

FIVE MINUTES TO MIDNIGHT – BUT WHAT DOES THAT MEAN?

On 10 January this year, the Bulletin of the Atomic Scientists announced that they had 'moved' the minute hand of the 'Doomsday Clock' that has been a feature of the Bulletin since it was set up by former Manhattan Project physicists in 1947, from six minutes to midnight, to five minutes to midnight. [BAS Press release, 10Jan2012 on BAS website]

Immediately prior to the move, in a press-release, [PND Press release 8Jan2012 on PND website], the author of this article had urged the Bulletin to move to four, or four-and-a-half, minutes to midnight. Five wasn't far off. The clock had previously been moved from five minutes, to six minutes to midnight in Jan2010. The closest it has ever been to midnight is two-and-a-half minutes in the testing frenzy of the 1950s.

But what exactly is 'midnight', and why should the clock be moved? Is the world really moving, almost imperceptibly toward some abyss, and if so what, if anything, apart from watching with horrified fascination, should we be doing about it?

Aren't we supposed to be on some sort of 'glide path' toward zero nuclear weapons? Didn't the apocalypse vanish from the global agenda about 12 years ago? If not, why is it still there, and what can be done about it?

In spite of the fact that the Bulletin now pays increasing attention to issues other than nuclear weapons – mostly to global warming – the main significance of 'midnight' is, still, a global nuclear apocalypse.

Our distance from midnight, or our closeness to it, is a rough measure of just how much we endanger ourselves as a species.

From the 1960s to the end of the 1980s it was always perfectly clear that what was involved was the possibility, often visibly imminent, of a massive nuclear exchange involving a number of tens of thousands of

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large warheads between the US and Russia that would kill most people in those countries, in Europe, in Japan, and in countries allied to the US and Russia. Those few of us not incinerated in the first hour would be left to deal with prolonged darkness and sub-zero temperatures even in the tropics. (I have a cheery 1986 Soviet Academy of Science publication complete with Albrecht Durers four horsemen of the apocalypse showing sub-zero temperatures in Amazonia) [The Night After – Climatic and Biological Consequences of a Nuclear War Fig16p70]

And that's not counting the destruction of the ozone layer and the radiation. Civilisation, and most land-based species including us, would probably be finis. Jonathan Schell's words, from memory, from The Fate of the Earth, ring in the ears: 'The more megatons, the less there is to say'.

According to my friend and colleague Steven Starr of PSR, in a Feb18th blog post:

"Those who survived the immediate effects of nuclear detonations would ultimately starve to death when it growing seasons were eliminated for years by Ice Age weather conditions. Those living in nations far from the target zones would still perish from famine when food supplies ran out and no food could be grown.

Recent peer-reviewed studies predict that the firestorms from a nuclear war between India and Pakistan, in which half of their currently operational nuclear arsenals would be detonated in their mega-cities, would produce enough smoke to create a global stratospheric smoke layer lasting for ten years. The smoke would block 7-10% of sunlight from reaching Earth's surface, creating the coldest average surface temperatures experienced in the last 1000 years; the smoke would also heat the stratosphere enough to destroy up to 45% of the ozone above the US, Europe, Russia and China, doubling the amount of UV-B and raising UV Indices off the charts.

The 100 atomic bombs detonated in the hypothetical India-Pakistan conflict represent less than 1% of the explosive power now contained in the operational and deployed nuclear arsenals of the US and Russia.

The discussion of "a world without nuclear weapons" has failed to include the long-term environmental consequences of nuclear war. The launch-ready nuclear arsenals constitute a self-destruct mechanism for the human race.

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What political purpose would be served if deterrence fails and they are detonated in conflict?"
[Starr Commentary on Cirincione, 18Feb, http://www.foreignpolicy.com/articles/2012/02/17/getting_to_zero?page=full]

If, as both Steve and I (and many others in the abolition movement) have repeatedly suggested, the potentially civilisation – ending and even possibly species-ending potential of large-scale nuclear weapons use is taken as seriously as its peer-reviewed nature says it should be, then even considerations of so – called 'national security' must take a back seat to make way for human survival.

