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## **Prospects for a Cosmopolitan Right to Scientific Progress**

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*Declaring a cosmopolitan right to scientific progress risks perpetuating many of the inequities it aims to overcome. This calls for a re-imagining of science that directly responds to science's links to violent nationalist projects and the harms of capitalism.*

The proposed “right to enjoy the benefits of scientific progress” suggests that an appropriately formulated right can deploy the strengths of science to address the world’s challenges, from poverty and hunger to inequitable globalization and climate change.<sup>1</sup> As recently argued by Michela Massimi in *Nature Physics*<sup>2</sup>, such a project requires careful consideration of what constitutes scientific knowledge in the first place and a frank assessment of its role in societies around the globe. This re-evaluation is long overdue. Whereas much of the 20<sup>th</sup> century was marked by enthusiasm for scientific progress, this optimism presumed a vision for science that seems increasingly out of touch today. In that vision, the scientific community — driven by a collective search for truth — was to be not only a source of authoritative facts and tools forming the basis of legitimate political action.<sup>3</sup> It was also expected to be a model for peaceful human co-existence.

As early as the 1890s, scientists across Europe and North America dreamed that a coordinated global science could overcome national prejudices and unite humanity as a whole. Symbolic of this era, urban planner Hendrik Christian Andersen proposed a world city built around research and cooperation (pictured), convinced that the pursuit of science could purify humans of destructive urges and provide unending prosperity.<sup>4</sup>

These grandiose plans were quickly abandoned at the start of World War I. Members of international scientific societies were soon split according to national loyalty, trading manifestos blaming the other side for starting the violence. Fritz Haber, German Nobel laureate and infamous developer of chemical weapons, proclaimed his pride in “serving humanity in times of peace, and the fatherland in times of war.”<sup>5</sup> By the 1980s, multiple global conflicts had made it painfully clear that science and its affordances are deeply entangled with particular values and interests.

Within the borders of nation-states, it was high-profile scandals, like industry-funded tobacco research, professional misconduct, and new harmful technologies that most directly challenged the idealized social contract between science and human societies. Patient groups, environmentalists, victims of colonial and wartime violence, and other affected publics began to argue for more direct representation in scientific spaces, from clinical trials to expert-led government committees. Since then, the abstract conceptual boundaries between science, nationalist projects, and technology-driven capitalism have fallen away.

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Now, as unmet ideals of pure science, and of following the Science, stubbornly persist, societies are faced with the urgent task of deciding again the role of science in society by taking into consideration its real-world limitations and future potential. But what does it mean to re-evaluate science in this way and who will be empowered to actually participate in this process of change? For many, the obvious response is to reassert the utopic vision of the early 1900s, even despite its perennial failure to work in practice.

We can, as Massimi does<sup>2</sup>, call for something global, inclusive, and perhaps shepherded by caring philosophical experts and supported by international bodies: a cosmopolitan right to science and its benefits, updated with a pluralist recognition of diverse knowledge practices. This expansive and justice-oriented proposal might seem like the perfect match for an unjust world in the midst of multiple crises. However, as evidenced by the uneven history of cosmopolitan initiatives in science, there are significant and non-obvious dangers in pursuing this theory-driven strategy. Here, we argue that neither a guiding philosophical expertise nor a declaration of cosmopolitan rights to science are well-suited to facilitate the re-imagination of science for the present day.

### **Limitations of the Philosophical Imagination**

To better understand what science should be within the framework of a cosmopolitan right to scientific progress, Massimi considers philosophy of science an essential source of insight about knowledge.<sup>2</sup> While she acknowledges that the field is only recently working through difficult questions about scientific progress and societal benefit, it seems misguided to turn to an academic discipline that has purposefully ignored social and political questions in its most widely cited venues.

In *Philosophy of Science*, a leading English-language journal publishing since the 1930s, science is treated almost entirely as an idealized method of epistemic inquiry, free from societal entanglements; sexism and racism, not to mention corporate science, nationalism, and a range of other concerning developments, are scarcely mentioned in its 88-year history.<sup>6</sup> Throughout the 20<sup>th</sup> century, *Philosophy of Science* and its contributing scholars refused to give up on traditional ideals of science even when the most devout cosmopolitan scientists had abandoned their international initiatives or were pulled into nationalist conflicts.

It may be tempting to admire the Ivory Tower mentality of philosophers, freely and abstractly pondering what makes science good, independently of real-world constraints. However, this “ritualized separation” of science from its worst instantiations is a direct obstacle to empirically understanding what science is and how it should be re-imagined.<sup>7</sup> An approach that lacks a substantive political response to the interactions of knowledge and power is ineffective at best and holds the danger of treating non-Western cultures as mere folklore at worst. Even when it is rooted in a human rights-based framework, this vision for science risks seeing other cultures as legitimate epistemic sources only when their knowledge production occurs within the entrenched power structures of technoscientific capitalism.

### **Limitations of Cosmopolitan Rights**

Dating back to Immanuel Kant’s *Perpetual Peace*, the fundamental idea of a cosmopolitan right was developed predominantly with powerful European colonial empires in mind, appropriate for interactions between state actors of roughly equal power.<sup>8</sup> This genealogy is evident in the way rights-based

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approaches routinely generate contradictions between high-minded ideals and their violation in daily life, especially with respect to those with less power. Breaking it down further, we can identify related shortcomings in both parts of the term; that is, its cosmopolitan scope and its eventual framing in terms of a right.

