

## Freedom, Responsibility, and the Human Right to Science

by Molly K. Land and Sarah Hamilton<sup>1</sup>

### Introduction

The AAAS Statement on Scientific Freedom and Responsibility recognizes both the rights of scientists as well as the importance of conducting science with respect for the rights of others. In emphasizing both scientific freedom and scientific responsibility and in connecting them as essential parts of the scientific endeavor, the Statement reflects international human rights law, including the human right to science. This essay addresses the connection between human rights and scientific freedom and responsibility.

Human rights law establishes binding international standards that govern “the treatment of individuals and groups by states and non-state actors on the basis of ethical principles regarding what society considers fundamental to a decent life.”<sup>2</sup> Although there continues to be disagreement about the values underlying these commitments, states have nonetheless committed themselves to these standards by ratifying human rights treaties. Human rights treaties create mechanisms to hold states and other duty bearers accountable for these promises and to provide remedies to individual victims of human rights abuses. Although imperfect, these mechanisms use states’ own public commitments to pressure states that are not living up to their promises. In many instances, human rights standards are also incorporated into, or reflected in, domestic law, which may provide additional mechanisms for accountability and remedy.

The human right to science is guaranteed in Article 27 of the Universal Declaration of Human Rights (UDHR) and Article 15 of the International Covenant on Economic, Social and Cultural Rights (ICESCR). Although a human rights framework is not the only way of thinking about the relationship between science and ethics, it does provide an important foundation. Drawing on the views of the AAAS Science and Human Rights Coalition Working Group,<sup>3</sup> some of the benefits of relying on the human right to science include:

- Human rights law reaffirms the freedoms that scientists enjoy, both as individuals and in their professional capacities as scientists. Grounding these freedoms in human rights law allows scientists to articulate them as rights founded on binding legal obligations that states have assumed in human rights treaties.
- A human rights approach reaffirms the special responsibilities of scientists in conducting their work. Scientific responsibility is typically carried out via compliance

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<sup>2</sup> Steve Marks, *Human Rights: A Brief Introduction* (Harvard University 2016), p. 1.

<sup>3</sup> AAAS Science and Human Rights Coalition, Science Ethics and Human Rights Working Group, *Intersections of Science, Ethics and Human Rights: The Question of Human Subjects Protection*, February 2012, p. 2 [hereinafter “Working Group Paper”].

with disciplinary codes of ethics and procedures for institutional approval of research. The human rights framework provides a bridge between these different disciplinary codes and a framework for resolving ethical conflicts by emphasizing a shared commitment to human dignity.

- In linking scientific freedom and responsibility, human rights also makes clear that scientific responsibility cannot be reduced to compliance with any one code or set of processes for institutional review. As the Coalition Working Group explained, human rights “provide a value-added component to research ethics.” A human rights framework helps make clear that scientists not only enjoy rights and freedoms but are also obligated to respect the rights of others, particularly when they exercise the special freedoms they have as scientists.
- By providing an internationally recognized set of standards founded on human dignity, human rights also helps resolve conflicts that can arise in scientific work carried out across borders, including instances where codes conflict or offer differing levels of protection for research subjects.

There are also challenges in applying a human rights framework to science, including differences in terminologies and variety in practices between disciplines.<sup>4</sup> Nonetheless, human rights can provide an important complement to existing ethical frameworks. In recognition of these contributions, the AAAS Board has affirmed the importance of the human right to science and committed itself to engaging with members and affiliates about this right and its meaning for scientific freedom and responsibility.<sup>5</sup> This essay provides an overview of the central elements of the human right to science and its relationship to the AAAS Statement on Scientific Freedom and Responsibility.

## Scientific Freedom

Scientific freedom is guaranteed by the right to science, established in Article 27 of the UDHR and Article 15 of the ICESCR, but also by a range of rights and freedoms protected under human rights law in general.

