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# Transparency Measures in Space?

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**Programme Espace**



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# **TRANSPARENCY MEASURES IN SPACE?**

In recent months, the international space community has often chosen to approach military space issues by focusing on Space Situational Awareness (SSA). Could the current trend towards space weaponization be somewhat altered by developing SSA architectures in the framework of “cooperative transparency”? In order to set the stage for further discussion, this *Working Paper* takes a step back and addresses transparency as such. Transparency is an heritage of the Cold War: it covers measures that were adopted by the two superpowers and their allies to avoid accidents or misperceptions that could have led to nuclear war.

Transparency belongs to the family of arms control measures, and particularly of “Confidence Building Measures” (CBM). Transparency measures tend to be at the less prescriptive end of CBM. They would include, for instance, the prior notification of troop movements and exercises, the collection and exchange of information, and, more generally, anything that would ensure better communication between countries. Other CBM cover the setting up of demilitarized zones and of strict weapon limitations, the listing and monitoring of unacceptable behavior, etc.

The main issue about transparency is to establish whether it works or not. Does it produce more peace and security by itself? Can it continue to be efficient in times of international tension? This paper will look at a few examples in past decades, trying to assess the record of such measures up to now and then see what could be done in the case of the space environment.

## **Preamble: Space as an Instrument of Transparency**

The question of transparency takes on added relief in the context of this conference on space because, historically, space has been a major instrument in the establishment of transparency measures. Space has been an enabler of transparency and may now become the object of transparency measures.

In the late 1950’s and 1960’s, both the United States and the Soviet Union focused their military use of space on observation satellites. Space was used primarily as an intelligence gathering tool. At the time, there were no significant arms control measures, and transparency, inasmuch as it existed, was about gaining information about the other one. Having information was considered as having power over the adversary—what we could call “coercive transparency.”

The situation began to change in the 1970’s. Space became an instrument of key importance in the first years of arms control. Verification was essential to the trust between

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signatories. Since onsite inspections were ruled out by Moscow, only satellites—National Technical Means (NTM)—could be used to check on the other countries' respect of the agreement. Observation satellites offered the basis for what we could term “goodwill transparency” or “cooperative transparency.”

## 1. The Limits of Transparency

### • ABM and Salt 1

The first agreements in which NTMs (i.e. mainly satellites) were mentioned as verification tools are the Strategic Arms Limitation Talks 1 (Salt 1) Agreement and the Anti-Ballistic Missile (ABM) Treaty signed by the US and the Soviet Union in May 1972. Another main transparency instrument created by these treaties was a Standing Consultative Commission (SCC), which was set up as an informal forum for discussion and data exchange between the two countries.

The SCC worked very well between 1972 and 1977. The major issues raised by either the US or the Soviet Union found a positive outcome. For instance, the US party complained of too much encryption of the missile tests conducted by the Soviets. Within months, the level of encryption was reduced to acceptable standards.<sup>1</sup>

But things went awry after the Soviet invasion of Afghanistan in 1979, when the East-West *détente* was over. The Salt 2 Treaty, signed in 1979, was never ratified by the US Senate. Each country accused the other one of cheating. Most famously in the West, there was a suspicion that a radar being built by the Soviets in Central Siberia at Krasnoyarsk was a new ABM facility. The SCC never met again.

### • “Able Archer”

By the beginning of the 1980's, the international situation had become even more difficult. Even though some confidence-building measures were already in place thanks to the Helsinki Process of 1973, there was for a time almost no communication between the two superpowers. Aggravating events, such as the Euro-missiles crisis or the South-Korean airplane shot down by the Soviets in September 1983, illustrated these difficulties.

“Able Archer” was the code name of a ten-day exercise conducted by NATO forces. It started on November 2, 1983, and simulated a nuclear attack by NATO, complete with level one nuclear alert, coded communications, radio silences, and participation by some Western heads of states (most famously Margaret Thatcher and Helmut Kohl). As it happens, the Soviets intercepted many signs of the exercise and assumed it was for real.<sup>2</sup> They put their forces on alert, even readying their nuclear forces on 8-10 November. The scare ended abruptly when the exercise ended on November 11. “Able Archer” is considered by many historians as the biggest nuclear scare since the Cuban crisis of 1962.

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<sup>1</sup> Sources on the Standing Consultative Commission: reports by the US Congress and Department of State made public in 1979.

<sup>2</sup> Sources on the Able Archer scare: Soviet defector Oleg Gordievsky. Testimony to Congress, House Committee on Armed Services, Subcommittee of Military Research and Development, *Hearing on Russian Threat Perceptions and Plans for US Sabotage*, 106<sup>th</sup> Congress, 1<sup>st</sup> session, 26-10-99.

