

Copyright Overprotection Versus Open Science: The Role of Free Trade Agreements



Roberto Caso and Paolo Guarda

Abstract This chapter aims to map the impact of copyright law on the circulation of information, progress of knowledge, innovation and development within some selected case studies extracted from a paradigmatic Free Trade Agreement (FTA): the Trans-Pacific Partnership (TPP). On the one hand, excessively restrictive copyright rules—the Western overprotection approach—may threaten policies to foster science and innovation. On the other hand, Open Science (Open Source software, Open Access publications, Open Research Data, Open Educational Resources, Open Peer Review)—based essentially on lowering economic, technological and legal (copyright and contract) barriers to access information—seem to boost a more fair and global development approach, by stimulating free flow of ideas and information across borders. If the latter more flexible regime of intellectual property could be accepted as a favourable context for Open Science, we argue in favour of a more balanced copyright law in the FTAs context.

Keywords Open science · Free trade agreements · Copyright overprotection International law

1 Introduction

Two different visions are facing each other in regulating copyright and in general intellectual property rights. The overprotection approach, based on strict rules and

Roberto Caso is the author of Sect. 2. Paolo Guarda is the author of Sect. 3. Roberto Caso and Paolo Guarda co-authored Sects. 1 and 4.

R. Caso (✉) · P. Guarda
Faculty of Law, University of Trento,
Via Verdi 53, Trento 38122, Italy
e-mail: roberto.caso@unitn.it

P. Guarda
e-mail: paolo.guarda@unitn.it

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strong protection of the rights holder; and an open one, based on a more flexible and dynamic approach to the management of the author's rights as well as on some users' rights.

The first is affirmed and reiterated in the various documents and regulatory provisions that govern the subject at international and national level, with an approach that is influenced by the origin and the historical and technological context in which those rules have taken shape. This way of understanding copyright, as will be shown, finds (an even more restrictive) expression in free trade agreements.

The second approach is promoted within Western countries by some sectors of society (e.g. free software developers, academics, etc.) and also at international level by some developing countries. This second approach is an essential tool to develop Open Science. Open Science makes flexibility its "watchword". It is based on lowering economics, technology and legal (copyright and contract) barriers to access information as well as on democracy, transparent, pluralistic and inclusive approach to science and innovation stimulating free flow of ideas and information across borders.

These considerations lead us to consider desirable that, even at the level of treaties and international agreements, a more flexible IP regime will be considered acceptable and thus be an incentive for the development of creative works and innovative ideas.

The chapter, relying on what we believe are the seminal literature on the topic, argues in favour of a more balanced copyright law in the context of Free Trade Agreements (FTAs). Following this introduction, the second section will be devoted to the description of the Open Science movement in an international perspective; the third section will provide some examples of how the rules relating to copyright are incorporated in the Free trade agreements, taking the Trans-Pacific Partnership (TPP) as an emblematic case; finally, the concluding section of the chapter will set out some general considerations.

2 Open Science, Copyright Overprotection and International Law¹

Open Science (OS) represents a form of scientific communication. The use of the label OS is fairly recent.² In the past, the term Open Access (OA) was more commonly

¹This paragraph is essentially based on Caso R (2017) *Scienza aperta*. The Trento Law and Technology Research Group. Research Papers Series; nr. 32. Trento: Università degli Studi di Trento. 2017. https://iris.unitn.it/retrieve/handle/11572/183528/148898/LTRP_32.pdf. Accessed 20 December 2017.

²See, e.g., Bartling S, Friesike S (Eds.) (2014) *Opening Science - The Evolving Guide on How the Internet is Changing Research, Collaboration and Scholarly Publishing*, Springer, 2014 <http://www.openingscience.org/get-the-book/>; Margoni T, Caso R, Ducato R, Guarda P, Moscon V (2016) *Open Science, Open Access, Open Society*. Trento law and Technology Research Group Research Papers; 27. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2751741. Accessed 20 December 2017; and Caso R, and Ducato R (2016) *Open bioinformation in the life sciences as a gatekeeper for*

used.³ OA is a social movement born at the beginning of the Internet. OA started in the late 80s, when the Internet was not dominated by commercial interests and private platforms. At that time, the first OA scientific journals and repositories appeared. OA is, in many aspects, a social movement close to the Open Source world.⁴ The core of OA philosophy is that the Internet constitutes an unprecedented opportunity to improve and strengthen science.⁵ In fact, the Internet provides a powerful form for communication, different from that based on orality, writing and printing press technology.⁶

The conceptual underpinnings of OS go back to enlightenment philosophy emphasising the “public use of reason”,⁷ and the modern scientific revolution with science centered on the public communication of research results as opposed to the previously used secrecy practices.⁸ Further, an emerging stream of literature frames OS and OA within the theory of a knowledge commons.⁹

