How to Create an International Treaty for Emerging Technologies

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Emerging technologies like bioengineering, nanotechnology, artificial intelligence, and geoengineering have great promise for humanity, but they also come with great peril. They could revolutionize everything from pollution control to human health—imagine a bioengineered microbe that converts CO2 into automobile-worthy liquid fuels, or nanotechnologies that target cancer cells. But they also pose the potential to cause a global catastrophe in which millions or even billions of people die.

Effective public policy can help us enjoy the benefits while protecting against the risks. But one hallmark of these technologies is that they can be developed anywhere around the world. And so, as Grant previously wrote, an international treaty could be the most effective way to safely develop emerging technologies. Furthermore, different technologies pose many of the same policy challenges. And so, as Seth previously wrote, a streamlined approach would regulate different emerging technologies under a single governance regime.

Given the goal of establishing a new international treaty for emerging technologies, the question then becomes: How? Does one gallop to the gates of Buckingham Palace, quill and parchment in hand, and bark at the royal guard to fetch the Queen?

There are a variety of options on how to conclude a treaty on emerging technologies, and none of them are easy. Here is a quick review of some treaty-making options in case any readers feel ambitious this week.

U.N. General Assembly. The General Assembly is the U.N.'s primary policymaking body and the most common source of global treaties. Oftentimes, the General Assembly directly opens a treaty up for signature. Other times they initiate a process that leads to a treaty, such as by establishing an international conference or a subsidiary body that hashes out treaty text. However, getting to the big stage is incredibly difficult; only a country in the U.N. or certain U.N. bodies can put items on the agenda. So unless you are cozy with some heads of state, getting an emerging technologies treaty on the agenda will probably require working your way up through other U.N. bodies.

Economic and Social Council (ECOSOC). ECOSOC is a major U.N. body that covers international economic, social, cultural, health, and environmental issues, so their scope certainly includes emerging technologies that will have pervasive effects on humans and the environment. ECOSOC is civil society heaven, with over 3,500 non-governmental organizations (NGOs) having some sort of consultative status. However, NGO power is limited: like the U.N. General Assembly, only a U.N. country can propose treaty text in ECOSOC. Nor is ECOSOC a treaty-making heavyweight like the General Assembly, so it might not be the best option. On the other

hand, ECOSOC could create a subsidiary body that works on emerging technologies treaty text that ECOSOC later proposes to the General Assembly, although this would likely take massive political pressure to achieve.

World Health Organization (WHO). The WHO, a specialized agency of the U.N., is responsible for global health issues. The WHO already works on some emerging technology issues like genetic engineering and nanotechnology, often in conjunction with other U.N. bodies like the U.N. Food and Agriculture Organization. However, only one treaty has ever been concluded under the auspices of the WHO: the Framework Convention on Tobacco Control. And the scope of some emerging technologies like geoengineering and Artificial Intelligence are outside the scope of their public health mandate. Finally, the WHO has tough budget constraints right now, so they are unlikely to spearhead a major emerging technologies campaign. Therefore, the WHO is a plausible but unlikely candidate to handle a treaty on emerging technologies.

U.N. Educational, Scientific and Cultural Organization (UNESCO). UNESCO is a specialized agency in the U.N. that works extensively on emerging technologies within its mandate of social and human sciences. For example, UNESCO's World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) consists of 18 scholars who hash out ethical principles related to climate change, disaster prevention, nanotechnology, and other areas. A significant number of treaties have also been concluded under the auspices of UNESCO, although most relate to non-contentious issues such as education and cultural heritage, and UNESCO typically promotes "soft" (i.e., non legally binding) law rather than legally binding treaties. Overall, UNESCO is an excellent organization to discuss the impacts of emerging technologies but is unlikely to draft an emerging technologies treaty.

Organisation for Economic Co-operation and Development (OECD). The OECD, an international economic organization with 34 Member countries, strives to enhance global economic and social welfare. The OECD already works on emerging technologies like nanotechnology and bioengineering (including synthetic biology), and they have significant scientific and economic clout. However, one major limitation of the OECD is the exclusive membership—34 developed countries, compared to 193 U.N. member states—so global participation is difficult right from the get go. On the other hand, OECD is slowly increasing membership and also hosts Global Forums in areas like biotechnology and sustainable development that includes non-member countries, so they are a reasonable fallback if a more global organization is an implausible choice.

U.N. Environment Programme (UNEP). UNEP is the U.N.'s "voice for the environment." UNEP is well versed in initiating environmental treaties, like the Vienna Convention on the Protection of the Ozone Layer and the Basel Convention, which regulates hazardous wastes shipments. And along with the World Meteorological Organization, UNEP established the Intergovernmental Panel on Climate Change (IPCC), which helped spark today's climate change treaties and won the 2007 Nobel Peace Prize (shared with Al Gore). UNEP already works on disaster risk reduction, biosafety, nanotechnology, and geoengineering, so they are familiar with most areas related to global catastrophes from emerging technologies. On the other hand, while most global catastrophes from emerging technologies have significant environmental consequences, some

global catastrophic risks like a bioengineered virus and artificial intelligence seem to fall outside of UNEP's mandate.

New international body. Perhaps the best option is to create a new international body whose mission is to explore the benefits, risks, ethics, and so forth related to emerging technologies. The body could then eventually transition into drafting a treaty. Since international organizations like UNEP and the WHO imperfectly cover global catastrophic risks from emerging technologies, a new international body would be able to include participation from several such bodies. NGOs, experts, and other stakeholders could become intimately involved, as well. This new international body could either be created by an existing international organization—for example, ECOSOC created the U.N. Forum on Forests, which aims to create a legal framework for forests—or though an international conference, like the recent Earth Summit 2012 in Rio de Janeiro.

One possible template is the International Union for Conservation of Nature (IUCN)—the world's first international environmental organization and now the largest global environmental network, with over 200 governments and 900 NGOs represented. The IUCN General Assembly drafted the Convention on the International Trade of Endangered Species, which was subsequently adopted at the 1972 UN Conference on the Human Environment in Stockholm. Likewise, an international organization with a mission to protect the planet from global catastrophes caused by emerging technologies could draft a treaty that could be opened for signature at a major gathering of heads of state.

Another example is the Strategic Approach for International Chemical Management (SAICM), a multi-stakeholder international policy framework that is co-chaired by UNEP and the WHO and which allows for broad NGO participation. And despite their focus on chemicals, SAICM has a broad mandate that includes many emerging policy issues—they recently looked at nanotechnology, for example—which even makes them a candidate to create a body that could work on an emerging technologies treaty.

Of course, creating a treaty is not easy. In addition to being a massive organizational and technical challenge, the international community suffers from a case of treaty fatigue. For example, some developing countries lack the resources to administer more treaties, while some developed countries disfavor international law or do not want to divert more money into treaty obligations. Overcoming these hurdles requires relentless campaigning, an imminent threat from emerging technologies, the occurrence of a global catastrophe (which nobody wants), or other forces could create the requisite political will. Whatever pathway the international community decides to take, they should do so in the relatively near future so that dangerous emerging technologies do not put the planet in unnecessary peril.