularly those with interests in strategic Middle East and Central Asian energy resources.

- and International Trade, Feb. 3, 2005 www.parl.gc.ca/committee/Commit teePublication.aspx?SourceId=125106
- 3. NASA Media Release, "RADARSAT Launch Aboard Delta II Rocket Set Nov. 3," October 27, 1995.
 - www-pao.ksc.nasa.gov/kscpao/ release/1995/107-95.htm

Meet "the RADARSAT family of Satellites" RADARSAT-2 RADARSAT-1 RADARSAT-3

That does NASA say about RADARSAT-1?

"RADARSAT is a cooperative venture between NASA and Canada. This sophisticated remote sensing satellite carries a Synthetic Aperture Radar (SAR), a powerful microwave instrument that

can transmit and receive signals to see through clouds and darkness, obtaining detailed images of the Earth.

"The world's most advanced SAR [synthetic (SAR) imagery to aperture radar] satellite."

The RADARSAT program exemplifies how domestic and international partnerships benefit the world. Industry, government and the scientific community in the U.S., Canada and abroad have contributed funding, expertise and human resources to build, launch, operate and commercialize RA-DARSAT, the world's most advanced SAR satellite."

Source: RADARSAT, National Aeronautics and Space Administration (NASA) <www.earth.nasa.gov/history/radarsat>

s for RADARSAT-2, its prime contractor, MacDonald, Dettwiler and Associates (MDA), says:

"Canada's RADARSAT-2 Earth-observation (EO) satellite program incorporates state-of-the-art technology and the most advanced commercially-avail-

able EO Synthetic Aperture Radar provide around the world

with an enhanced range of high-quality Earth information products."

Source: More About RADARSAT-2 www.radarsat2.info/rs2_satellite/ overview.asp

Ultra-Fine Resolution

RADARSAT-2's three-metre "ultra-fine resolution" will be the "highest-resolution SAR commercially available."

Source: RADARSAT-2 Data products www.space.gc.ca/asc/eng/satellites/ radarsat2/inf data.asp

RADARSAT-3 will be even more military-oriented than -1 and -2. The Department of National Defence (DND) which plans to be a "full partner in RADARSAT 3," said "Defence surveillance activities is ranked as the No.1 application for RADARSAT 3."1

The Canadian Space Agency (CSA) contracted MacDonald, Dettwiler to study a "tandem mission" for RADARSAT-2 and -3 to capture "the first...complete 3-D elevation mapping of the entire planet."2 It is "the most advanced space-borne land information and mapping mission ever conceived."3

References

- 1. David Pugliese, "Secret military eye in the sky," Ottawa Citizen, Mar. 15, 2000.
- 2. MDA media release, "CSA Awards MDA Contracts," June 20, 2001. www.mdacorporation.com
- 3. MDA media release, "Radarsat-2/3 Tandem Mission Feasibility Study Extended," February 14, 2002. www.mdacorporation.com

The Contracts that Privatised RADARSAT are Secret

In the House of Commons and in Parliamentary committees, MPs from the New Democratic Party (NDP) and the Bloc Québécois (BQ) have repeatedly raised concerns that the government's privatisation of RADARSAT might lead to military uses of its data that would go against the wishes of its main funders, the Canadian public.

In the Standing Committee on Foreign Affairs and International Trade in March 2004, Francine Lalonde, the BQ's foreign affairs critic, tried to add an amendment to the government's Remote Sensing Space Systems Act (Bill C-25) to make it

"impossible for RADARSAT-2 to change hands and come under foreign ownership, given that the technology was largely developed at the space agency and that Quebec and Canadian citizens have invested a great deal of money in this satellite."

Lalonde's motion was defeated by the Liberals and Conservatives on the committee. She then tried another motion to allow committee members to at least see the contracts used by the Canadian Space Agency to hand over RADARSAT-2's ownership to MacDonald, Dettwiler and Assoc. (MDA).

