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# Right to Science and Open Access to Legal Knowledge in International and European Law

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**Abstract.** The Chapter addresses, in an international/EU law perspective, the issue of the dissemination of legal research. The international legal order defines the right to science in the Article 27 of the Universal Declaration of Human Rights; the same right is cited in acts adopted by many international organizations and is included in binding instruments, mainly in the form of the principle of sharing the benefits of scientific research. Affirmed the existence of a right to science in contemporary international law, the Chapter will reconstruct its nature and content: some authors conceive it as an independent right, that deserves an autonomous protection, as it aims at increasing the quality of the life of individuals and collectivities; other scholars build it as an instrument for implementing 'classic' fundamental rights. Among its applications, the one related to the free dissemination of research results, promoted by the Open Access movement, is pivotal, especially with reference to public funded research. In this perspective, the Chapter will mainly focus on three issues: 1) the international law rules on the right to science as legal precursors for open access; 2) the international intellectual property rights regime as a limitation to the right to science and, by the latter, to open access; 3) artificial intelligence, fed by open access, as a means for reconstructing State practice and customary international law.

**Keywords.** international law, right to science, open access, fundamental rights

## 1. The Right to Science in the International Legal Order As a Legal Precursor to Open Access (OA): A Basic Legal Framework

The issue of open access to knowledge, with regard to legal knowledge, and more specifically to the works of legal scholarship, can be studied and read in multiple perspectives and from different points of view.

If we look into it by the eyes of an international lawyer, open access is inextricably intertwined with the right to science or, better, it looks as one of the possible ways of implementing the Right to enjoy the benefits of scientific progress and its applications (REBSPA).

In this perspective, the Chapter will mainly focus on three issues: 1) the international law rules on the right to science as legal precursors for open access; 2) the international intellectual property rights regime as a limitation to the right to science and, by the latter, to open access; 3) artificial intelligence, fed by open access, as a means for reconstructing State practice and customary international law.

Let's try to set the normative framework: in international legal order a first enshrining of the right to science is contained in Article 27 of the Universal Declaration of Human Rights (UDHR), whose first paragraph provides that every individual has the right to take part freely in the cultural life of the community, to enjoy the arts and to participate in both scientific progress and its benefits.

Also Article 15, par. 1, of the International Covenant on Economic, Social and Cultural Rights (ICESCR), adopted in 1966 and entered into force ten years later, imposes the States Parties not only to recognize the right of everyone to take part in cultural life, but even, what's more, to enjoy the benefits of scientific progress and its applications, and also 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 [1].

This right is also often cited in non-binding acts adopted by the United Nations bodies, also dating back: the Charter of Economic Rights and Duties of States, adopted by the General Assembly in 1974[1] [2], contains a right of all the States — but not of individuals — to benefit from both scientific advancement and development in science and technology, and promotes international scientific and technological cooperation between States and the transfer of technology to developing Countries, in order to facilitate access of the latter to modern science and technology (Article 13).

Later on, on 10 November 1975, again the UN General Assembly adopted the more issue-specific Declaration on the Use of Scientific and Technological Progress in the Interests of Peace and for the Benefit of Mankind[2], which provides that all States have to co-operate in the establishment, strengthening and development of the scientific and technological capacity of developing Countries in order to accelerate the realization of the social and economic rights of the peoples of those countries.

The Declaration also invites all States to take any measures to extend the benefits of science and technology to all strata of the population, and hopes that all States shall take the necessary measures, including legislative ones, to ensure that the utilization of scientific and technological achievements promotes the fullest realization of human rights and fundamental freedoms without any discrimination whatsoever on grounds of race, sex, language or religious beliefs.

It also asks States to take effective measures, including legislative ones, to prevent and preclude the utilization of scientific and technological achievements to the detriment of human rights and fundamental freedoms and the dignity of the human person and, whenever necessary, to take action to ensure compliance with legislation guaranteeing human rights and freedoms in the conditions of scientific and technological developments.