What is not appreciated nearly widely enough is that this human survival issue is STILL – utterly perversely – on the agenda. The total number of warheads has gone down, and hopefully will go down further, from its lunatic heights of over 30,000 each in the 1980's, to 1500-1700 each for the US and Russia, under New START.(This only counts operational warheads, leaving thousands of 'non – operational' and tactical warheads outside the scope of the treaty.)

But the US and Russia continue to maintain over a thousand warheads each on high alert, able to be launched in less than two minutes, a launch posture that makes an accidental apocalypse not only possible, but after studying the numerous terrifying 'near misses', leaves one asking if there is not proof of divine intervention. General Lee

Butler is said to have attributed human survival to 'blind good luck and divine providence'.

Nonetheless, the exact nature of the Bulletins 'midnight' has come to be a little more fuzzy over the last 20 years or so. The 'major' apocalypse, of which we've been already speaking, has undeservedly faded from public consciousness, while proliferation concerns have, well, proliferated.

Still, to look at the debate in the media, one would imagine that the major threat to human survival came from Iran (with thus far, zero nuclear warheads, and a religious prohibition on them), and not from the US

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and Russia, who perversely hang on to their ability to render the planet uninhabitable in less than an hour. It is well to remember – as undersecretary for disarmament Ellen Tauscher reminded listeners at a recent lecture – that the US and Russia STILL maintain approximately 90-95% of all the nuclear warheads that there are.

[<http://www.airforce-magazine.com/DWG/Documents/2012/January%202012/011212Tauscher.pdf>]

Nonetheless, there are real proliferation concerns and nuclear use concerns that were not there in say, 1990. The use of nuclear weapons by terrorist groups such as Al Qaeda is a real and terrifying possibility that wasn't there 20 years ago. (Though some disarmament and nonproliferation experts were warning of it, they were viewed as alarmist radicals).

So the question arises:

--Is the use of a single, 'tactical' nuclear weapon, to incinerate downtown Delhi, Karachi, Tel Aviv, Moscow, Los Angeles or New York, itself 'midnight' or just a terrible curtain-raiser?

--What about the use of a tactical nuke or three by Israel against Natanz or Fordow – with all the civil 'collateral damage' that might do to world-heritage-registered Ishfahan?

--Use of a 'shoot 'n scoot' tactical nuke against massed tank formations in Punjab?

--Use of 'tactical' Iskander missiles against NATO missile defence installations in Poland, Czech republic and Romania?

A scenario that was only given really serious consideration after 1998 has of course been that of an India-Pakistan nuclear war. Things came close with the Kargil confrontation in 1999, and then again in 2002-2003 with a terrifying moment in end of December 2002, when the worlds number one wire story read 'India, Pak, move nukes to line of control'. Both governments now deny that it ever happened.

While both governments strenuously deny that it is a possibility, (and many of my numerous Indian and Pakistani friends will perish if it happens), analysts elsewhere unanimously regard the India-Pakistan nuclear relationship as the world's most dangerous. Toon and Robock of Rutgers University, have published an article in [Scientific American Jan2010, 'Local Nuclear War, Global Suffering'] that details the catastrophic global climatic effects of an India-Pakistan nuclear exchange with roughly half the arsenals now available to each.(and note the earlier quote by Steven Starr).

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Finally, amongst those that actually do have nuclear weapons as opposed to those who do not have them, and who deny they have any intention to get them....there is the DPRK.

The DPRK has perhaps 10-12 small and primitive warheads of uncertain performance, and doubts keep being raised (in my view quite misguidedly) about whether it has a delivery system. I find these doubts most strange to say the least, given that the DPRK's No-dong missile IS the Pakistani Ghauri missile, Pakistan's principal delivery system. Technology was exchanged for a number of years via the AQ Khan network between the DPRK and Pakistan. Without any knowledge whatsoever, I would guess with at least 50% confidence, that a DPRK warhead looks like a Pakistani one. Or is most likely to.

I also suspect that there are in fact very few circumstances (I am comparing with Pakistan) in which it would ever make any sense for the DPRK to use its minuscule nuclear capacity. It could, to be sure, vaporise downtown Seoul or Tokyo, but that would be followed by its own prompt destruction. On the other hand if that looked imminent anyway, it might just do so.

My guess is that Kim Jong Un will in fact pursue a rather cautious policy, though he may conduct a third test, and could – a little more riskily – conduct further missile flight tests.

