

The Human Right to Science – Down to the Core: Promoting its Justiciability in International Law

Thesis Summary

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KEYWORDS

human rights – science – technology – ICESCR – justiciable

I. Introduction

Until recently, the right to science has led an undeservedly shadowy existence and, tellingly, has been referred to as the “sleeping beauty”¹ of human rights law. Many scholars, practitioners and states are unaware that science is a human rights issue and that such a concept as a “human right to science” even exists. Nevertheless, the right to science has been embedded in the Universal Declaration of Human Rights (UDHR)² since 1948 and subsequently was adopted in the legally binding International Covenant on

Economic, Social and Cultural Rights (ICESCR)³ in 1976. Put simply, the umbrella term which has become known as the “right to science” obliges states to do the following:

- recognise the right of everyone to enjoy the benefits of scientific progress and its applications (Art. 15(1)(b) ICESCR);
- conserve, develop and diffuse science (Art. 15(2) ICESCR);
- respect the freedom indispensable for scientific research (Art. 15(3) ICESCR); and
- encourage and develop international contacts and co-operation in the scientific field (Art. 15(4) ICESCR).

Nevertheless, the right to science continues to languish. Despite publication of the UN Special Rapporteur’s reports on the right to science in 2012⁴ and the General Comment No. 25 on science and economic, social and cultural rights (Art. 15(1)(b), (2), (3) and (4) ICESCR) by the UN Committee on Economic, Social and Cultural Rights (CESCR) in 2020,⁵ the right to science remains essentially dormant. A comprehensive analytical framework describing its potential normative content and what is required for its operationalisation is lacking.

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¹ MONIKA PLOZZA, *Awakening from “Sleeping Beauty’s” Slumber – Curtain Up for the Human Right to Science*, *Völkerrechtsblog* 2021; SEBASTIAN PORSDAM MANN/HELLE PORSDAM/YVONNE DONNERS, “Sleeping Beauty”: The Right to Science as a Global Ethical Discourse, *Human Rights Quarterly* 2020, 332; EIBE RIEDEL, *Sleeping Beauty or Let Sleeping Dogs Lie? The Right of Everyone to Enjoy the Benefits of Scientific Progress and Its Applications* (REBSPA), in: Hestermeyer et al. (Hrsg.), *Coexistence, Cooperation and Solidarity: Liber Amicorum Rüdiger Wolfrum*, Leiden/Boston 2011; WILLIAM A. SCHABAS, *Looking Back: How the Founders Considered Science and Progress in Their Relation to Human Rights*, *European Journal of Human Rights* 2015, 504.

² Universal Declaration of Human Rights (UDHR), Res 217 A(III), (A/RES/3/217 A), 10 December 1948, Art. 27(1) UDHR: Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.

³ International Covenant for Economic, Social and Cultural Rights of 16 December 1966 (ICESCR; SR 0.103.1).

⁴ FARIDA SHAHEED, Report of the Special Rapporteur in the Field of Cultural Rights – The Right to Enjoy the Benefits of Scientific Progress and Its Applications, A/HRC/20/26 (2012); DIES., Report of the Special Rapporteur in the Field of Cultural Rights – Copyright Policy and the Right to Science and Culture, A/HRC/28/57 (2014); DIES., Report of the Special Rapporteur in the Field of Cultural Rights, A/70/279 (2015); ALEXANDRA XANTHAKI, Right to Participate in Science, Report of the Special Rapporteur in the field of cultural rights, A/HRC/55/44 (2024).

⁵ UN COMMITTEE ON ECONOMIC, SOCIAL AND CULTURAL RIGHTS (CESCR), General Comment No. 25: Science and Economic, Social and Cultural Rights (Article 15 (1) (b), (2), (3) and (4) of the International Covenant on Economic, Social and Cultural Rights), E/C.12/GC/25 (2020).

The question arises, however, regarding why the right to science has been lingering in a “sleeping beauty” state until recently. The right to science continues to be an understudied and overlooked human right for reasons related to the ICESCR and its internal functioning in the human rights law framework: The false perception of a dichotomy of human rights has led to an insufficient understanding of the normative content of the right to science. According to the narrative that a dichotomy exists between the ICESCR and the International Covenant for Civil and Political Rights (ICCPR), the rights protected in the ICESCR were understood to generally represent aspirational goals to be progressively realised by the state (Art. 2 ICESCR). Furthermore, its categorisation as a cultural right and its lack of emphasis and importance within the group of economic, social and cultural (ESC) rights have further contributed to this neglect.⁶

II. Why Does the Right to Science Matter?

The societal and jurisprudential relevance of the right to science could not be more timely. Currently, science touches upon every aspect of our lives, and the right to science cannot remain an academic curiosity. Science and technology are key elements in managing and combatting present and future risks, disasters and global challenges such as climate change, pandemics and artificial intelligence. From a legal standpoint, exploring the right to science is vital for several reasons. It provides a “normative home” for concepts such as academic freedom and open access, integrating them into the broader framework of human rights law. Additionally, it helps balance the interests of various stakeholders and addresses challenges stemming from the fragmentation of international law (e.g., intellectual property and trade law). A final reason underscoring the legal significance of the right to science is its human rights perspective, which mandates viewing this right through the lens of the most disadvantaged individuals rather than the societal average.

