

*Hans Blix: Security needs science and critical thinking*

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*Check against delivery*

In the fields of security, environment and disarmament where I have worked, there is an increasing need for **science, fact finding and critical thinking**

The American popular historian, **Barbara Tuchman** tells us that in 1348, **after much brooding**, a group of learned men **in Paris came to** the conclusion that the cause of the **plague** had been a triple conjunction of Saturn, Jupiter and Mars .....

We should not laugh. If we do not have a **diagnosis** based on real knowledge and critical thinking, **how** can we hope to devise a meaningful therapy? For plague – environmental threats, security problems or anything else?

The former US Secretary of Defense, Donald **Rumsfeld** rightly observed that there are some things **we know that we don't know** and other things **we don't even know that we don't know**. He **should have also reflected** on the problem that not only in the 14<sup>th</sup> century but also in our time, **some pretend to know things that they don't know**. Or even maintain, as people in his political camp did, that they were so powerful that they could **'create their own reality...'** **Well, could they?**

Not for long. The real reality caught up with them. Ten years ago, those who had chosen to **create their own reality** were pained to realize that the **'moment of truth' in Iraq** revealed the absence of weapons of mass destruction and their own **cavalier relation to reality**.

**Modern science is dedicated to critical thinking in its search for the reality**. When hypotheses or findings do not stand up to critical examination, **the scientists' duty and practice is to say so**.

In the **political world**, data are often incomplete or ambiguous and governments must sometimes act **before there is full clarity and certainty**. If they don't, it may be **too late**. We can also understand that they may **need to simplify complex matters** to explain them. However, it is hard to exonerate a replacement of question marks by exclamation marks and huge military action undertaken without **a modicum of critical thinking**.

Such thinking, I believe, may also point to other important lessons from **the Iraq war**. In the 2008 US presidential campaign then Senator Obama said it

was a **‘meaningless war’**. With the loss of perhaps 100.000 lives, untold suffering and US government debts that are part of today’s financial problems, it seems the war was much **worse than ‘meaningless’**.

**While** hardly anyone regrets that Saddam Hussein and his regime were toppled, the claim that outside powers are justified to undertake **armed intervention to topple odious regimes** needs to be examined critically. We hear this justification again today in **the case of Syria** and while the evidence of **oppression** is credible enough, there are **good questions** whether this oppression is **the real reason** behind the outside interventions **and where** large injections of money, weapons and combatants will lead.

Costly armed interventions are **rarely** undertaken by states for **altruistic reasons** and the formation of humane democratic regimes is rarely possible except through an accommodation among **internal forces**. Minorities do not willingly surrender weapons and power to accept majority rule, if they think it means their own destruction or suppression. Thus, outside states assume a **heavy responsibility**, when without the support and authorization of the international community they intervene, ostensibly to end oppression but only too often **causing anarchy** or new oppression.

If **one side of the Iraq war** demonstrates problems linked to armed intervention based on unilateral decisions and biased national intelligence, another side tells us much about the potential value of **impartial international reporting**.

Some of you may have **seen me in a film** made by **Team America** not long after the 2003 Iraq war.

A chief inspector looking like me is talking to someone looking like Kim Jong Il and tells him that if he does not cooperate, there **will be a report**. Kim Jong Il then utters a few words that **decorum forbids** me to repeat here and by pressing a button he opens a trap door under me and I fall into **an aquarium full of sharks...** As everybody understands, it is terribly funny...

The film made me much more known in the world than all the TV cameras in the Security Council Chamber. **But what was the thrust of it?** – Was it that **a report in the UN** is just a bunch of useless papers? If so, I think the message is somewhat misleading.

**To be sure, our** reports from inspections in Iraq were **ignored by the US** and its allies and we can find many other reports to the UN that were ignored. However, a majority of the states in the Security Council did not ignore our reports but wanted more inspections. This did not prevent the war, but their refusal to give green light to the war **at least** prevented the Security Council from authorizing a war that should never have taken place.

We do not have to look far to see the **value** that fact-finding and **impartial reports** may have **as a basis** for decision making or public opinion.

The **reports** by the **CTBTO** about the **nuclear tests in North Korea** have been ignored by the regime but been a solid **basis for UN reactions**.

If **C-weapons experts working for the UN** were to report findings that the government of Syria **or the rebels or both** had made **significant use** of C-weapons it could have important consequences.

A **report to the EU** showing that the armed confrontation in **Ossetia** in 2008 was **started from the Georgian side** had an important though belated effect on the view of the war.

We need **more factual reports**– not least to balance partisan statements.

This brings me to the roles of the **SCIENTIFIC COMMUNITY and the CIVIL SERVICE**. Policy makers are free to follow their various biases and values pushing for decisions that may – or may not – be unwise or irrational. However, before decisions, civil services should in many cases have provided comprehensive and factual dossiers of data and arguments and on **some issues** the voices of the scientific community should be heard. We will be badly off in governance – national and international – if the basic fact-finding and analysis is one sided and ignores critical thinking.