Fast forward some twenty years and we reach the Universal Declaration on the Human Genome and Human Rights, adopted by UNESCO's General Conference in 1997 and endorsed by the UN General Assembly in 1998[3], and the International Declaration on Human Genetic Data, adopted by the General Conference of UNESCO on 16 October 2003[4].

[1] A/RES/29/3281, at www.un-documents.net/a29r3281.htm.
[2] digitallibrary.un.org/record/189603/files/A_RES_3384%28XXX%29-EN.pdf.
[3] https://unesdoc.unesco.org/ark:/48223/pf0000122990.
[4] https://unesdoc.unesco.org/ark:/48223/pf0000136112.

The former focuses on risks of the abuse of science and research and less on the sharing of its benefits, while the latter is more centered on the idea of sharing the benefits of science.

Its Article 19 (entitled 'Sharing of benefits'), states that in accordance with domestic law or policy and international agreements, benefits resulting from the use of human genetic data, human proteomic data or biological samples collected for medical and scientific *research should be shared with the society as a whole and the international community*.

On the same issue I have also to remember the Statement on the Right to Enjoy the Benefits of Scientific Progress and its Applications, adopted by UNESCO in Venice in 2009 ('The Venice Statement'), whose para. *iii*) states that advances in information and communication technologies have expanded opportunities for education, freedom of expression and trade, but they have also widened the 'digital gap' [3].

Moving to the European regional level, I recall that the Article 2 of Protocol 1 to the European Convention on Human Rights (ECHR) provides for the right to education ("no person shall be denied the right to education"); the provision, which guarantees a right to access to such education as the State has undertaken to provide, and as regulated by that State, somehow implies the access to the results of scientific research.

Also the Charter of Fundamental Rights of the European Union, provides, in Article 13, the freedom of scientific research and, in Article 14, the right to education (as per Article 2 prot. 1 ECHR).

Outside Europe Article 38 of the Charter of the Organization of American States provides that "the Member States shall extend the benefits of science and technology by encouraging the exchange and utilization of scientific and technical knowledge in accordance with existing treaties and national laws"; Article XIII of the American Declaration on the Rights and Duties of Men states that "everybody has the right to take part in the cultural life of the community, to enjoy the arts, and to participate in the benefits that result from the intellectual progress, especially scientific discoveries" (this is, however, a non binding act of the Organization of American States, so it does not create international obligations on the part of States); Article 14 of the Additional Protocol of San Salvador to the American Convention on Human Rights in the area of economic, social and cultural rights declares that "the States Parties (...) recognize(e) the right of everyone: a. to take part in the cultural and artistic life of the community; b. to enjoy the benefits of scientific and technological progress; c. to the benefit of the moral and material interests deriving from any scientific, literary or artistic production of which he is the author".

Finally, it must be underlined how the Arab Charter of Human Rights, instead, in Article 36 limits to foreseeing that "everyone has the right to participate in cultural life, as well as the right to enjoy literary and artistic aspects", leaving aside the most scientific ones.

## 2. The Right to Science: Nature and Content

Once affirmed the existence of a right to science in contemporary international law, more ambiguous is the reconstruction of both its nature and content.

Even though, as we've seen, the right to enjoy the benefits of scientific progress and its applications it's not a young one, it is one of the least known and studied human rights ever [4]; [5]; [6].

It has been underlined that "the human rights community has neglected Article 27 of the UDHR and Article 15 of the Covenant" [7]; [8]; [9].

So, despite its aforementioned widespread diffusion in the international legal order sources, the concrete scope of the right to access to scientific knowledge, however, only recently was addressed by the international legal scholarship: it's time that international legal doctrine, looks into the mirror and starts the quest for the right to its own diffusion [10].

About its nature, while some authors conceive it as an independent right, that adds to other fundamental rights and deserves an autonomous protection inasmuch, as it is aimed at increasing the material and spiritual quality of the life of individuals and collectivities, other scholars build it as a mere instrument for the implementation of 'classic' fundamental rights such as culture or health.