But lets backtrack to that now somewhat faded, but still all too real apocalypse, a US/NATO-Russia conflagration, that at New START numbers would involve 1500-1700 warheads each. That prospect, unlike that of putative Iranian nukes when that country neither has the warheads nor according to its own statements the intention to acquire those warheads (but watch that change after military action), - is one that actually DOES have the hardware, and the procedures, regularly rehearsed still by both the US and Russia, to make it happen.

Early last December [<http://eng.kremlin.ru/transcripts/3115> :], after repeated warnings, including one in the preamble to New START agreement itself, President Medvedev announced as follows:

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“First, I am instructing the Defence Ministry to immediately put the missile attack early warning station in Kaliningrad on combat alert.□

Second, protective cover of Russia's strategic nuclear weapons will be reinforced as a priority measure under the programme to develop our air and space defences.□

Third, the new strategic missiles commissioned by the Strategic Missile Forces and the Navy will be equipped with advance missile penetration systems and new highly-effective warheads.□

Fourth, I have instructed the Armed Forces to draw up measures for disabling missile defence system data and guidance systems, if need be.□

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These measures will be adequate, effective, and low-cost.□

Fifth, if the above measures prove insufficient, the Russian Federation System will employ modern, offensive weapon systems in the west and south of the country, ensuring our ability to take out any part of the missile defence system in Europe.□ One step in this process will be to deploy Iskander missiles in the Kaliningrad region.□ Other measures to counter the European missile defence system will be drawn up and implemented as necessary.□

Furthermore, if the situation continues to develop not to Russia's favour, we reserve the right to discontinue further disarmament and arms control measures.□ Besides, given the intrinsic link between strategic offensive and defensive arms, conditions for the withdrawal from the New START Treaty could also arise, and this option is enshrined in the treaty.□

But let me stress this point, we are not closing the door on continued dialogue with the USA and NATO on missile defence, and on practical cooperation in this area. We are ready for that. However, this can only be achieved by establishing a clear, legal basis for

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cooperation that would guarantee our legitimate interests and concerns are taken into account. We are open to dialogue and hope for a reasonable and constructive approach from our Western partners.”

This prompts an obvious question: For gods sake, have you actually WARGAMED what happens after you target and destroy NATO missile defence installations???

In the words of the letter that myself, Col Valery Yarynich (30 years Soviet missile forces), Steven Starr and David Krieger of NAPF (Letter is on NAPF[www.wagingpeace.org] and PND[www.pndnsw.org.au] websites) wrote in response to Medvedev and Obama:

“The leaders of the U.S., NATO and Russia must seriously consider the possibility that the current course of political events is pushing them towards an eventual military confrontation and conflict. Further expansion of NATO, its “nuclear umbrella” and missile defence system to the very borders of Russia increase the odds that any conventional military confrontation would quickly escalate into nuclear war.

If Russia decided “to take out any part of the missile defence system in Europe,” as threatened by President Medvedev, would not such an action be likely to lead to nuclear conflict between the U.S. and Russia? According to recent peer-reviewed studies, the detonation of the launch-ready U.S. and Russian nuclear arsenals could leave the Earth virtually uninhabitable for more than a decade.[xii] Such a war would lead to global famine and starvation of most of the human race.[xiii]”

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[Our references are to studies by Toon and Robock].

It is well to note that this particular piece of nuclear chest-thumping was accompanied by an implied threat to withdraw from New START, if Russia concerns are not met. This again is not new: Missile Defence is explicitly discussed in the preamble and in Article 5 of New START. The preamble recognises the "relationship between strategic offensive arms and strategic defensive arms" and stipulates that "current strategic defensive arms do not undermine the viability and effectiveness of strategic offensive arms of the Parties."

Thus, the ongoing deployment of U.S./NATO Missile Defence systems is, in the eyes of Russia, at least a violation of the spirit of New START. In addition, a statement added by the Duma explicitly says that Russia is to withdraw if its missile defence concerns are not met or if its deterrent is compromised. There are absolutely no surprises here.

Moreover it has been repeated much more recently by the Russian negotiator of New START,

[<http://rt.com/politics/russia-arms-treaty-start-us-missile-defense-909/print/>]

Mikhail Ulyanov, that Russian withdrawal from New START was 'not excluded' if Russian concerns are not met.

