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Can science diplomacy keep up with a world in crisis?

A new report from the Royal Society and AAAS updates their 2010 vision of the relationship between science and diplomacy, trading optimism for realism. Matthew Adamson, Sam Robinson, Gordon Barrett and Lif Jacobsen argue that the new framework flattens the messy realities of power, politics and expertise. Rather than forging harmony, they write, science diplomacy must be seen as a way to navigate complexity.

Science Diplomacy in an Era of Disruption, the 2025 **report** from the Royal Society and the American Association for the Advancement of Science, asks whether science diplomacy has changed. It revisits and updates their influential **2010 report**. Both documents frame science diplomacy as a vital tool for steering humanity towards a healthier, more just global society. The authors' commitment to such a vision is commendable. Yet a clear understanding of science diplomacy's true value remains elusive.

The 2025 report reflects an era of intensifying global crises. Russia's invasion of Ukraine continues; conflict endures in Sudan; Gaza remains under bombardment; and the Democratic Republic of Congo is still in turmoil. Meanwhile, the United States has signalled disregard for long-standing alliances, undermining international security structures it once helped build.

The authors of *Science Diplomacy in an Era of Disruption* underscore the deepening entanglement of science and statecraft. Climatologists, epidemiologists, and data scientists are often on the front lines of our most urgent **global challenges**. But science diplomacy, as presented in both the 2010 and 2025 reports, remains inadequate to address these risks alone.

Behind these acute disruptions lie deeper, long-term challenges. Climate change has loomed for decades. Artificial intelligence is advancing rapidly, promising both profound benefits and potential destabilisation. At the same time, rising food insecurity and zoonotic pandemics suggest that COVID-19—and the fraught dynamics of vaccine diplomacy—were not a one-off event.

Critique of the 2010 report

The 2010 report introduced the now widely cited tripartite framework: *science in diplomacy*, *science for diplomacy*, and *diplomacy for science*. While linking science, technology and geopolitics marked an important development, the framework, built on selective historical examples, has since come under sustained academic critique.

Historians have challenged the **naïve assumption** that scientific engagement naturally promotes harmonious international relations. Scholars in science and technology studies have **highlighted the disjunction** between the optimistic rhetoric of science diplomacy and its practical outcomes. Some have critiqued the 2010 framework's **narrow historical narratives**, while **others** have questioned the presumed universality of science as a diplomatic tool. More recently, **political scientists** have shown that both the range and influence of historical actors—particularly non-state actors—have been significantly underestimated.



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A **growing body of scholarship** now calls for greater attention to plural origin stories of science diplomacy, particularly from the Global South. For instance, histories of **Brazil's nuclear diplomacy** or India's scientific **independence movements** offer vital counterpoints. Scholars argue that these **alternative narratives** are crucial for decentring the US, UK and Europe in accounts of the contemporary history of global science.

The 2025 response

The 2025 report acknowledges many of these critiques. Drawing on a more diverse range of voices, it confronts science diplomacy's political, cultural, and historical complexities. It concedes that scientific values are not universally shared, that scepticism towards science is growing and that despite its international scope, equity in scientific careers and resources remains elusive.



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Critics have long **debated** whether “science diplomacy” is a useful framework or merely a fashionable, post-imperial label. The 2025 report leans towards a more grounded perspective. It recognises both science diplomacy’s limited power and the diverse interests shaping its practice globally. Crucially, it situates the 2010 report within its **historical context**, a post-9/11, post-Cold War period still defined by US scientific dominance.

These are important admissions. They reflect a more self-aware and politically attuned science diplomacy. But are they enough?

A new framework

The 2025 report replaces the familiar tripartite model with a two-way framework: science *influences* diplomacy, and diplomacy *influences* science. While this simplification introduces welcome dynamism, it also flattens the messy, contradictory realities of practice.

One motivation behind the new model appears to be the preservation of a boundary between science and policy. The report emphasises the need for mutual understanding between scientists and diplomats, while warning that the “blurring of roles... is not constructive and can even be counterproductive”. This caution, however diplomatically phrased, risks reinforcing outdated notions of **apolitical science** and “**pure**” diplomacy.

The report also downplays today’s complex global **knowledge-power dynamics**. Although it gestures toward the rising influence of private-sector actors in communication and pharmaceuticals, it largely sidesteps thornier issues: the alignment of private enterprise with state interests, the influence of non-state actors, and the hybrid motivations of those operating within science diplomacy.

Moreover, the report leaves science diplomacy’s geopolitical context underexplored. It appears both omnipresent and undefined, visible in certain formal structures but largely ephemeral. It is transient, yet embedded in global **scientific infrastructures** still **shaped by the Global North**.



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Science remains vital to institutions like the **United Nations**, not just as a source of knowledge, but also as a vehicle for promoting **global cooperation**. Yet the report barely touches on these dynamics, as though science diplomacy's claimed **ubiquity** exempts it from critical scrutiny.

Yet science diplomacy undermines its own broader goals if it fails to address the deep-rooted asymmetries in global science.

If science diplomacy is to endure as a prescription, it must evolve. Rather than treating science diplomacy as a discrete **tool** of international engagement, it would be more productive to see it as a mode of perception, a **lens** for tracing how transnational networks of scientific knowledge and expert-driven, capital-intensive technologies shape global politics.

Don't dismiss science diplomacy

This perspective brings into focus the geostrategic significance of emerging **cyber-technologies**, the **vulnerabilities** of energy and communication infrastructures, the **strategic positioning** of semiconductor manufacturing, the growing instability in **global supply chains** and the **contested governance** of artificial intelligence. These are arenas where science, security and diplomacy are deeply intertwined.

Seen in this light, science diplomacy is not about forging harmony; it is about navigating complexity. Embracing this view means *not* abandoning science diplomacy but growing up with it, recognising that a mature science diplomacy must be more inclusive, more resilient, and more honest about the global inequities it seeks to bridge.

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