Some scholars even see the same right as 'an ideal' one and suggest that it only "constitutes a promising ground (. . . ) in the era of postmodernity" [11], while others theorize that the right to science requires a public good approach to knowledge innovation and diffusion, and that, on this approach it could be the basis to constrain the further expansion of protectionism in international IP law [12].

I think this could be an affordable way to work in order to assure an effective open access to legal knowledge in international law. By now let us keep wiping the dust off the right to enjoy the benefits of scientific progress and give it the attention it deserves [13].

Now, although some of the instruments I mentioned in the first paragraph are not binding, it must be said that, on the one hand, and beyond *ad hoc* disciplines for specific subjects, the international legal order imposes on States that signed the ICESCR – whose number gives the Covenant, at least as regards its substantive rules, a practically universal scope[5] – both the obligation to cooperate to allow the sharing of scientific research results, and the one to adopt positive measures in order to implement the right to science – in its multi faceted aspects – into domestic legal orders.

Let me remind also that the ICESCR has an Optional Protocol which allows its parties to recognize the competence of the Committee on Economic Social and Cultural Rights to consider complaints from individuals, on the model of the Human Rights Committee related to the Covenant on civil and political rights. The Protocol was adopted by the UN General Assembly on 10 December 2008 and opened for signature on 24 September 2009 and, having passed the threshold of required ratifications, it has entered into force on 5 May 2013.

The General Comment n. 21, released in 2009 by the latter Committee, even though focusing on the right of everyone to take part in cultural life (enshrined in Article 15, para. 1 *a*) of the ICESCR)[6] makes clear that all the rights pertaining the cultural/intellectual sphere of the individual are inextricably intertwined.

It clearly states that the latter right is closely related to the other enshrined in the same article, as the right to enjoy the benefits of scientific progress and its applications, the right of everyone to benefit from the protection of moral and material interests resulting from any scientific, literary or artistic production, and the right to freedom, which is an indispensible basis for scientific research and creative activity. And all these rights are also intrinsically linked to the right to education (Articles 13 and 14) and they are also interdependent on other rights enshrined in the Covenant, including the right of all

[5]Nowadays the ICESCR has 169 parties.

[6]Doc. E/C.12/GC/21 of 21 December 2009, at docstore.ohchr.org.

peoples to self-determination (Article 1) and the right to an adequate standard of living (Article 11).

Even though the acts of the Committee are not binding [14], they certainly contribute to the reconstruction of principles and rules related to the issues they deal with, and they influence the practice, even of non-signatory States, that are indeed requested at least to take them into proper account.

Again in order to reconstruct its normative content, in 2012, the Special Rapporteur of the Human Rights Council in the field of cultural rights adopted a Report in which, in addition to linking the right to science to the one to culture and other fundamental rights, tried to define its concrete scope, distinguishing four profiles, constructed, it seems to me, in order to take into account the peculiarities of the right in question in the various international law regimes to which it is applicable.

With this in mind, the Report identifies four distinct expressions of the right to science: the right to access the benefits of science without discrimination; the right to contribute to science and the related freedom of research; the right of individuals and communities to take part in the decision-making processes of States when they concern issues related to science and its impact on the life of the communities themselves, the right to live in a cultural environment conducive to conservation, development and to the spread of science and technology.

It seems to me that at least the first and the fourth points are legal prerequisites for Open Access.

With regard to the subject I am dealing with, moreover, the activities of international organizations is often accompanied by that of non-governmental organizations, individually or in partnership: in particular the International Science Council (ISC) is a non-governmental organization created in 2018 as the result of a merger between the International Council for Science (ICSU) and the International Social Science Council (ISSC) that brings together 40 international scientific Unions and Associations and over 140 national and regional scientific organizations, including Academies and Research Councils. In 2014 the former ICSU released a Report that expressly links "open access to scientific data and literature and the assessment of research by metrics" to the right to share in scientific advancement and its benefits, and to the development of science as a global public good [15].

On these basis, the report asks for the scientific record to be free of financial barriers for any researcher to contribute to, free of financial barriers for any user to access immediately on publication, made available without restriction on reuse for any purpose, subject to proper attribution, quality-assured and published in a timely manner, and archived and made available in perpetuity.

