

Right to Science European Parliament, Brussels April 11, 2018

Good afternoon, my name is Jessica Wyndham of the American Association for the Advancement of Science or “AAAS”. AAAS is the world’s largest multidisciplinary scientific membership organization, with over 120,000 individual members worldwide. We are a non-governmental, non-profit organization with a mission to “advance science, engineering, and innovation throughout the world for the benefit of all people.” In addition to publishing the journal *Science*, we support multiple programs at the intersection of science and society. I am Director of the Program on Scientific Responsibility, Human Rights and Law. For over thirty years, we have been a pioneer in developing and applying scientific methods and tools for human rights documentation and investigation, and for over a decade we have worked with the scientific community to understand from their perspective what the right to science means, how it can be applied in practice, and barriers to its implementation.

It is exciting for me to be presenting on the right to science in Europe, in the European Parliament, no less, because my understanding is that every country in Europe, with the exception of the Holy See, has ratified the treaty in which this right is enshrined. Here the conversation is not whether there is or should be a right to science, but given it is an obligation of all governments to implement, the question is – what does the right mean? How should it be implemented in practice? By what measure can we say the right is being or is not being enjoyed?

Though this right was first recognized internationally in Article 27 of the Universal Declaration of Human Rights, our understanding of the meaning of the right is still in its infancy. For that reason, this Congress and the dialogue we have over the next few days is particularly significant. We have the unusually great potential and awesome responsibility to influence how this right is applied to the benefit of future generations.

The scope of the right is vast, encompassing the benefits of scientific progress **and** its applications, the obligation to conserve, to develop, and to diffuse science, to respect the freedom indispensable for scientific research, and the encouragement of contacts and cooperation in science. When you consider the innumerable challenges facing our globe and our communities, from climate change to racism, science has a role to play and, therefore, so does the right to science. I am not going to attempt to tackle the right as a whole but offer a few specific contributions to our discussion about the right to science and what it means in practice.

In my remarks, I draw from research we have done with the scientific community. Starting in 2011 we conducted focus groups with teams of scientists organized by discipline to learn from them the benefits of their science and the applications of the right to science in their work. We fielded a questionnaire in 2016 to learn from the global community of scientists, engineers and health professionals the most important benefits of their science, and the steps government

could take to support the advancement of their work. We also conducted interviews with public health advocates around the world to learn how the right to science may, or may not, serve as a practical tool and framework in their work. It is from this research which I have undertaken together with sociologist Margaret Weigers Vitullo that I draw in my remarks today.

Specifically, I will address what our research has told us about:

- how to define science;
- what are the benefits of science in the context of this right?
- what does access mean? And
- what are core obligations of states with regard to the right to science?

Based not just on our research but going back to the debates leading to the adoption of the Covenant on Economic, Social and Cultural Rights we can say that science is knowledge, knowledge that is derived from a process that is iterative, logical and empirically-based. Actionable scientific knowledge is validated, it is validated through a system of peer review, it is also regulated (most often self-regulated) through ethical oversight. The scientific process is integral to what constitutes science and distinguishes scientific knowledge from other forms of knowledge.

With that understanding of what science is, what can we say are the benefits of science?

The language of the right articulated in the Covenant distinguishes between the benefits of **scientific progress** and the benefits of the **applications of science**. It is the applications of science on which there has been some focus in early discourse on the right to science. Science is applied in the development of products and treatments, provision of services, and development of technologies. These material benefits of science serve as the basis for many human rights. The right to health requires tools for diagnosis, nurses and doctors to provide healthcare, technologies to support treatment, and, medicines for cures. The right to a clean environment requires science and technology for mitigating and preventing destruction of the natural environment. The right to water requires the ability to capture, test, decontaminate and transport water to where it is needed. And the rights to freedom of information and freedom of expression require information communication technologies necessary to receive and impart knowledge. In this way, the right to science lies at the core of many other rights.