### A. *The human rights of scientists*

Scientists—like all individuals—enjoy a range of human rights that are relevant to their activities as scientists.<sup>6</sup> They enjoy rights to freedoms of thought, conscience, and religion; to hold opinions without interference; to freedom of expression, including the right to seek, receive and impart information and ideas of all kinds including across borders; and to freedom of assembly and association. They also enjoy basic civil and political rights, such as the rights to life; to liberty and security of person; to freedom of movement; to freedom from torture and cruel, inhuman and degrading treatment; and to non-discrimination and equality. Scientists, as well as members of the public, also enjoy a range of economic and social rights, including the rights to education and to work.

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<sup>4</sup> *Id.*, pp. 2-3.

<sup>5</sup> *Statement of the Board of Directors of the American Association for the Advancement of Science on the Human Rights to the Benefits of Scientific Progress* (2010).

<sup>6</sup> Jessica Wyndham & Theresa Harris, *Science, Technology and Human Rights: Lessons Learned from the Right to Water and Sanitation*, 20 *SCIENCE AND ENGINEERING ETHICS* 827, 829 (2014). DOI: 10.1007/s11948-014-9515-2.

Although these rights belong to all individuals, they may apply in particular ways to scientists by virtue of scientists' professional endeavors. For example, the right to freedom of expression and to seek, receive, and impart information across borders protects the rights of academic and scientific freedom, obligating states to refrain from exercising undue interference with the activities of scientists and to allow scientific exchange and collaboration, including across borders.<sup>7</sup> Freedoms of expression and of information can be limited, but only under certain circumstances; these rights prevent states from unduly interfering with scientific research or persecuting scientists because of their research or findings.

States also have an obligation to ensure that scientists are able to pursue their profession without discrimination and harassment, and on a basis of equality. Toward these goals, states must meaningfully promote the ability of women and minority groups to pursue careers and professional advancement in scientific fields.<sup>8</sup>

### *B. The right to science*

Scientists and members of the public also enjoy the right to science, which is guaranteed in Article 15 of the ICESCR. Article 15 provides as follows:

1. The States Parties to the present Covenant recognize the right of everyone:
  - (a) To take part in cultural life;
  - (b) To enjoy the benefits of scientific progress and its applications;
  - (c) To benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.
2. The steps to be taken by the States Parties to the present Covenant to achieve the full realization of this right shall include those necessary for the conservation, the development and the diffusion of science and culture.
3. The States Parties to the present Covenant undertake to respect the freedom indispensable for scientific research and creative activity.
4. The States Parties to the present Covenant recognize the benefits to be derived from the encouragement and development of international contacts and co-operation in the scientific and cultural fields.

Article 15(1)(b) obligates states to protect the right of everyone to “enjoy the benefits of scientific progress and its applications.” This right includes both professional scientists and members of the general public. For scientists, the right to enjoy the benefits of science includes the freedom to engage in scientific pursuits without undue influence as well as the right to reasonable access to information about the results or research findings of others.<sup>9</sup>

States are also obligated to ensure that members of the public enjoy the benefits of scientific progress and its applications. For example, states are required under Article 15 to share scientific information with the public in ways that increase citizens' ability to make personally relevant decisions about science, to promote science education, and to foster

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<sup>7</sup> Farida Shaheed, *The Right to Enjoy the Benefits of Scientific Progress and Its Applications*, U.N. Doc. A/HRC/20/26 (May 14, 2012), ¶ 40.

<sup>8</sup> *Id.* ¶ 42.

<sup>9</sup> *Id.* ¶ 28.

meaningful public participation in science decision-making.<sup>10</sup> States must avoid misusing science to further political ends and thereby undermining the ability of the public to benefit from science.

The specific freedoms of scientists are protected in Article 15(3), which requires governments to “respect the freedom indispensable for scientific research and creative activity.” By virtue of their profession, scientists have specific human rights that include the right to advance the cause of science without political interference from states or harassment from other parties. Scientists also have the right to education, to academic freedom, to exchange scientific information across borders, and to report the results of their research.<sup>11</sup> This right also includes the freedom of faculty and students to “express opinions about the institution or system in which they work, and to fulfill their functions without discrimination or fear of repression.”<sup>12</sup> In particular, in Article 15(4), states “recognize the benefits” of “international contacts and co-operation in the scientific and cultural fields.”

