

Lexicons of Science Diplomacy

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Theme

- > **“Diplomacy”** -- as one is taught at entry into any training school for diplomats – is the primary means of statecraft designed to effect the non-military ends of the state.
- > **“Science Diplomacy”** is about harnessing science and scientists to the practice of diplomacy. It came to prominence when scientists smoothed diplomatic negotiations between the principal Cold War adversaries – the U.S. and then Soviet Union – to shape the Nuclear Non-Proliferation Treaty (NNPT), and other Arms Control treaties since.

The irony in that legacy

- > It is ironic that the NNPT was negotiated in the late-Sixties between adversarial super-powers to give effect to their shared interest to stymie and control the spread of nuclear weapons *and their enabling technologies* to – in particular – the states of the global South
- > So, no surprise that one finds quasi-military epithets for ‘scientific diplomacy’ in some North media, such as: “*Un coup gagnant de la diplomatie scientifique de la France*” (“A winning shot of scientific diplomacy of France”)

Therefore

Given those origins and modes of the use of such expressions as 'science-in-diplomacy'; 'diplomacy-for-science'; 'science-for-diplomacy', I eschew the use of these expressions in lexicons of Science Diplomacy if only to pre-empt neo-colonial attitudes creeping into *our* S&T engagements with co-South states.

Even 'Science Diplomacy'. Prefer this hyphenated theme descriptor :

> 'Science-in-Diplomacy'

A morphological distinction

Needs to be made between:

- > **International collaborations** in scientific and technological fields,
and
- > **S&T in Foreign Policy**: When the findings of science, or use of technology may have ramifications for international relations beyond the 'S' or 'T' themselves, then the pursuit of the 'S' or control over the use – to the limit of the denial of use of even self-developed 'T' -- are influenced by Foreign Policy.

S&T in diplomatic engagement

- > When a *quid pro quo* is negotiated in return for a country's participation *as a State* using her scientific or other advantages, such as:
 - locational* > UN-sponsored TERLS at the Magnetic Equator;
 - epidemiological* > WHO-sponsored vaccine trials in tropical Latin America;
 - technological* > contribution in kind of sub-systems; e.g. for the Square Kilometre Array in South Africa;
 - reciprocal use of facilities* > GMRT (Pune) and Arecibo (Puerto Rico)
- > Non-reciprocal offers of unique facilities, e.g. Infra-red telescope in *Ladakh* > soft power

Science-informed diplomacy

- > As human threats to the global commons become ever-more severe, global diplomatic negotiations over treaty-based national actions to mitigate them become increasingly underpinned by a common trans-national appreciation of the underlying science.

Two hardly-known Indian traces to international science-informed diplomatic negotiations

- > Kothari report on the Effects of Nuclear Explosions
 - >> LTBT
- > Kulkarni-Ramanathan (late 1940s) work on the vertical transport of Ozone in the atmosphere > Ozone-CFC chemistry >> Montreal Protocol

Science-disdained diplomacy

- > In Oceans and Space: 'Commons' as these domains are usable by all nations
- > The oceans are ecologically fragile, and getting more so. Despite the urgings of the scientific community of the US, the domestic ideological opposition there has been dominant enough to prevent the formal accession of the US to UNCLOS
- > Sustainable use of space demands science-informed actions, *and inactions*, of the few nations that have autonomous capabilities to access and use that commons. Disdainful of possible restraint on its freedom-of-action in a contested domain, the US has declared, flatly, "space is not a commons"

Science Diplomacy in the Cyber Commons

- > In the cyber domain, capabilities and expertise needed to mount cyber attacks and counters are more evenly resident in North and South nations: The richer the offended nation, the greater its economic and political pain.
- > Thus, ASEAN countries have harnessed their cyber scientists and information technology specialists to build capacity and confidence between them, when the diplomatic track to evolve regional cyber CBMs have run into roadblocks.
- > But research is accelerating to exploit quantum physics to segregate the cyber commons into quantum haves and have-nots, with technology controls to ensure it stays so.

Shifts in the Geography of Science...

... and their consequences for Science Diplomacy

> “...US and Europe, the established *science superpowers* have dominated the research world since 1945. Yet, this *Atlantic axis* is unlikely to be the main focus of research by 2045, or even by 2020” ... *Nature*, 18 October, 2012.

>> Is this why the PM of post-Brexit UK termed India a “science superpower”?

> As India, and countries of the South, enlarge their scientific ‘spheres of influence’, diplomacy will play an increasing role in their S&T-mediated international engagements – with the North and intra-South.

> Several of those engagements will be mediated by geo-strategic considerations – Space is the obvious example. But also the Oceans and the Polar regions.

Thank You