III. Research Question and Aim

The overlooked status of the right to science, coupled with its significant societal and jurisprudential implications, underscores the need for a detailed conceptual and legal analysis of its normative content to allow rights holders to effectively invoke the right to science at the national and international levels. This necessity leads to the research question of this thesis: What constitutes the justiciable normative content of the right to science – in particular, its core content – for the subjects and addressees according to international human rights law?

By focusing on the core content, this thesis further contributes to the broader discourse in human rights law. Analysing the right to science includes challenging outdated and reductive notions concerning the dichotomy and categorisation of human rights, demonstrating that the discussions around ESC rights and their consequently presumed non-justiciability are overly simplistic and equate to a legal fiction. This effort reinforces the view that ESC rights, including the right to science, are indeed amenable to judicial scrutiny. This perspective not only serves to clarify the substantive legal status of the right to science and the principles of indivisibility, interdependence and interrelatedness of ESC rights specifically and other human rights in general, but also underscores advocacy for moving beyond the dichotomy and categorisation within human rights law.

IV. Thesis Outline

The thesis is divided in three parts. The first part presents the methodology and sources as well as the question of justiciability with view to the underlying research. The second and third part establish the justiciable normative content of the right to science. The normative content is understood here to entail two sides of the same coin. On the one side are elements pertaining to the rights, meaning the scope of protection of the right (i.e., the substantive scope) and the subjects of human rights (i.e., rights holders), presented in the second part, while on the other side are elements pertaining to the obligations concerning the right and the addressees of human rights (i.e., duty bearers), presented in the third part.

⁶ MONIKA PLOZZA, *The Human Right to Science – Down to the Core: Promoting Its Justiciability in International Law*, Diss. Universität Luzern 2024, 2 ff; DIES., *Das Recht auf Wissenschaft* (“The Right to Science”), *recht – Die Zeitschrift für juristische Weiterbildung und Praxis*, 2024.

A. Methodology and Sources

The thesis is grounded primarily in legal positivism and undertakes a doctrinal analysis. By delving into treaty interpretation as outlined in the Vienna Convention on the Law of Treaties,⁷ alongside considering supplementary methodologies such as the A-Scheme, human rights indicators for monitoring and the violations approach, the thesis highlights the dynamic nature of interpreting human rights treaties and the evolving understanding of the right to science. While the A-Scheme is evaluated and ultimately set aside for the purposes of this research, its potential utility in future inquiries is acknowledged.⁸ Indicators emerge as essential yet underdeveloped tools for the right to science, signifying an area needing further exploration.⁹ The chapter also presents the violations approach,¹⁰ reflecting on its evolution and current relevance and concluding that it is currently reflected in the core content doctrine by the Committee and the Maastricht Guidelines.¹¹ Sources include those outlined in Art. 38(1) of the ICJ Statute¹² and soft law instruments, following the “zebra approach”;¹³ much like the zebra’s distinctive stripes, this approach juxtaposes the black-and-white nature of binding and non-binding sources, thereby offering a more nuanced, comprehensive and multifaceted analysis.¹⁴

B. Formal and Material Justiciability

To set the legal scene to grasp the justiciable normative content of the right to science, particularly its core content, justiciability must first be examined. Justiciability is “the quality of a legal rule to be invoked before judicial bodies and adjudicated upon.”¹⁵ The succinct mapping of the his-

torical reassessment by recent scholarship demonstrates that the reductive and oversimplified notions of declaring ESC rights as non-justiciable in comparison to CP rights is “revisionist history of the worst kind.”¹⁶ The contemporary landscape concerning justiciability demonstrates that justiciability is not per se an impediment to invoking ESC rights.¹⁷ In this thesis, justiciability is understood to entail two elements: formal and material. Formal justiciability involves legal mechanisms such as the Optional Protocol to the International Covenant on Economic, Social and Cultural Rights (OP-ICESCR),¹⁸ enabling judicial review. Material justiciability concerns the clarity and precision of a right’s normative content for legal application. While formal justiciability is established with the OP-ICESCR, material justiciability has been a challenge for ESC rights such as the right to science due to perceived vagueness. However, this vagueness is not unique to ESC rights and can evolve through legal interpretation, as seen with CP rights. Therefore, the perceived vagueness does not inherently render rights non-justiciable but calls for focused examination.¹⁹ Thus, this gap in material justiciability serves as the starting point of this research.²⁰