Article 15(1)(c) also guarantees to everyone “the right to benefit from the protection of the moral and material interests resulting from any scientific ... production of which he is the author.” Often, this obligation is equated with the protection of patents and other intellectual property rights. Intellectual property rights, however, are economic rights that constitute only one means of protecting the moral and material interests of scientists; states can also protect scientists’ interests through other mechanisms such as labor and employment law. Any grant of intellectual property rights in scientific creations must be balanced with the public’s right to benefit from science and its applications protected in Article 15(1)(b).<sup>13</sup>

Finally, Article 15(2) requires states to conserve, develop, and diffuse science. This Article means that states must establish systems that can provide for the “identification and safeguarding of scientific knowledge, products and tools, including literature, databases, specimens and equipment,” make an “explicit commitment to the development of science and technology for human benefit,” and disseminate “scientific knowledge and applications both within the scientific community and in society at large.”<sup>14</sup>

### Scientific Responsibility

Human rights law requires that scientific freedom be exercised with responsibility and integrity. There are two primary sources for this obligation. First, Article 15(1)(b) of the ICESCR guarantees the right of everyone to “enjoy the benefits of scientific progress and its applications.” States are legally obligated to regulate the activities of science in ways that ensure that scientific progress and its applications benefit the public and that individual members of the public are able to access and take advantage of those advances.<sup>15</sup>

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<sup>10</sup> AAAS Science and Human Rights Coalition, “Defining the Right to Enjoy the Benefits of Scientific Progress and Its Applications: American Scientists’ Perspectives” (Report prepared by Margaret Weigers Vitullo and Jessica Wyndham), October 2013, p. 13 [hereinafter “Coalition Report”]. DOI: 10.1126/srhrl.aaa0028.

<sup>11</sup> *Id.*, p. 12.

<sup>12</sup> Shaheed, *supra* note 7, ¶ 40.

<sup>13</sup> Lea Shaver, *The Right to Science and Culture*, 1 WISCONSIN LAW REVIEW (2010); William A. Schabas, *Study of the Right to Enjoy the Benefits of Scientific and Technological Progress and Its Applications*, in *Human Rights in Education, Science and Culture. Legal Developments and Challenges* (Yvonne Donders & Vladimir Volodin eds., UNESCO Publishing/Ashgate 2007).

<sup>14</sup> Coalition Report, *supra* note 10, pp. 4-5.

<sup>15</sup> *Declaration on the Use of Science and Technological Progress in the Interests of Peace and for the Benefit of Mankind* (1975); see also William A. Schabas, *Study of the Right to Enjoy the Benefits of Scientific and*

State regulations to ensure scientific responsibility might include legal and administrative protection for individuals who are the subjects of research, protections for whistleblowers, or laws preventing third parties from using science and technology in ways that harm human rights.<sup>16</sup> These regulations might also include the obligation to “ensure that the benefits of science are physically available and economically affordable on a non-discriminatory basis,”<sup>17</sup> including by promoting innovation that benefits marginalized and vulnerable populations.

Although state regulation to ensure the right of everyone to benefit from science may be important or even required in many instances, scientific freedom also requires states to avoid over-regulating in ways that would inhibit the progress of science. As the AAAS Science and Human Rights Coalition reported, although individual regulations “may or may not be reasonable responses to concerns about national security, trade, or violations of intellectual property rights, an accretion of overlapping, vague and contradictory regulations can smother the scientific enterprise.”<sup>18</sup>

Second, Article 5 of the ICESCR explicitly provides that none of its provisions “may be interpreted as implying for any *State, group or person* any right to engage in any activity . . . aimed at the destruction of any of the rights or freedoms recognized.” Thus, scientists may only exercise the scientific freedoms guaranteed under the treaty if they also respect and protect the other rights and freedoms, including among others the right to benefit from science.