Cosmopolitanism — an openness towards the human world as both diverse and singular — can refer equally to the sensibility of wealthy globe-trotters and to profound questions of global justice. When sincere, it can be invoked as a powerful justification to bring people from across the globe together in dialogue. In a world of nation-states and empires, however, allegedly cosmopolitan activities often fail to disrupt existing hierarchies of power. We can see this in the way 20<sup>th</sup>-century internationalist science congresses and museums proclaimed the universality of science while spreading nationalist propaganda, eugenics, and racism.

At the first International Eugenics Congresses in 1912 and 1921, for example, it was science that provided a common language for strategizing about the maintenance of racial superiority.<sup>9</sup> And while Andersen's world city of enlightened scientists was never built, it did become a sort of blueprint for fascist monuments to science in Italy and nationalist science museums in Germany. These venues celebrate humanity's scientific triumphs while denying humanity to enemies of the state.

The concept of a human right evokes similar contradictions. Ostensibly, it provides a more precise legal language with which an individual or government can describe the cosmopolitan's moral obligation to all of humanity. Yet, both distant and recent history provide ample illustrations of how this particular combination of human rights and cosmopolitan thinking has also been used by powerful nations to rationalize unilateral interventions in other countries.<sup>10</sup>

Though often heralded as universal, the concept of a human right cannot actually be applied to all relationships or geographic contexts. Parenting and other asymmetric caring relationships, for instance, are rarely a response to the rights of children. Parents act out of love or more complex moral emotions. Kinship with the natural world, a core part of many cultures, poses a similar conceptual challenge by rejecting the primacy of the human. This "vitalist" form of politics extends recognition to non-humans and ecosystems and has mobilized Indigenous movements of resistance internationally.<sup>11</sup>

While rights frameworks might be adapted to better accommodate these diverse cultural and material contexts, Raimundo Panikkar (1982) recommends caution; even when there is a non-Western analogue for rights (e.g. *svadharma* in India), the capacity for bi-directional criticism across cultures is essential.<sup>12</sup> This criterion are unlikely to be met by the institutional spaces where the right to scientific progress is being negotiated.

### **Alternatives Beyond Theory**

If history is any indication, it is the powerful that choose the ideals of cosmopolitanism and decide how to enact them in practice. This paradoxical connection between inclusive, cosmopolitan ideals and acts of violence and exclusion are still consequential today — not only in politics generally but also in the governance of science. Consider, for example, that although the basis for the first International Summit on

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Human Genome Editing was the idea of a genome “shared among all nations,” in practice these events were organized by a small group of national academies from the US, UK, and China.<sup>13</sup> Of course, theorists of cosmopolitanism and knowledge including Massimi have stressed that their cosmopolitanisms would be critical of such unrepresentative practices. However, we should be wary of naive optimism about cosmopolitan rights and renewed calls for international science, or we risk repeating the mistakes of congresses and cosmopolitanisms past.

Fortunately, our critiques of philosophical expertise and rights-talk do not exhaust the possibility space for re-imagining the place of science and technology in societies. Community-led organizations and movements globally have shown that it is possible to work across borders and cultures to reform social order and resist injustice. One especially significant domain is agriculture, where local farmer-activists have exhibited both care for their immediate community’s needs and a sense of a shared human future.

Since the 1990s, groups like Beej Bachao Andolan (Save the Seed Movement) in India and proponents of *campesino a campesino* in Latin America have worked to re-shape knowledge and technology for local benefit (e.g. creating and documenting seed banks), while also contributing to global conversations about the harms of technoscientific capitalism. Other important community-led modes of governance have been directed at biomedicine and the life sciences, which have historically maintained colonial power relations and continue to be used in ways that harm Indigenous people. In response, the Native BioData Consortium and like-minded initiatives are developing the capacity to store biomedical data within Indigenous communities, “restructuring research ecosystems from an anti-colonial standpoint”.<sup>14</sup>

These brief examples suggest important lessons for re-imagining science globally, of which two can be highlighted here. First, any re-evaluation of science should respond directly to the intersection of technoscientific capitalism, science, and exclusionary notions of progress. That means refusing to bracket science from society through academic abstraction. A direct focus on specific real-world harms and shared futures could foster coalitions across national borders in a way that vague scientific internationalism cannot. Second, such a re-evaluation should not wait for a cosmopolitan right to scientific progress to be legally established or more fully theorized by academics. Although rights-language is required for communication in some contexts (e.g. in legal disputes, in front of the United Nations), a right to scientific progress is rarely the main source of the effectiveness of successful community-led initiatives. These lessons must be taken into account in academic science policy discussions.

As science and technology create new possibilities for human life, an inability to assess the potential benefits and threats of such possibilities becomes ever more dangerous. Humanity is thus faced with the urgent task of deciding together and individually what we want from scientific progress and who should benefit from it. Deciding on the right to scientific progress in this way represents a multi-faceted decision point, and not a frontier of knowledge to be advanced by select philosophical experts or a legal gap awaiting the creation of a new right.

Illustrated by the uneven prospects of cosmopolitanism as a framework for reform, this challenge of re-imagining science should not and cannot be separated from the project of political and socio-economic

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change in general, with all power imbalances, historical injustices, and open-ended questions of collective futures included therein. As such, it is not the special purview of academics or a lock to be released with a unique theoretical key. Rather, it is a chance to advance something more fundamental, living together in a more just world.

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