"Naturally, it would be very undesirable that circumstances would force us to take this step, but it cannot be excluded,"

There have also been statements that Russia would not only not engage in further arms cuts, but that they would in fact 'augment' their

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nuclear arsenal in response to Missile Defence.

General Makarov, chief of Russia's general staff, said last wednesday, that Russia would use nuclear weapons against any threat to its integrity.[www.interfax.com.ua/eng/main/94710/]

If the downward trajectory in warhead numbers in the two countries that possess 90-95% of all the nuclear warheads on the planet is reversed and arms control measures such as New START are abandoned, then all bets – at least, all optimistic ones – are off as far as further progress in nuclear disarmament is concerned. Abandonment of arms control measures amounts to thumbing ones nose at the clear NPT Article VI obligation to have negotiated away nuclear arsenals by about 30 years ago. This could cause the entire NPT framework to collapse.

The apocalypse would be well and truly back on the agenda, yet it is all perfectly avoidable.

On the US side, an unwholesome 'deal' has been struck with opponents of New START, that offset the limitations on operative warheads with a massive modernisation plan that actually would have been the greatest expenditure in history on nuclear weapons and nuclear weapons infrastructure ever to take place. Such a program would seem to undermine the very purpose of New START in the first place, namely to fulfil the legal obligation of the US and Russia to go to zero.

However – and this is actually a positive – the modernisation program now seems to be in increasing doubt in view of the financial crisis, with some congresspeople (Ed Markey with the SANE Act),
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urging drastic cuts in spending on nuclear weapons.

The Obama administration itself is said to be contemplating 'deep cuts'.
[<http://www.ajc.com/news/nation-world/us-weighing-steep-nuclear-1349285.html>],

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with Associated Press reporting possible cuts of up to 80% in warhead numbers.

The possibility of 'deep cuts' to the US nuclear arsenal has prompted both supportive comments from the disarmament community, and vitriol and misrepresentation from the republican right. Once more, it is clear that if it were widely understood that large -scale nuclear weapons use could be terminal for most living things including humans as the scientific evidence makes so crystal-clear, this would change the very nature of the debate from 'how to ensure national security'(by holding everyone else at risk) to 'how to ensure planetary survival'.

As it is, the commentary on the republican right runs as follows:

“Can you believe that the American people will stand by for this ... so clearly putting the nation's defense at risk?” said Liz Cheney on Fox News.

Radio host Rush Limbaugh called it “downright scary” and a shift in the balance of power toward Russia “by design.”

Equating reducing nuclear weapons with reducing American power, Sen. James Inhofe (R-Okla.) said, “The idea that making ourselves weaker will somehow lead to increased global security and stability is ridiculous.”

Many in the disarmament community, notably Cirincione and Hans Kristensen in the FAS blog, have commented that in fact, it has been republican administrations that have made some of the largest cuts in the US nuclear arsenal.

Kristensen notes that:

“Despite an outcry from congressional republicans and conservatives against the Obama administration’s plans to reduce nuclear weapons, Republican presidents have been the big disarmers in the post-Cold War era.”

and:

A reduction to 1,000-1,100 would be about 30 percent below the New START treaty limit, a drop similar to the 30 percent reduction between the New START treaty and the Moscow Treaty ceiling of 2,200 warheads.

A reduction to 300-400 would be a reduction of approximately 77 percent – right up there with the Bush cuts of the past two decades.

Those Bushies must have been reckless liberals in disguise.”

[<http://www.fas.org/blog/ssp/2012/02/republicandisarmers.php>]

Steven Schwartz of the Monterey Institute said to Joseph Cirincione that:

“I don’t recall too many Republican complaining or fretting about those reductions, the latter of which took place during a period when we were fighting two wars, when North Korea conducted two nuclear tests, and when Iran expended its nuclear operations, ”

[http://www.foreignpolicy.com/articles/2012/02/17/getting_to_zero?page=full]

Cirincione [op cit] notes that proposals for going as low as 500 or even 300 nuclear warheads are not exactly new. The rightwing Cato Institute, not exactly a darling of the nuclear disarmament movement, has proposed going from the current 1500-1700 warheads, (with much larger numbers in the non-operational 'hedge' category) to 500 warheads. A study done in 2010 by three air force officers, suggested going as

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low as 300 warheads. And as Cirincione pointed out it is almost impossible to envisage circumstances in which even 300 nuclear warheads might be called for that did not entail the destruction of technological civilisation.