How can scientists respect the right to “benefit” from science? “Benefit” implies at the very least all three of the principles central to ethical codes governing scientific research: respect for persons, beneficence, and justice.<sup>19</sup> These three principles mean that scientists must consider effects of their research on the subjects of their research and establish additional protections for vulnerable subjects. Scientists must respect the human rights of their subjects and avoid complicity in human rights violations. And, scientists must seek to maximize the benefits and minimize the harms of their research, and ensure that the burdens of their research are not distributed in unjust ways.

But the responsibilities of scientists extend beyond these duties to research subjects and include responsibilities to society as a whole. Thus, scientists must consider the potential negative impacts of their research on individuals and on the public, and must orient their research toward the promotion of human rights. Scientists must conduct, communicate, and apply research ethically and with integrity, and they have a responsibility to provide access to data and information underlying their research to promote transparency of science. Scientists have a duty to respect traditional knowledge and to take steps to protect such knowledge

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*Technological Progress and Its Applications*, in HUMAN RIGHTS IN EDUCATION, SCIENCE AND CULTURE: LEGAL DEVELOPMENTS AND CHALLENGES 273 (Yvonne Donders et al. eds., 2007); Coalition Report, *supra* note 10, pp. 11-12; Venice Statement on the Right to Enjoy the Benefits of Scientific Progress and Its Applications (2009).

<sup>16</sup> Venice Statement on the Right to Enjoy the Benefits of Scientific Progress and its Applications (2009), § 15(b); *see also* Working Group Report, *supra* note 3, pp. 8-9.

<sup>17</sup> Shaheed, *supra* note 7, ¶ 30.

<sup>18</sup> Coalition Report, *supra* note 10, p. 15.

<sup>19</sup> The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, *The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research*, April 18, 1979, <https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/index.html>.

where appropriate. Finally, scientists may in some instances even have obligations to report human rights violations of others.

Finally, the scientific endeavor itself may be one way that scientists exercise responsibility. The pursuit of truth enables the public to hold the state and other duty bearers accountable for human rights violations. Thus, scientists have special rights as they engage in the process of scientific inquiry, but they also have duties to ensure that information comes to light that enables accountability.

### **The Relationship Between Freedom and Responsibility**

As the AAAS Statement recognizes, scientific freedom and scientific responsibility are inextricably linked. The rights and protections afforded by scientific freedom are essential for the scientific community and for the benefit of the general public. Yet it is clear that scientific freedom “is not absolute; it must be balanced by scientific responsibility and accountability to society, including responsibility and accountability with respect to research practices.”<sup>20</sup> The special freedoms enjoyed by scientists are contingent on the exercise of these freedoms consistent with scientific responsibility.

The linkage between scientific freedom and scientific responsibility is clear from the text of Article 15 itself, which guarantees to all the right to benefit from scientific progress and its applications. In addition, a general principle of human rights law is that human rights are “universal, indivisible, interdependent and interrelated.”<sup>21</sup> As such, human rights norms that protect scientific freedom and create scientific responsibility cannot be understood in isolation from one another.

Finally, scientific responsibility and scientific freedom can reinforce one another. Scientists who exercise their freedom in responsible ways increase public understanding of and respect for the scientific process and scientific inquiry. Scientific freedom, in turn, provides scientists with the ability to make decisions about their research in ways that meet their responsibilities. However, there may be occasions when the two purposes conflict. The purpose of the AAAS Statement is to encourage scientists to view scientific freedom and scientific responsibility as necessary and related aspects of their profession and to continue the discussion about the protection of scientific freedom and its relationship to scientific responsibility.

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<sup>20</sup> Working Group Paper, *supra* note 3, p. 8; *see also* Audrey R. Chapman, *Towards an Understanding of the Right to Enjoy the Benefits of Scientific Progress and Its Applications*, 8 JOURNAL OF HUMAN RIGHTS 1 (2009).

<sup>21</sup> Vienna Declaration and Programme of Action, para. 3, 1993; *see also* Audrey R. Chapman, “Approaching Intellectual Property as a Human Right: Obligations related to Article 15 (1)(c),” UN Doc. E/C.12/2000/14.