The committee's Liberal chairperson, Dan McTeague, the Parliamentary Secretary to the Minister of Foreign Affairs, accused Lalonde of using delaying tactics to stall the bill. He then called Bruce Mann, the Senior Counsel for the Justice Legal Services Division of the Department of Foreign Affairs and International Trade (DFAIT) to explain why releasing the contracts "would not be in the public interest."²

Mann told the MPs that the government could not let them even see the contracts, let alone copy or make them public. He said that the government's chief responsibility was to protect MDA's corporate interests. Apparently, if MPs were allowed to view the contracts it could lead to "material or financial loss" for MDA, or negatively "affect their competitive position."

DFAIT's legal bureaucrat did not explain why the government had deliberately engineered the "material and financial loss" of \$100s of millions in taxpayers' dollars by handing over ownership of RADARSAT-2 to MDA.

The NDP's Alexa McDonough (MP, Halifax, NS), said that she found

DFAIT's legalistic explanations to be

"simply further reminders of how wrong-headed it is for RADARSAT not to be retained in the public domain in the first place. It seems as though we're being asked to endorse a black box here and told that we can't know what the contract contains because it could financially harm the private interests into whose hands we've passed this after a massive public investment."

When committee members voted on Lalonde's motion to allow themselves to see the contract, all seven Liberal and Conservative MPs voted no. So, try as they might, the three BQ and NDP MPs were outvoted in their efforts to view the secret agreements that had given away Canada's expensive, publicly-funded RADARSAT-2.

References

- 1. Evidence, Francine Lalonde, Standing Committee on Foreign Affairs and International Trade (SCFAIT), Mar. 24, 2005. www.parl.gc.ca/committee/Committee Publication.aspx?SourceId=108300
- 2. Evidence, Dan McTeague, op.cit.
- 3. Evidence, Mac Mann, op.cit.
- 4. Evidence, Alexa McDonough, op.cit.

Canada-U.S. Treaties: RADARSAT and Military Exports

rom the start, RADARSAT was a Canada-U.S. government project. Terms of the RADARSAT treaty, proposed by the U.S. on November 12, 1991, and accepted that day by Canada's Ambassador to the U.S., Derek Burney, are spelled out in a Memorandum of Understanding (MOU) dated February 27, 1991.

The RADARSAT deal made no mention of any military applications but left the door wide open for such uses: "Use of SAR [Synthetic Aperture



Lloyd Axworthy and Madeleine Albright

Radar] data for internal governmental use...is the choice and privilege of the Parties [Canada and U.S.]."² Their intent to privatise data sales made military access a simple business deal:

"An international company...will be given the exclusive right to distribute SAR data to all Third Parties. [It] will be composed of Canadian and U.S. private sector entities."

On June 16, 2000, then-Foreign Affairs Minister Lloyd Axworthy and the-U.S. Secretary of State Madeleine Albright, signed a treaty on RADAR-SAT-2. Canada's "defence" minister, Art Eggleton, said it was "another significant achievement in addressing our mutual security needs." A Canada-U.S. statement said the treaty would foster

"private uses of commercial remote sensing satellite systems, while protecting common national security and foreign policy interests."⁵

JAG and "Missile Defense"

A document from the Office of Canada's Judge Advocate General (JAG) seems to link this RADARSAT treaty with "missile defense." (The JAG is the "legal advisor to the Governor General, the [Defence] Minister, the De-

partment [of National Defence] and the Canadian Forces."6)

JAG's 1999-2000 "Performance Report," lists six "areas of ongoing involvement in international legal fora." One of these six "areas" is listed as:

"Advice and counsel concerning Ballistic Missile Defence, drafting a Canada/U.S. agreement concerning RADARSAT-2 involving negotiations with OGDs [Other Government Departments]...and the U.S.."⁷

(The OGDs involved included Foreign

Affairs and International Trade, Justice, the Canadian Space Agency and the Canadian Security Intelligence Service.)

Military Production

June 16, 2000, was a busy day for Canada-U.S. military relations. Not only was NORAD's treaty renewed,⁸ Axworthy and Albright signed treaties on RADARSAT-2 and military production.