Analysts opposed to arms control, such as Colin Gray<sup>3</sup> or Richard Perle<sup>4</sup>, use these two examples to claim that CBM and transparency measures do not work when the political climate is adverse. Transparency would only work in times of *détente*, when the atmosphere is conducive to such communication. They have therefore no real impact and can be said to be inefficient. This opinion is rather severe and others have concluded that transparency can have a positive effect of its own.

## 2. A More Sanguine Appraisal?

First of all, the “Able Archer” exercise was a command exercise and did not involve the actual deployment of troops. According to the Helsinki process (and the later 1990 Conventional Forces in Europe [CFE] treaty), prior notification was consequently not compulsory. One could therefore argue that it was the lack of sufficient transparency measures that made the scare possible. The absence of communication between adversaries can lead to misperceptions and be excessively dangerous. “Able Archer” can therefore be seen, on the contrary, as a proof of the importance of at least some transparency.

Another argument holds that transparency is morally superior to the lack of communication. It represents a break from “old-world diplomacy”—when hidden agendas and maneuvers were the rule—towards what president Wilson called “New Diplomacy” in 1919. In the framework of transparency agreements, more information circulates. This enables a degree of control on what is happening and is more democratic on principle.

A consequence of transparency in real terms is that it becomes more difficult to get away with a violation of international rules. A proviso here is that transparency agreements are set up between government entities, and do not necessarily address the media and general public. However, results of transparency exchanges can be leaked for maximum effect.

As a conclusion to this evaluation of transparency, it could be agreed upon that transparency is an instrument that certainly needs a minimum level of good will in international relations. If all diplomacy breaks down, the observance of transparency measures will very probably be discontinued. This being said, as soon as the international situation is relatively neutral or even warm, transparency measures will provide a background that allows self-standing improvements. Transparency will have an effect by itself. Today, indeed, most environments we know do benefit from a transparency regime.

### • The Rules of the Road at Sea

The “Agreement Between the Government of the United States of America and the Government of the Union of Soviet Socialist Republics on the Prevention of Incidents On and Over the High Seas” was signed and entered into force on May 25, 1972. With this treaty, the two countries agreed to recognize an international agreement called “International Regulations for Preventing Collisions at Sea” that had been signed in 1972 and that is often called the “Rules of the Road” in the high Seas. Indeed, the US and the Soviet Union agreed

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<sup>3</sup> C. Gray, *House of Cards: Why Arms Control Must Fail*, Ithaca (NY), Cornell University Press, 1992, 242pp.

<sup>4</sup> Richard Perle was assistant US Secretary of Defense in the Reagan Administration, member of the Defense Policy Board Advisory Committee from 1987 to 2004 and Chairman of the Board from 2001 to 2003 under George W. Bush.

to emphasize their commitment to the Rules of the Road and detailed the way they would reinforce communication. The Agreement lists specific provisions:

- taking steps to avoid collision;
- not interfering in the ship "formations" of the other party;
- avoiding maneuvers in areas of heavy sea traffic;
- requiring surveillance ships to maintain a safe distance from the object of investigation so as to avoid "embarrassing or endangering the ships under surveillance";
- using accepted international signals when ships maneuver near one another;
- not simulating attacks at, launching objects toward, or illuminating the bridges of the other party's ships;
- informing vessels when submarines are exercising near them, and;
- requiring aircraft commanders to use the greatest caution and prudence in approaching aircraft and ships of the other party and not permitting simulated attacks against aircraft or ships, performing aerobatics over ships, or dropping hazardous objects near them.

The transparency measures adopted via the bilateral agreement were a success. In 1985, the Secretary of the US Navy John Lehman observed that the frequency of incidents was "way down from what it was in the 1960's and early 1970's."<sup>5</sup>

## • The Organization for Security and Co-Operation in Europe (OSCE)

The Conference on Security and Co-operation in Europe (CSCE)—sometimes called the "Helsinki Process"—started in 1973 in Helsinki. This East-West forum adopted Confidence and Security Building Measures (CSBM), such as prior notification of troops maneuvers and observation of military exercises. The goal of the Helsinki Process was to diminish the threat of surprise attacks or misunderstandings of military activity.

Today, the CSCE has become OSCE (the Organization for Security and Co-Operation in Europe). OSCE provisions include a mechanism for consultation and co-operation that was updated by the Vienna document of 1999. It covers early warning, conflict prevention, crisis management and post-conflict rehabilitation. A second, and perhaps better known, goal of OSCE today is to oversee elections, based on democratic practices and improved governance. OSCE is defined as a regional arrangement under the United Nations Charter (Chap. VIII). Its 56 Member States stem from Europe, the Caucasus, Central Asia and North America.