All these goals are now easily reachable by digital technologies.

It remains to be seen to what extent access built this way is fully compatible with international standards that protect intellectual property rights, and whether these are really in conflict with the right to science and really represent an impassable limit to open access [16]; [17]; [18].

## 3. Open Access and Intellectual Property: The Berne Three Step Test As a Model

The at least potential conflict between the right to science in its open access embodying and the international instruments of protection of intellectual property rights is well known.

But we should also remember that in some sectors of IP law weird things happen: let us think to the case of the so called 'cover songs', wherein the copyright laws contain provisions for the compulsory licensing of musical compositions, that enable every musician to play his own version of an existing tune (after its first commercial exploitation), so that the composer of the song cannot prevent it, and is just entitled to a reasonable royalty.

So in IP law not everything is always what it may seem at a first glance.

If we switch back to the legal knowledge, there is to say that rules that are easily communicated and understood will be applied frictionless and efficiently (one may think to traffic laws, which are signaled with roadside signs) and that the more complex laws are, the less they are accessible, even though they are uncopyrighted and uncopyrightable, and for this they require the interpretive skills of a lawyer [19].

And the latter kind of legal information is copyrightable and indeed treated in very proprietary ways; books, papers, digests, and even annotated versions of laws and statutes – what the legal scholarship is – are mostly copyrighted and accessible through specialized databases.

And we have also to bear in mind that, as for Article 38 of the Statute of the International Court of Justice, in the international legal order legal scholarship is a source of law, even though a subsidiary one ("... the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law").

It is also often believed that the international patent system represents a limit to the circulation of information, culture and therefore, ultimately, to the right to science; but it must be also remembered that both the approved and the rejected patents, with the related instances and attached documentation, are freely accessible through public databases: the patent mechanism could be seen as some kind of a first model of 'pseudo' open access.

In the perspective of knowledge, indeed, what the patent prevents is not so much the knowledge of the patented invention itself, as its exploitation. Even though for some categories of goods, mere knowledge is not sufficient to fill the gap (for example, knowing the existence of a patented pharmaceutical product does not solve the problem of the access to the same by those who, while needing it, can't afford it) there is to say, that such a knowledge could cause the interested individuals, for instance, to lobby with the competent bodies to obtain it as a benefit or by compulsory licensing.

Obviously this could not be *sic and simpliciter* applied to law.

And neither, of course, I am saying that I am thinking of the patentability of legal works as a solution to the problem of the access to knowledge: I am just trying to see things differently and switch paradigm.

Now, as any limitations on copyright must accord with international obligations, I have to remember that all the main international law instruments in IP (Berne Convention, TRIPs, WIPO Copyright Treaty and Performances and Phonograms Treaty), and even most of the EU pertaining rules, contemplate exceptions to exclusive rights, mostly built on the so called 'Berne three-steps test' [20].

The three-step test, first established in 1967 pertaining the exclusive right of reproduction under Article 9(2) of the Berne Convention, holds that States may proscribe copyright limitations only "1) in certain special cases, 2) provided that such reproduction does not conflict with a normal exploitation of the work and 3) does not unreasonably prejudice the legitimate interests of the author".

In this context it is impossible for me to carry out a thorough examination of the elements of this text; in any case, it is sufficient to point out that the domestic and international case law has on several occasions clarified them.

For a guide on the way the test can be performed I will refer to World Trade Organization (WTO) practice.

As regards the requirements referred to in no. 1), the Panel appointed for the *US copyright* case has made it clear that copyright restrictions that are undetermined or unspecified are prohibited (*certainty* requirement). As for the *specialty* requirement, always referred to in n. 1), the same panel has identified both a quantitative and a qualitative element: the former requires that the exception can be applied only to a limited number of cases, and the latter that it must be applied to achieve a well-defined policy objective[7].