C. The Human Rights Understanding of “Science”

The historical trajectory of the right to science underscores its dual purpose: safeguarding the interests of scientists and the public, ensuring equitable access to scientific progress while mitigating potential negative impacts. The terminologies related to the right to science – such as science and the scientific process, the benefits of science and the results of the scientific process – are elaborated by examining these terms through the prism of human rights. Science, as understood through this lens, is defined as any serious, methodical effort to uncover the truth in both content and form, providing the most reliable statements currently possible on topics recognised by different knowledge systems. However, the evaluation of scientific methods falls outside legal jurisdiction and is best left to

⁷ UNITED NATIONS (UN), Vienna Convention on the Law of Treaties (VCLT), A/CONF.129/1986/WP.2, Treaty Series, vol. 1155, 23 May 1969.

⁸ PLOZZA (Fn. 6), 16

⁹ PLOZZA (Fn. 6), 20 ff.

¹⁰ AUDREY CHAPMAN, A Violations Approach for Monitoring the International Covenant on Economic, Social and Cultural Rights, Human Rights Quarterly 1996, 23.

¹¹ INTERNATIONAL COMMISSION OF JURISTS (ICommJ), Maastricht Guidelines on Violations of Economic, Social and Cultural Rights, 26 January 1997; PLOZZA (Fn. 6), 22 ff. and 165 ff.

¹² Statute of the International Court of Justice of 12 March 1948 (ICJ-Statute; SR 0.193.501).

¹³ EIBE RIEDEL/GILLES GIACCA/CHRISTOPHE GOLAY, Economic, Social, and Cultural Rights in International Law: Contemporary Issues and Challenges, Oxford 2014, 22.

¹⁴ PLOZZA (Fn. 6), 10 ff.

¹⁵ VERONIKA BÍLKOVÁ, Justiciability of Human Rights, in: Elgar Encyclopedia of Human Rights, Christina Binder/Manfred

Nowak/Jane A. Hofbauer/Philipp Janig (eds.), Cheltenham/Northampton 2022, 370, 370. PLOZZA (Fn. 6), 32 ff.

¹⁶ DANIEL J. WHELAN/JACK DONNELLY, The West, Economic and Social Rights, and the Global Human Rights Regime: Setting the Record Straight, Human Rights Quarterly 2007, 908, 910. PLOZZA (Fn. 6), 28 ff.

¹⁷ PLOZZA (Fn. 6), 32 ff.

¹⁸ UN GENERAL ASSEMBLY, Optional Protocol to the International Covenant on Economic, Social and Cultural Rights (OP ICESCR), A/RES/63/117, 5 March 2009.

¹⁹ PLOZZA (Fn. 6), 42 ff.

²⁰ PLOZZA (Fn. 6), 49 ff.

disciplinary experts. Yet, determining if a method falls under human rights protection, is a justiciable matter.²¹ The benefits of science range from its role in truth-seeking to its immaterial and material results.²² Immaterial results encompass knowledge from various sources, prioritizing process over discipline, while material results include scientific applications and technologies. These results highlight science's broad impact, from cutting-edge innovations to everyday essentials such as menstrual products. Lastly, the third distinct result of the scientific process next to the material and immaterial results of science, recognised by the Committee, is the role of science in building critical and responsible citizens for democratic participation.²³

D. The Substantive Scope and Core Content of the Right to Science

To grasp the substantive scope of the right to science, human rights that stand in close connection with the right to science are first examined to better inform the normative content of the right to science. The argument to analyse the interconnectedness of these rights is based on the human rights principles of indivisibility, interdependence and interrelatedness (Vienna Declaration and Programme of Action).²⁴

The substantive scope of the right to science is based on the four substantive human rights guarantees (Art. 15(1) (b), (2)–(4) ICESCR), which include various core rights.²⁵ Attention is directed towards the core content, as this concept represents an underexplored addition to human rights law and constitutes a justiciable dimension of human rights.²⁶ Peripheral rights – that is, rights deriving from one of the four substantive human rights guarantees but not considered core rights – are not the focus of this thesis.