Fortunately, the international community does make **more and more use** of scientific data collection and analysis. Let me offer some examples from four fields that are relevant to human security:

Environment

Nuclear weapons testing

Non-proliferation, and

Disarmament

I begin with the **field of ENVIRONMENT**

We have come to realize that a highly rewarding but rapacious human conduct has often led to a depletion of natural resources, pollution of cities, acidification of lakes and the risk of a climate change.

The risk of a **quick human suicide** through a nuclear duel may be **behind us** but **many** now worry about a **slow suicide through global warming**.

While it seems clear that we need to reduce the emission of greenhouse gases even before we fully understand the complex physical processes, we must and do make use massive **scientific research**.

**For decades, the International Panel on Climate Change (IPCC) drawing on** scientists around the world has provided us with indispensable factfinding. There are also dissenting views. Fine! It shows that critical thinking is alive. ‘Ein Professor ist ein Mann anderer Meinung’. **Yet**, when action is deemed necessary before certainty exists, governments must go by the preponderant scientific advice.

The global scientific and technological communities have equally indispensable roles to help find ways to reduce our reliance on fossil fuels through the exploitation of nuclear **fusion**, the **storing of electric** energy, or the development of superconductors.

The **United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR)** is **another** respectable body through which governments and the world gets authoritative advice on the extent and significance of fall out from accidents like Chernobyl and Fukushima. Its reports about the fall out from nuclear weapons testing in the atmosphere helped greatly to persuade the world to adopt the **partial test ban treaty** that entered into force in 1963.

This brings me to the **COMPREHENSIVE TEST BAN TREATY** that was adopted in 1996 and that has not yet entered into force. It needs the ratification of **eight more states**. While the nuclear weapon states France, Russia and the UK have ratified, the US and China are missing and so is the binding consent of North Korea, India and Pakistan, Egypt, Iran and Israel. Much will be said here, I am sure, about the **CTBT**. I shall limit myself to a few comments.

First, I can think of no treaty in which the **assistance of the scientific community** has been greater than the CTBT. Through patient, skilful and arduous work a crucially important monitoring system was designed relying on seismic, hydro-acoustic, infrasound and radiation sensors all around the world. The system does **not raise questions of reliability**. Rather, the

success of the system raises the question whether the **scientific community** can again be **engaged to help** disarmament, for instance solving problems around the **verification**.

As is well known, the **CTBTO and the monitoring system** provide even now practically useful services on a daily basis. **The CTBT**, one might say, is the **rare case** of a treaty that has **entered into operation before it has entered into force! However**, even though there is little risk of a breach of the **moratorium** on tests that is being observed by all except North Korea, **the risk would be further reduced by a formal entry into force**. The greatest help to achieve this would be support by those in the US Senate who have so far prevented US ratification to keep **open a US option** to test. However, keeping the legal option open for the US is keeping it open for all. I am not suggesting that US ratification would automatically trigger all the other ratifications required, but I am sure it would go **a long way**.

**What else can be done?** Perhaps **a package** could be made under which Egypt and Iran, the US and Israel ratify? We can be fairly sure that Egypt and Iran will refrain from testing. Their ratifications might well be obtained if Israel and the US were ready to move. North Korean ratification should be part of the agreement sought on a denuclearization of the whole peninsula.

**The NON PROLIFERATION TREATY (NPT)** entered into force in 1970. It has a verification system that has been developed and evolves with the help of scientific methods.

The treaty may be seen as a chart to a **nuclear weapon free world:**

States without nuclear weapons were invited to **stay away** from them  
States (5) that had the weapons were invited to **do away** with them.

In my view the treaty has been very **successful**. Only India, Pakistan, Israel and North Korea have been added to the five NWS of 1970, while Bielorrussia, Kazakhstan, Ukraine and South Africa that all had NW have done away with them **and Iraq and Libya** were prevented from making NW. The world is **not milling** with would-be NWS, **but Iran and North Korea** remain problems that I shall come back to.

Under the treaty the NNWS accept the control – **safeguards** – **system** of the IAEA. They oblige themselves inter alia to declare fissionable material that they may – present or future – and they accept inspection to verify that the nuclear material and installations are only in peaceful use.

The system marked great progress in a generally inspection reluctant world. But it should be seen for what it was – a system **to create confidence** among neighbors and the world that nuclear material remains in peaceful use.

The inspectors are **not police dogs** that bite, but **watch dogs** that bark. If they find something suspicious the member states of the Agency are alerted and **action may follow** – including possible sanctions through SC.

Prior to the discovery of the clandestine uranium enrichment program in Iraq, inspections were largely limited to **declared installations**. States were unwilling to accept more and, moreover, the IAEA had no espionage system or state assistance that could suggest where else to look. A state determined to conceal nuclear activities had good chances to succeed. This is what Iraq did before 1991.

Following Iraq's cheating members accepted in 1997 a system under which states' declarations would have to be more comprehensive and the inspections could be more intrusive. Information could also be had through commercial satellite monitoring and through intelligence from members.