## • The Open Skies Treaty of January 2002

The Open Skies Treaty originates in a proposal for "mutual aerial observation" made by US president Dwight Eisenhower in 1955. Given the state of Soviet-American relations at the time, progress on an agreement was not possible. Talks started in 1989 between NATO and the Warsaw Pact. The Treaty was signed in 1992 and entered into force in 2002. There are currently 30 members. This Treaty bears no relation with the Open Skies agreement, signed by airline companies in Washington in April 2007.

Open Skies allows observation flights over almost all the territory of each signatory state,

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<sup>5</sup> Source : US State Department.

- except for areas of hazardous airspace and a ten kilometer zone along the state borders of non-state parties; and
- subject to a maximum flight distance.
- Each aircraft is fitted with a sensor suite including optical panoramic and framing cameras, video cameras with real-time display, thermal infrared imaging sensors, and imaging radar (SAR). To ensure that each suite conforms to the Treaty specifications, there is an initial seven-day certification of each Open Skies aircraft by a short demonstration flight, and by analysis of the imagery recorded during that flight.
- Each state to be overflown has the choice of either certifying the aircraft of the observing state or of providing an aircraft with full sensor equipment of its own for the observing state (the so-called *taxi option*).
- The flights are undertaken by joint teams; and
- the image data can be shared among all signatories to support the monitoring of compliance with existing or future arms control treaties<sup>6</sup>

This very last provision allows the Open Skies Treaty to be of use for other arms control treaties, expanding the scope of Open Skies.

### 3. Space as the Next Environment for Transparency Measures

Sea, land and air are currently covered by transparency regimes. It seems only logical that transparency in space should be next. After being an instrument for transparency measures, space could become a new environment where transparency measures are applied.

Developing transparency measures in space is even more pressing, given that space is far away and events are physically harder to monitor. Moreover, military activities in space have long been heavily classified, reinforcing the hidden and unknown character of that environment. For these reasons, mistakes are technically more bound to happen.

Besides, an important and worrying evolution is currently underway in space. The China tests of the Summer 2006 and January, 2007 as well as the US weaponization plans are signaling a possible arms race in space.

The potential for accidental collisions and misperception of maneuver should be reduced to the minimum in this context, and transparency measures should be studied. SSA is a very flexible instrument however: SSA architectures can serve different purposes, and cooperative transparency is only one of them.

- According to different US Air Force plans<sup>7</sup>, SSA should be the first step of a three step approach. First would come an SSA architecture, which would bring information to the warfighter; second would come “Defensive Counter Space,” which would allow US satellites to escape potential aggressors; third would come “Offensive Counter Space,” i.e. the capacity for the US to strike in space. SSA in that context is an information system that serves defensive and offensive actions.

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<sup>6</sup> Source : US State Department.

<sup>7</sup> The last publicly available version of the USAF space plan is US Air Force Space Command, *Strategic Master Plan FY06 and Beyond*, Peterson AFB, October 2003. Plan pp. 21-26. USAF Strategic Plan, October 2003.

- SSA can also be an instrument for transparency, providing that the information gathered by this architecture is shared to a sufficient degree amongst countries. Information about launches, moves and maneuvers would preclude accidents and misperceptions. It would reassure space actors and allow trust and confidence to grow between space powers.

- A third possible use of SSA should also be mentioned. It has been theoretically possible in the past to attack other countries' satellites covertly. It was difficult to check if a satellite failure was due to a deliberate attack, a space debris hit or a solar flare. With sufficient SSA means, this will no longer be possible. The attackers will know for certain that they can be found out. This could produce a kind of deterrence in space. A deliberate attack on a satellite would indeed be followed by a response by the attacked country. The response would not necessarily have to take place in space as economic or diplomatic response can be developed. The deterrence effect could therefore allow the country to forgo development of weapons in space.

Whereas SSA for transparency focuses on reassuring potential victims by making all threats visible, SSA for deterrence focuses on scaring potential attackers by persuading them that their actions will be punished.

Space Situational Awareness is thus a flexible instrument, that can support either military options or transparency measures, as well as creating a degree of deterrence in space. It is impossible to say which of these three possibilities will prevail in the future. A combination of these elements may perhaps be observed in a few years.

Given that the efficiency of cooperative transparency measures depends to a degree on the international climate, the establishment of such measures in space will probably depend on the evolution of relations between space-faring nations. In this day and age, this means that much will depend on the evolution of the relationship between the United States and China.