There are no universal definitions of OS.¹⁰ Generally, it can be stated that OS is a formula intended to encompass many phenomena: open software, open access to research publications and data, and open education (so called Open Educational Resources). The common core of these phenomena is the free (as in ‘no charge’) and “libre” (with right to reuse) access to on-line scientific and teaching materials. Moreover, OS promotes publicity and transparency of the reviewing process (Open Peer Review). Furthermore, some connect the notion of OS to the concept of Open Innovation (OI) to describe the form of production of new technology based not only

innovation and development, in G. Bellantuono, F. T. de Rezende Lara, (Eds.), *Law, Development and Innovation*, Springer, 2015, 115.

³Suber P (2012) *Open Access*, MIT Press.

⁴David Paul A (2014) *The Republic of Open Science: The Institution’s Historical Origins and Prospects for Continued Vitality*. Stanford Institution for Economic Policy Research, Stanford University. https://siepr.stanford.edu/sites/default/files/publications/13-037_0.pdf. Accessed 20 December 2017 p. 33.

⁵Guédon JC (2017) *Open Access: Toward the Internet of the Mind*. In: Budapest Open Access Initiative. Budapest Open Access Initiative. Available via <http://www.budapestopenaccessinitiative.org/open-access-toward-the-internet-of-the-mind>. Accessed 20 December 2017.

⁶Harnad S (1991) *Post-Gutenberg Galaxy: The Fourth Revolution in the Means of Production of Knowledge*, <http://cogprints.org/1580/>. Accessed 20 December 2017.

⁷Kant I (1784) *Beantwortung der Frage: Was ist Aufklärung?* in *Berlinische Monatsschrift*, 04 (Dezember); Pievatolo M C (2003) *I padroni del discorso. Platone e la libertà della conoscenza*, Edizioni PLUS, <http://bfp.sp.unipi.it/ebooks/mcpla.html>; and Di Donato F (2009) *La scienza e la rete. L’uso pubblico della ragione nell’età del Web*, Firenze University Press, Firenze, <http://www.fupress.com/archivio/pdf/3867.pdf>. Accessed 20 December 2017.

⁸Merton R K (1942) *Science and Technology in a Democratic Order*. 1 *Journal of Legal and Political Sociology*, p. 115; Rossi P (2007) *La nascita della scienza moderna in Europa*, Roma-Bari; and David, *supra* note 5.

⁹Madison M J, Frischmann B M, Strandburg K J (2010) *Constructing Commons in the Cultural Environment*. *Cornell Law Review*, Vol. 95, p. 657, 2010; U. of Pittsburgh Legal Studies Research Paper No. 2008–26. <https://ssrn.com/abstract=1265793>. Accessed 20 December 2017.

¹⁰Fecher B, Friesike S (2013) *Open Science: One Term, Five Schools of Thought* (May 30, 2013). RatSWD_WP_218. <https://ssrn.com/abstract=2272036> or <http://dx.doi.org/10.2139/ssrn.2272036>. Accessed 20 December 2017; Caso and Ducato, *supra* note 3, pp. 120 ff.

on internal resources of the organisation—typically, the firm—but also on external ones.¹¹

Although there are no universally shared definitions of OS, in three statements of the early years of the third millennium, members of the scientific community have tried to delimit OA. These are the declarations of Budapest (2002),¹² Bethesda (2003)¹³ and Berlin (2003).¹⁴ From the perspective of these three famous statements, the removal of economic, legal and technological barriers to access to research results would be the focus of the OA.¹⁵ While the classic economic exploitation of IP is based on the logic of a strong copyright in the hands of some intermediaries such as publishers—a logic summarised in the ubiquitous copyright notice “all rights reserved”, the OA is based on the idea that a more or less broad range of economic rights are transferred directly from the author to the public—“only some rights are reserved”—while the author retains the right to paternity, i.e. the right to be acknowledged as the author of the work. In other words, the OA is necessarily linked to permissive licenses such as Creative Commons licences.¹⁶

The scientific author is interested in claiming the right to authorship of the scientific work, because recognition through the quotation of the previous work is, in the current system of science, a powerful incentive from which others derive, including career progression, the acquisition of funds for research projects, scientific prizes and awards. The emphasis on the incentive linked to reputation, however, reflects a certain vision of science, focused on the exaltation of the individual contribution to progress and on an exclusively hierarchical and competitive structure of research. In reality, the protection of the right of attribution or paternity may also have a different meaning: the defense of freedom and the autonomy of science in turn related to freedom of thought,¹⁷ a goal that inspires the promoters of free software and in particular

¹¹OI is also linked to the mobility of creative talents involved in the invention of new technologies. On the concept of OI see Chesbrough 2003. For a market oriented perspective on the relationship between OI and OS see, e.g., European Commission 2016. For a critical perspective on the relationship between OI and Open Development see de Beer J (2017) de Beer, Jeremy, Open Innovation in Development: Integrating Theory and Practice Across Open Science, Open Education, and Open Data (January 26, 2017). Open AIR Working Paper No 3/17. <https://ssrn.com/abstract=3008675>. Accessed 20 December 2017.