In 1999, the U.S. State Department, saying Canada was too lax in its control of military exports, punished Canadian military exporters by amending its International Traffic in Arms Regulations (ITAR). For decades, this U.S. law gave Canada's arms industries preferential treatment over all other foreign companies, treating them as part of the U.S. military industrial base. However, on April 12, 1999, the State Department

"removed many of the preferential elements in the Canadian Exemptions contained in ITAR.... The amendments...[imposed] licensing requirements on a broad range of goods and technology that had been...licence-free. In addition, the U.S.... ruled that Canadians with dual citizenship could no longer take advantage of the...Exemptions. These [changes]...adversely affected access to U.S. goods and technology, thereby affecting the competitiveness of Canada's defence, aerospace and satellite sectors."

The government's partners in many Canadian military/space export firms were hurt by these U.S. sanctions. Bilateral negotiations led to a tentative deal on October 8, 1999, that tried to

"maintain a strong, integrated North American defence industrial base."¹⁰

The Canadian government did its best to regain preferential treatment for its friends in the war industry. Simultaneous treaty negotiations on U.S. military access to RADARSAT-2 data, may have provided a handy bargaining chip to get concessions in the deal for Canada's military producers.

Canada's new law "to Amend the Defence Production Act," began working its way through the Senate on June 14, 2000¹¹ (just two days before the three military treaties were signed). When it came into effect on April 30, 2001, this new law created a

"new category of strategic goods [on]...the list of products requiring prior government approval to export. The new category...includes satellite systems, payloads for spacecraft, ground control stations [and] radiation-hardened microelectronic[s] [useful for space-based systems]."12

C-25: The RADARSAT Bill

Canada's Bill C-25, the RADARSAT Bill or "Remote Sensing Space Systems Act," passed into law on November 25, 2005. ¹³ It brings Canadian legislation in line with the U.S. "Commercial Remote Sensing Policy" which arose from their "National Space Policy Review." That process began when Pres. George W. Bush issued National Security Presidential Directive 15, on June 28, 2002. ¹⁴

The primary goal of the U.S. policy was to:

"Rely to the maximum practical extent on U.S. commercial remote sensing space capabilities for filling imagery and geospatial needs for military, intelligence, foreign policy, homeland security and civil users." 15

A media release from ORBIM-AGE, the U.S. company still controls RADARSAT-1 sales to the U.S. government, exuberantly announced that:

"ORBIMAGE executives and investors reacted very positively after the White House released its new policy on Commercial Remote Sensing." 16

The reasons for this "very positive" reaction were obvious; the increased use of commercial satellites by U.S. military and intelligence agencies,

means more RADARSAT contracts for ORBIMAGE. Also, the company's top executives, freshly drawn from long U.S. military careers, happily support the interests of U.S. warfighting institutions.

References

- 1. Exchange of Notes between...Canada and the...USA constituting an Agreement for Cooperation in the Radarsat Programme (with MOU), Nov. 12, 1991. www.lexum.umontreal.ca/ca_us/en/cts.1991.50.en.html
- 2. Exchange of Notes..., op. cit. (MOU 11.1)
- 3. Exchange of Notes..., op. cit. (MOU 12.5)
- 4. DFAIT media release, "Canada and U.S. Sign Agreement Concerning Operation of Commercial Remote Sensing Satellite Systems," June 16, 2000.
 - w01.international.gc.ca/MinPub/ Publication.asp?publication_id=377855
- 5. Canada/U.S. Joint Statement, Commercial Remote Sensing Satellite Systems w01.international.gc.ca/MinPub/Publication.asp?publication_id=377855
- JAG Role and Responsibilities www.forces.gc.ca/jag/office/roles_and_ responsibilities/default_e.asp
- 7. Office of the Judge Advocate General. Report, April 1, 1999 to March 31, 2000. www.forces.gc.ca/jag/office/publications/ performance_reports/Performance Report2000_e.pdf
- 8. DFAIT media release, "Canada & U.S. to Extend Defence Agreement," June 16,2000. w01.international.gc.ca/minpub/ Publication.asp?publication_id=377856
- 9. DFAIT media release, "Agreement with U.S. on Defence Trade Controls and New Legislative Framework," June 16, 2000. w01.international.gc.ca/MinPub/Publication.asp?publication_id=377858 10. Ibid.
- 11. Legislative History of Bill S-25 www.parl.gc.ca/common/bills_ls.asp? Parl=36&Ses=2&ls=s25
- 12. Ken Epps, "U.S. imposes improvements to Canadian export controls," *Ploughshares Monitor*, Spring 2002 www.ploughshares.ca/libraries/monitor/monm02h.html
- 13. Legislative History of Bill C-25 www.parl.gc.ca/common/Bills_ls.asp? Parl=38&Ses=1&ls=C25
- 14. National Security Pres. Directives. www.fas.org/irp/offdocs/nspd
- 15. Fact Sheet, U.S. Commercial Remote Sensing Policy, April 25, 2003. www.fas.org/irp/offdocs/nspd/ remsens.html
- ORBIMAGE media release, "New White House Policy on Commercial Remote Sensing Positive News for ORB-IMAGE," May 14, 2003. www.orbimage.com/news/releases/05-14-03.html