However, unless we are to limit the scope of potential influence of the right we cannot forget that the right not only addresses the “applications of science” but also the “benefits of scientific progress”. Here we return to the essence of what science is – knowledge and the process by which it is created. One benefit of science is that it advances knowledge, sometimes that knowledge can be applied and inform action, sometimes the knowledge is the product of basic research, one piece in a bigger puzzle, the practical significance of which may not be first evident. As participants in our focus groups said, the scientific method can reveal “new truths about everything, from the vastness of the galaxies, to the vibrations of atoms within solid

structures, to the impact of germs and the complexities of humans interacting within social systems.”

Science does not just advance knowledge in general, but it specifically provides an empirical basis for creating laws, for developing policies, and for planning, evaluating and monitoring programs. Policy making on climate change occurs, or at least should occur, based on our scientific understandings of the drivers and impacts of climate change. To achieve this, the right to science requires that scientists and peer-reviewed scientific data, analysis and findings be integrated into government functions. Just as science can inform legislative action, so, too, science contributes to the judicial system, contributing to the evidence necessary for just and fair prosecutions.

At the individual level, science empowers informed personal decision-making on what to eat and drink, whether to wear a helmet or use a seat belt, what medicines to take or treatments to follow, or whether to support a particular policy or practice. Our actions in each case are driven, at least in part and perhaps no more than subconsciously, by our understanding of the scientific underpinnings of the issue.

As such, implementation of the right to science, at its very core, demands acceptance of the scientific process as having intrinsic value, and evidence-based decision making as the logical corollary.

With this understanding of the benefits of science, what does that tell us about “access” in the context of the right to science? The right to science is not just about access to the products and services of science, though it is certainly that. Given that science encompasses both the products, as well as the process of science, when addressing “access” we must take a holistic approach, from consumers of science – which is all of us at most points of our day and moments in our lives – to scientists, creators and innovators.

Consumers of science require the products and services of science, but they also need information, scientific technical information translated to be understandable to the untrained individual. The more trained someone becomes, the more they could be expected to understand and require access to the original scientific literature. Science creators and innovators, they need not only access to the technical literature, but also access to data, and to samples, materials and to subjects to use in their research.

For the right to science to be realized, therefore, access to each of these must be provided. However, as the scientific community has pointed out, access presupposes funding to do research, it is also dependent on information communication technologies to deliver information, and even to deliver the products and services of science, and relies on education and training to make access meaningful. Thus, funding, education and training, and information communication technologies are tools and mechanisms for supporting access.

In a survey we conducted of the scientific community globally, the five government actions that respondents indicated would support advancement of science were funding and education (as

suggested above), but also promoting a positive view of science and scientists among the public; ensuring open access to scientific information; and promoting and protecting academic freedom.

Indeed, Article 15(3) of the Covenant says specifically that governments have an obligation to “respect the freedom indispensable for scientific research.” Scientific freedom requires allowing disclosure and criticism by scientists of government practices, facilitating international travel and collaboration for scientists, only imposing regulations that are limited, necessary, time bound and reviewed to protect against stifling scientific freedom, and protecting scientists against threats, harassment and intimidation by groups and individuals who oppose the topic or methods of their research.

All that said, as my organization declared recently in a statement on scientific freedom and responsibility, “Scientific freedom is the freedom to engage in scientific inquiry, pursue and apply knowledge, and communicate openly. This freedom is inextricably linked to and must be exercised in accordance with scientific responsibility. Scientific responsibility is the duty to conduct and apply science with integrity, in the interest of humanity, in a spirit of stewardship for the environment, and with respect for human rights.”

So, despite the fact that the language of Article 15 does not address “responsibilities” of scientists, *per se*, it is imperative to consider the potential negative human rights implications of science – the conduct of scientific research as well as the applications of scientific knowledge. Scientific freedom is not absolute, but centers on this nexus of freedom and responsibility. It is government’s role, when necessary, to pass laws and regulations limiting scientific freedom, though doing so narrowly and in a way that is consistent and subject to ongoing evaluation for effectiveness and continued need.