¹²Budapest Open Access Initiative of 2002 (2002) <http://www.budapestopenaccessinitiative.org/read>. Accessed 20 December 2017.

¹³Bethesda Statement on Open Access Publishing of 2003 (2003) <http://legacy.earlham.edu/~peters/fos/bethesda.htm>. Accessed 20 December 2017.

¹⁴Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities of 2003 (2003) <http://openaccess.mpg.de/Berlin-Declaration>. Accessed 20 December 2017.

¹⁵Suber, *supra* note 4.

¹⁶Lessig L (2004). Free culture: How big media uses technology and the law to lock down culture and control creativity, Penguin, New York, <http://www.freeculture.cc/freeculture.pdf>. Accessed 20 December 2017.

¹⁷Moscon V (2015) Academic Freedom, Copyright, and Access to Scholarly Works: A Comparative Perspective, in Caso R, Giovanella F, Balancing copyright law in the digital age: some comparative perspectives, Springer, 2015, p. 99.

the ideas of Richard Stallman.¹⁸ For example, retaining the right of attribution means being able to speak in the name of science and not the institution or corporation to which the individual belongs.

On the other hand, from an ethical perspective, the engine of progress should not be led by individual affirmation and acquisition of positions of power, but by being part of a community and a cooperative enterprise (to put it with an expression from the evocative accent: the search for truth).¹⁹

Framing the question in Mertonian terms, there is a balance between the norm of priority—which means competition to be recognised as the first who has discovered a nature’s law—and the norm of communism—which means putting the scientific results in the public domain to foster cooperation.²⁰ However, the commodification of science and university is altering the traditional balance between competition and cooperation. More and more science appears to be dominated by the market and competitive logic.²¹

From a wider perspective, science is facing a fundamental turning point of its history.²² Never, as in this historical moment, has science appeared to be this massive and powerful, and yet so fragile: the concentration of information and power in the hands of a few commercial groups, the inequity, indeed iniquity, of a system formed to benefit developed countries, the restriction of academic autonomy by political and economic power, the precariousness of working conditions of young researchers, the increase in the number of cases of scientific fraud and misconduct,²³ the questioning of its authority by a portion of the public.

In this context, can openness be understood as a system capable of strengthening science and treating the diseases that afflict it?

¹⁸Stallman R M (2010) *Free Software, Free Society—Selected Essays of Richard M. Stallman*, II ed., Boston (MA), Free Software Foundation, <https://archive.org/details/FreeSoftwareFreeSociety>. Accessed 20 December 2017.

¹⁹Swartz A (2006) *Legacy*, <http://www.aaronsw.com/weblog/legacy>. Accessed 20 December 2017.

²⁰Merton R K (1957) *Priorities in Scientific Discovery: A Chapter in the Sociology of Science*, *American Sociological Review*, Vol. 22, No. 6 (Dec., 1957), 63.

²¹David, *supra* note 5, p. 24: “*The resultant government efforts to favorably adjust domestic and international IPR regimes, combined with budgetary pressures to curtail public expenditures for scientific and engineering research, abetted by other transient circumstances (some of which already were noticed in the Prologue), produced a marked shift in the structure of national research policies. This movement was in the direction of further ‘commodification’ of science, and gave greater weight to near-term ‘market valorization’ (rather than long-term ‘social valorization’) in assessing the likely pay-offs for tax supported ‘applied research’*”; Caso R (2016) *La scienza aperta contro la mercificazione della ricerca accademica? - La scienza aperta contro la mercificazione della ricerca accademica?* The Trento Law and Technology Research Group. Research Papers Series; nr. 28. Trento: Università degli Studi di Trento. https://iris.unitn.it/retrieve/handle/11572/142760/76403/Caso_LTRP_28_def.pdf. Accessed 20 December 2017.

²²Caso R (2017) *Scienza aperta*. The Trento Law and Technology Research Group. Research Papers Series; nr. 32. Trento: Università degli Studi di Trento. 2017. https://iris.unitn.it/retrieve/handle/11572/183528/148898/LTRP_32.pdf. Accessed 20 December 2017.