The RADARSAT Law's Secret Annex

ichael Byers, Professor of Global Politics and International Law at UBC, testified to a Parliamentary committee regarding "The RADARSAT Bill" (C-25: "The Remote Sensing Space Systems Act"). It is tied to a Canada-U.S. treaty on the "Operation of Commercial Remote Sensing Satellite Systems," signed in 2000 by then-Foreign Affairs Minister Lloyd Axworthy and then-Secretary of State Madeleine Albright. Professor Byers testified that:

"The 2000 bilateral treaty with the U.S. contains the international obligations of greatest significance to Bill C-25.... The treaty concerns RADARSAT-2, as does this legislation. In terms of international obligations... this treaty is front and centre.... Article 3 [says]:

'Canada agrees to implement controls... set forth in Annex II hereto, which is protected as commercially confidential, with regard to the operator of RADARSAT-2.'

This is saying that Canada agrees, as part of its legal obligations under this treaty, to whatever is in Annex II. However, we don't know what is in Annex II.... All we know is that it concerns the operations of RADARSAT-2 Annex II...has not been published and is not available to this committee.

The unpublished character of Annex II contravenes the spirit and possibly the letter of international law....
The Vienna Convention on the Law of Treaties, which Canada ratified, states:

'Treaties shall, after their entry into force, be transmitted to the Secretariat of the UN for registration or filing and recording, as the case may be, and for publication.'

According to Professor Ian Brownlie's ... Principles of Public International Law: 'This provision is intended to discourage secret diplomacy....'

As an international law professor, I am not prepared to conclude unequivocally that its unpublished character is in violation of international law, but I suspect it is....

Annex II....certainly relates to the U.S. and what powers, if any, [it]

has over operations of RADARSAT-2.

With this secret annex, the U.S. may...have secured the power...to conscript RADARSAT-2 in support of its intelligence and military operations.... This could cause some serious problems.... It could enable the U.S. to demand RADARSAT-2 be used to take images in preparation for a military intervention to which Canada was opposed.... [and] it could even be used to take images in preparation for a war that was illegal under international law....

The secret annex: "could enable the U.S. to demand RADARSAT-2 be used to take images in preparation for a military intervention to which Canada was opposed.... [and] it could even be used to take images in preparation for a war that was illegal under international law."

This would make Canada a party to that action. We would lose our neutral status by providing a satellite and imaging capability to support such an intervention. We would essentially become complicit in any violation of the UN Charter that occurred.

It's even possible that the U.S. has obtained a right of priority access to RADARSAT-2 that trumps that held by Canada.... There's no way that you, the members of this committee, could know that, because it's unpublished....

You are being asked to recommend the adoption of legislation that refers to international obligations that are secret... The government would probably object to any request that you be allowed to see the contents of Annex II, given security clearance issues that might arise.... I think that principles of democracy, transparency and good government require that you be allowed to see those contents.

Source: Evidence, Standing Cttee., Foreign Affairs & International Trade, Feb.22, 2005. 192.197.82.11/committee/CommitteePub lication.aspx?SourceId=125796

Update: MPs on this Parliamentary committee were, eventually, briefed by a Foreign Affairs' bureaucrat on the contents of Annex II. However, they were not actually allowed to read it.