The second step of the test provides that any limitation or exception must not conflict with a normal exploitation of the work; the same WTO panel determined that an exception or limitation violates this step "if uses, that in principle are covered by [copyright] but exempted under the exception or limitation, enter into economic competition with the ways that right holders normally extract economic value from that right to the work (i.e., the copyright) and thereby deprive them of significant or tangible commercial gains".

To pass the third, final, step, any copyright limitation or exception must "not unreasonably prejudice the legitimate interests of the author": the WTO panel on *US Copyright* dispute made clear that "the notion of 'interests' is not necessarily limited to actual or potential economic advantage or detriment (...); it has also the connotation of legitimacy from a more normative perspective, in the context of calling for the protection of interests that are justifiable in the light of the objectives that underlie the protection of exclusive rights"[8].

On these basis, a fair application of the three-step test may lead to a wider legitimacy of OA in the international legal order as a means of applying the internationally protected right to science.

Moreover, this would also make it possible to compose a fragmentation of the international legal order, by resorting to the systemic interpretation of Article 31, par. 3, lett. *c)* of the Vienna Convention on the Law of Treaties, according to which, as is known, in the interpretation of a treaty, any relevant rule of international law applicable to relations between the parties must be taken into account [21].

And to similar results could lead, albeit in a more nuanced manner, the fair use exception of US law, that uses a four factor test[9] [22].

[7] See Panel Report WT/DS160/R, *United States-Section 110(5) of the US Copyright Act*, WT/DS160/R, 15 June 2000. On the Berne test see also, again in WTO context, Panel Report WT/DS1 14/R, *Canada-Patent Protection of Pharmaceutical Products*, 17th March 2000 and Panel Report WT/DS174/R, *European Communities-Protection of Trademarks and Geographical Indications for Agricultural Products and Foodstuffs*, 15th March 2005, all available at www.wto.org.

[8] At 11 6.223-6.224.

[9] 17 U.S.C. § 107: Limitations on exclusive rights: Fair use (West 2011). "the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means (...), for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include – (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use upon the potential market for or value of the copyrighted work".

## 4. A Data-driven Right To Know International Law

In a paper published some years ago [23] I tried to investigate the way the widespread diffusion of the Web impacted on the way international legal order operates.

Then I decided to adopt a, so to speak, heuristic approach – an approach that is applied with greater frequency in sciences other than legal, such as social or information sciences: I did it in order to identify major trend lines when, as in that case, timely analysis of all the data relating to the observed phenomenon is impractical. I mean that it was then impossible, for me at least, to collect and study *all* the practice pertaining the issue I was going to investigate. And heuristics could then help me to facilitate the access to new empirical findings by means of a process that, to solve a given problem, relied on the contingent state of factual circumstances.

Whenever such a knowledge is impossible for humans, and this happens more and more in the case of complex systems such as legal systems, an overall assessment in the light of a partial documentation, by this approach, is possible, and it indeed could better capture trend lines.

But this perspective can be outmatched by OA legal Big Data filtered by AI algorithms, linked data – a method of publishing structured data so that it can be interlinked and become more useful through semantic queries – and even micro-task crowdsourcing (Amazon's Mechanical Turk, CloudCrowd, CrowdFlower), as this can help us "to look at all the available data rather than subsamples thereof" [24] and let us know much deeper our issues.

In short, open access to legal knowledge, guaranteed through the computer tools now commonly used, could allow appropriately trained expert systems, and in particular artificial intelligence mechanisms, to put together all the international practice relating to a given topic and simplify, consequently, the construction of the material element of customary international law. This would not only allow the international law scholarship to globally examine itself, in that game of mirrors to which we referred at the beginning of our discourse, but could also lead to increase the knowledge of the rules of international law by their addressees and, consequently, to improve their effectiveness.

I would close reminding that if the knowledge international law refers to is a global common, the *Declaration on Free Access to Law* adopted by our predecessors in the fourth edition of LVI Conference (in 2002 in Montreal) qualifies the legal information as a common heritage of mankind[10], and clarifies how its massive diffusion can contribute to the respect of the rule of law.

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