There are many instances in which we see restrictions on scientific freedom that do not meet these criteria. Rather, scientists, speaking out on topics of their expertise, or speaking out as members of an educated elite, are threatened, harassed, and sometimes silenced because their work and what they say runs contrary to a prevailing political narrative. Silencing science does nothing to promote good science, on the contrary, and without good science not only do we lose the benefits of scientific progress and its applications, but we risk our national security, we undermine economic development, and we certainly put in jeopardy sustainable development.

Countries at all levels of economic development can respect the right to science by respecting science and scientists, their freedom of expression of opinion and expression, and their freedom of association and movement. On the flip side, countries at all levels of economic development can take steps to prohibit or prevent the violation of human rights by scientific progress and its applications. Other core obligations of governments under this right, according to our assessment, include to guarantee non-discrimination and gender equality in the realization of the right, and also to adopt the measures necessary to protect and address the needs of marginalized and vulnerable populations, including with regard to funding, determining research priorities and the conduct of science. Finally, our initial research involving just scientists in the United States suggested that a core obligation on government was to

eliminate barriers or obstacles to international cooperation in science and adopt measures to facilitate international scientific exchange and technology transfer.

Before I end, let me recap – the right to science is central to the realization of many other rights because of the material benefits derived from science. At the same time, the right to science is significant in itself because of the centrality of the scientific process, scientific methodologies and the information generated by science that are necessary to inform public policy matters and personal decision making. Access to the benefits of science, therefore, require more than access to the fruits of science, but also to the tools necessary to do science, the education to understand and use science, as well as the funding to conduct science.

Articulating what the right to science means in practice has the potential to serve as a watershed moment by providing the basis for governments and civil society, including the scientific community, to assess the extent to which any government is adequately supporting a robust scientific enterprise. The imperative is clear. By ratifying the International Covenant on Economic, Social and Cultural Rights 167 countries have voluntarily agreed to be bound to the terms of the treaty, but without an elaboration of the somewhat vague and amorphous language of the treaty, what obligations the treaty gives rise to are unclear. We must now go through the effort of defining the right so that it can be implemented, so that we can assess the extent to which the right is being realized and monitor the effectiveness of actions towards realization of the right, so that we can advocate for change, and seek remedies for violations.

I commend the organizers of this Congress for grappling with the right to science as it relates to specific issues and not as a theoretical or philosophical construct. It is only through the use of the right to science as a tool for communication, policy formulation, legal intervention, and impact evaluation that the right will gain meaning and teeth.

As I concluded at a meeting we held recently at UN Headquarters in New York, science lies at the heart of so much that is basic to our humanity, to our dignity as humans, and to our long term viability as a human race on this earth. I am proud to be part of the movement toward the elaboration of a General Comment on the right to science, and I am so pleased that the day is approaching when everyone from a school child in their classroom, to a minister at her desk, will think of the right to science as an overarching framework that supports and drives scientific knowledge, understanding, and the policies that science informs.

THE END

Interviewees provided several suggestions and strategies for addressing this challenge, strategies that in some instances have been tried, or have been tried in areas other than health, but need to be more broadly adopted. These strategies assume that governments can reassume a central role in guiding the innovation system, given that it was a system created by governments. As such, adoption of these strategies could serve as one way a government could meet its obligations under the right to science. One such strategy acknowledges the financial incentives driving the private sector, while recognizing that other motivations also exist, including to save lives and help people. This strategy involves offering prizes and grants in support of research, rather than monopolies, coupled with delinking the costs and rewards for innovation from the price of the products. Thereby, financial incentives are offered, but the government, which in many instances has paid for the underlying research that leads to the privatized pharmaceutical development, retains influence over the public benefit derived from the research. Much more could be said about this, but unfortunately, I do not have time, but the larger point is that while there are practical challenges to the implementation of the right to science, they are not insurmountable. In some instances, they depend on the will of all parties involved to be willing to question the status quo, and test new approaches guided by the human rights imperatives.