What could be observed generally from the language of the treaty and Committee practice is that the focus has been laid primarily on the side of state obligations. This is mirrored by the fact that the Committee has elaborat-

ed core obligations for the right to science but not core rights.²⁷ Therefore, this thesis bases its argument on the fact that rights usually should give rise to obligations, not the reverse. Given that human dignity serves as the foundational element of the core content, the derivation of core rights should originate from human dignity.²⁸ However, with the Committee already delineating the core obligations tied to the right to science, there is no need to establish the core content anew. Instead, the Committee's core obligations have facilitated a "reverse-engineering" process to distil core rights from these obligations. By refocusing the discussion on those who are entitled to these rights, the aim is to deepen the understanding of the right to science from the perspective of those whom it is intended to benefit.²⁹

E. Rights Holders

Rights holders are divided into three categories: private persons, legal persons and future generations. The starting point for private persons is the term "everyone" from Art. 15(1) ICESCR, meaning that private persons can enjoy the right to science "(a) individually, (b) in association with others, or (c) within a community or group, as such".³⁰ Legal persons include for example universities, research institutions and private businesses. While future generations are currently not viewed as rights holders under human rights law, they are recognised as beneficiaries of the right to science, as both the benefits and the adverse effects of scientific advancements can have long-lasting implications for them and, thus, should be taken into consideration by the present generation.³¹

²¹ PLOZZA (Fn. 6), 66 ff.

²² PLOZZA (Fn. 6), 75.

²³ PLOZZA (Fn. 6), 66 ff.

²⁴ UN GENERAL ASSEMBLY, Vienna Declaration and Programme of Action, A/CONF.157/23, 25 June 1993.

²⁵ PLOZZA (Fn. 6), 154 ff.

²⁶ UN COMMITTEE ON ECONOMIC, SOCIAL AND CULTURAL RIGHTS (CESCR), General Comment No. 3: The Nature of States Parties' Obligations (Art. 2, para. 1 of the Covenant), E/1991/23 (1990), 24; INTERNATIONAL COMMISSION OF JURISTS (ICommJ) (Fn. 11); CHAPMAN (Fn. 10).

²⁷ UN COMMITTEE ON ECONOMIC, SOCIAL AND CULTURAL RIGHTS (CESCR) (Fn. 5), 51.

²⁸ FONS COOMANS, Content and Scope of the Right to Education as a Human Right and Obstacles to Its Realization, in: Yvonne Donders and Vladimir Volodin (eds.), *Human Rights in Education, Science, and Culture: Legal Developments and Challenges*, Aldershot, Hampshire, England; Burlington, USA 2007, 183; MARTIN SCHEININ, Core Rights and Obligations, in: Dinah Shelton (ed.), *The Oxford Handbook of International Human Rights Law*, Oxford 2013, 527; This paradigm is exemplified in the context of Swiss constitutional law, where dignity similarly constitutes the foundational basis for the core content of constitutional rights, see BSK BV-BELSER/MOLINARI, Art. 7; SGK BV-SCHWEIZER, Art. 7; PLOZZA (Fn. 6), 157 ff.

²⁹ PLOZZA (Fn. 6), 171 f.

³⁰ UN COMMITTEE ON ECONOMIC, SOCIAL AND CULTURAL RIGHTS (CESCR), General Comment No. 21: Right of Everyone to Take Part in Cultural Life (Art. 15, para. 1(a), of the International Covenant on Economic, Social and Cultural Rights), E/C.12/GC/21 (2009), at 9.

³¹ PLOZZA (Fn. 6), at 218 ff; PLOZZA (Fn. 6).

F. Duty Bearers and their Obligations

To adequately discuss the addressees of human rights in light of the right to science, it is important to understand that science functions in an ecosystem, characterised by a complex network of stakeholders, each playing critical roles in sustaining scientific infrastructure. This web extends beyond the conventional framework of state responsibility to encompass a diverse range of nuanced responsibilities of non-state actors, such as international organisations and business entities. With regard to state obligations, as the analysis of this thesis does not focus on the peripheral rights within the right to science, state obligations are presented in a general way, covering progressive realisation, non-discrimination and the tripartite obligations to respect, protect and fulfil, as well as international assistance and cooperation.³²

G. Limitations

The analysis on limitations on the right to science are not only examined within the requirements of the ICESCR but extends to the ICCPR and ethical dimensions, highlighting scientific self-regulation's role in ensuring ethically sound research. The thesis emphasizes the delicate balance between protecting human rights and fostering scientific progress, noting limitations as both protective and restrictive measures.³³

V. Conclusion

In summary, this thesis establishes that the right to science is a justiciable human right, especially in terms of its core content, thereby answering the question of what constitutes the justiciable normative content of this right for the subjects and addressees according to international human rights law. In doing so, the thesis meticulously deconstructs outdated dichotomies and categorisations within human rights discourse and argues for a nuanced understanding that ESC rights, including the right to science, are indeed justiciable.

³² PLOZZA (Fn. 6), at 235 ff and 257 ff; PLOZZA (Fn. 6).

³³ PLOZZA (Fn. 6), 271 ff; PLOZZA (Fn. 6).