Unless of course, a US – Russia apocalypse is STILL on the agenda in spite of all the denials that this is so.

The republicans in a letter signed by 32 congresspeople alleged that going to 300 warheads (which may not Alas! - even be at all what is contemplated) – would mean that the US would have 'fewer' warheads than China.

This is not so. While China has an astonishingly restrained arsenal of approximately 240 warheads by our best estimates, most of these would be considered by US standards not to be 'deployed' at all (i.e. they'd be in the hedge stockpile where they are more or less invisible to counting under arms limitation treaties), and a mere 40-50 max are able to be used as strategic forces against the US.

The Chinese clearly (and correctly) believe that being able to incinerate 50-100 million americans and cripple the US as a functioning society is sufficient deterrent. They do not need to make rubble bounce.

I wish President Obama all the success he could have in the bureaucratic infighting and vicious politicking that he will experience in trying to implement deep cuts in warhead numbers and in alert status in the US nuclear arsenal. Even partial success in doing this will make a significant difference to the prospects of survival for both civilisation and for humans and the thousands of other species we would make extinct in a major nuclear event. For Obama it may be his last, best, chance to justify the nobel he was awarded after the Prague speech.

Returning once more to the subcontinent, there are again, both negative and positive forces clearly at work. It is hard to see what will win.

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On the more negative side, even as the Pakistani state seems on the verge of dissolving, with civil and military authorities facing off against each other, while insurgent elements are coddled, or at least not tackled, and with relations with the US in some kind of free-fall, Pakistan is still making nuclear warheads faster than anyone else on earth. [<http://bos.sagepub.com/content/67/4/91>]

Pakistan's induction of a short-range tactical nuclear missile with 'shoot 'n scoot' characteristics presumably in response to a 'cold start'

scenario, merely inserts another tripwire for nuclearising a conflict with India.

Finally, there has been speculation amongst the media and amongst analysts for years, that Taliban or Al Qaeda elements could, one way or another, probably with inside help, obtain a nuclear weapon.

On India's side, I suspect that things are being held back from a subcontinental arms race by the personal commitments of both the Prime Minister and by the commitment of Mr Mani Shankar Aiyar, the author of the 1988 Rajiv Gandhi Peace Plan. How long Mani will be able to restrain a full-fledged nuclear arms race, and whether he will be able to reverse it, via the current round of confidence building measures, I do not know. One can only wish him all the considerable luck, prayers, and divine intervention that he is going to need to achieve this.

The BAS was right to have moved the clock from six to five minutes to midnight. While there was significant hope in 2010 with the signature and ratification of START, and while the 2010 NPT Review conference was lacking in the rancour that some other conferences (such as the 2005 conference) displayed, and did actually come up with a final declaration that was not too bad, in more recent times we have slid backwards. And no attempt whatsoever has been made to implement the 2010 NPT final declaration.

In addition, some utterly critical items have been missed.

Obama in his election campaign and after it, committed to negotiate with Russia to lower the operational readiness of US and Russian nuclear weapon systems. His promise has disappeared in spite of resolutions in the UN General Assembly on the issue that go through 157-3.

This quite literally keeps the apocalypse on the agenda.

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In spite of Obama's initial enthusiasm for nuclear disarmament outlined in the 'Prague Agenda' there are a few too many pre-emptive surrenders to the hawks. Lets hope that the deep cuts now on the agenda succeed, along with meaningful changes to nuclear posture.

Russian responses to the obsessive pursuit of a missile defence program that technically cannot work, against an enemy that does not even have the weapon to which BMD is supposedly a counter, are also unhelpful (as are NATO responses to Russian responses), though they are completely understandable. But on missile defence, NATO and Russia seem to simply talk past each other. This has to change.

The same dynamic applies on the subcontinent.

Without clear global leadership and a strong constituency for zero nukes, we risk drifting insensibly, to four minutes to midnight.