This **strengthened verification system** has been accepted by most – but not all members. Modern science and technology have contributed many of the methods now used, e.g **environmental sampling** and continuous remote monitoring.

I would still caution against a belief that the new system is 'fail safe'. Indeed, **even under the highly intrusive verification system that was mandated by the Security Council for Iraq from 1991** one could not guarantee that every small piece of relevant equipment or material was found and checked. **To prove the negative and to conclusively verify intentions is rarely possible.** In the last instance it is thus for **governments** to determine in each case whether reports of negative results in extensive and professional inspections allow them to have full confidence. In the case of **South Africa**, governments said yes. In the case of Iraq some said no.

**Let me now come to the cases of North Korea and Iran.** In my view further verification on the ground at this stage is unlikely to be clarify much. The world knows already that **North Korea has** some nuclear bombs. Indeed, the country is eager to have this recognized. The question is whether a way can be found to a well verified denuclearization.

In the case of **Iran** the world knows that there is a capability, inter alia to enrich uranium and that Iran could, if it so decided make a nuclear bomb. The questions here are in the first place if and how Iran can **be induced** to take measures that give the world some assurance that it will not produce nuclear weapons grade material or, indeed, weapons. Such measures would probably have to include a good deal of international verification.

While science may not help us to answer these questions they do need be examined with critical thinking. Most analyses of the general proliferation issue suggest that **perceived security needs** are the most common factor prompting states to seek nuclear weapons: India-China; Pakistan-India; Israel-Arab states. This suggests to me that in the cases of DPRK and Iran it is advisable to look for ways out which will make the states and their regimes feel confident that they will not be subject to military attacks or subversion. Others may be taking the view that the states can be **scared by military threats to forego a nuclear weapon option or, if necessary, be bombed to a non nuclear weapon status.** Sticks – not carrots.

However, the **DPRK** is not likely to have forgotten that it risked being subject to nuclear attacks during the **Korean war in the early 1950s** and Iran is not forgetting that in 1953 Prime Minister **Mossadeq** was toppled through subversion from the outside.

In the **case of the DPRK** it seems to me that despite some knee jerk military reactions wise patience has prevailed together with a readiness to offer **security guarantees** or even a peace treaty. A key question is if North Korea can be convinced that **paper guarantees** can provide it as much security as a bomb. Perhaps a regional security arrangement guaranteed jointly by the US, Japan, China and Russia might be a viable approach.

**Security** may well be **one factor** that has been driving **Iran's** program of uranium enrichment. The program can be **traced back** to the time in the 80s, when Saddam Hussein was steering Iraq toward nuclear weapons and it **now** places Iran close to a nuclear weapon option. I see little chance that air craft carriers and swarms of other war ships in the Gulf and frequent reminders that all options are on the table will lead Iran to suspend its program. Those who **advocate military attacks** on Iran I think should be reminded that in the case of Iraq an effort was made to eradicate weapons – that did not exist. Is the wish in the case of Iran to eradicate **intentions** -- that may or may not exist?

Current efforts seem directed to reaching an agreement one part of which **Iranian suspension of enrichment to higher levels** than those needed for power reactor fuels. It would be welcome as an interim understanding to **reduce the acute risks** of military confrontation.

A more stable – and radical – solution should, in my view be sought through **a Middle East zone free from all weapons of mass destruction. Israel** that has the strongest interest in a nuclear weapon free neighborhood, would have to forego its own nuclear weapons – that may have greater mythical than military value. And all in the region, including Iran, would have to commit themselves to be without not only nuclear weapons but also the capability to produce enriched uranium and plutonium. An inspection regime going beyond IAEA safeguards would be needed as well as various guarantees about security and supply of uranium fuel for power reactors.

Let me **conclude** by a few words about **DISARMAMENT**. President Obama's and President Medvedev's determination in London in 2009 to put the cold war definitively behind themselves and to embark on disarmament was met with enthusiasm but even the rather modest nuclear reductions of the START met stiff resistance in the US Senate and also in some Russian security circles. Since then we have seen mostly **stagnation** in the disarmament field and even **increases** in armaments – in Russia, China, India and many other states. The Geneva disarmament conference remains in coma. Armament planning is for 30-50 years ahead. Disarmament planning is seasonal, if at all.

The UK is discussing a renewal of its nuclear Trident program. While it may overburden the British economy for a long time it is hard to see any meaningful military function for it. Maybe the scrapping of it would send a **signal of rationality** through the world? A scrapping of the some **200 nuclear NATO bombs** that have long been seen as useless and that several host countries in Europe don't care for would send a similar signal? Maybe it is **time for** scientists to look with critical eyes on the military planning and war games that take place far above our heads? Who in Europe feels a need for a missile shield in Romania to counter Iranian attacks?

The financial crisis has overshadowed both the issue of disarmament and that of the environment. If there is any **silver lining** to the budgetary problems it is that with the public beginning to sense that the Cold War is over, the budget ministers are able to put some lids on the dynamism of the military. **There is much to cut**: almost 20.000 nuclear warheads remain and the military expenditures of the world amount to some 1.700 billion \$.