²³Edwards M A, Roy S (2017) *Academic Research in the 21st Century: Maintaining Scientific Integrity in a Climate of Perverse Incentives and Hypercompetition*, *Environmental Engineering Science*, Volume 34, Number 1, 2017, <https://doi.org/10.1089/ees.2016.0223>.

It is difficult to answer this question, but we can say that Open Science is still in an evolving state whose development is largely inhibited by an increasing degree of legislation at both the international and national level that regulates intellectual property.²⁴ This has consequently provoked a decrease in the public domain.²⁵ In the field of copyright law, overprotection means the extension of an exclusive right to cover not only texts and images, but also simple data and information (e.g. through the Technological Protection Measures or the sui generis legislation such as the European right over databases).²⁶ In this paper we will focus on the overprotection of copyright law at the international level, through the negotiation and the implementation of the Free Trade Agreements (FTAs).

If it is thought that we are facing a new generation of legislation in some western countries that is aimed at fostering Open Science (e.g. Open Access funder mandates or right to re-publish scientific articles),²⁷ then it can be argued that legislation to protect copyright at the international level can be considered to be the polar star.²⁸

Despite the power of a bottom up legal system to share knowledge based on contracts such as GNU GPL and CCLs, without a more balanced copyright law at the international as well as national level it is impossible to imagine that there will

²⁴The are other obstacles to the affirmation of Open Science: see Caso, *supra* note 23; Caso R (2016) La scienza aperta contro la mercificazione della ricerca accademica? - La scienza aperta contro la mercificazione della ricerca accademica? The Trento Law and Technology Research Group, Research Papers Series; nr. 28. Trento: Università degli Studi di Trento. 2016: https://iris.unin.it/retrieve/handle/11572/142760/76403/Caso__LTRP_28_def.pdf. Accessed: 20 December 2017; and Caso and Ducato, *supra* note 3.

²⁵Lessig, *supra* note 17; Boyle J (2008) Public Domain. Enclosing the Commons of the Mind, Yale University Press, New Haven & London, <http://thepublicdomain.org/thepublicdomain1.pdf>.

²⁶Reichman J H and Okediji R (2012) When Copyright Law and Science Collide: Empowering Digitally Integrated Research Methods on a Global Scale (September 19, 2012). Minnesota Law Review, Vol. 96, No. 4, 2012; Minnesota Legal Studies Research Paper 12–54. <https://ssrn.com/abstract=2149218>. Accessed: 20 December 2017, pp. 1369–1370, “*Since the 1990s, in particular, there has been an unprecedented extension of copyright law and related rights protecting both literature and collections of data into the realm of basic science, with no adequate exceptions for research as such [...]. The end result is a growing conflict between private rights and public goods at the core of today’s most promising research techniques [...]. [I]ntellectual property laws now impede access to scientific data and literature, just at the time when developments in scientific research methods require the use of automated knowledge discovery tools that depend on unfettered access and re-use conditions for their successful applications*”; David, *supra* note 5 p. 24: “*the legal protections now afforded to private property owners under the copyright regime now extend far beyond the arena of printed texts and images. They potentially cover all forms of data and information that can be digitally inscribed [...]*”.

²⁷See, e.g., Moscon V (2016) University knowledge Transfer: From Fundamental Rights to Open Access Within International Law, in G. Bellantuono, F. T. de Rezende Lara, (Eds.), Law, Development and Innovation, Springer, 2015, 147, pp. 169 ff; Caso R and Moscon V (2016) Open Access implementation: from a bottom-up order to a top-down disorder? “The Italian job” in Raquel Esther de Román Perez (a cura di), Propiedad intelectual en las universidades públicas: titularidad, gestión y transferencia, Albolote (GRANADA): Editorial Comares, p. 377–393.

²⁸Malcolm J (2015) How Trade Agreements Harm Open Access and Open Source. EFF. <https://www.eff.org/deeplinks/2015/10/how-trade-agreements-harm-open-access-and-open-source>. Accessed 21 April 2018.

be further development of Open Science in the future.²⁹ From this perspective, it is worth exploring the intersection between free trade agreements and intellectual property (with special attention to copyright law).

3 Free Trade Agreements and Intellectual Property Regulation

3.1 *Intellectual Property Rights in the FTAs: Two Approaches*

For some years, several industrialised nations have engaged in an activity aimed at increasing the levels of international protection of Intellectual Property Rights (IPRs).³⁰ This strategy culminated in the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).³¹ Simply put, we argue that the creation of the WTO was made possible through negotiation involving the inclusion of two new agreements under the multilateral system of trade governance (GATS³² and TRIPS)—which was a priority for negotiators of industrialised countries in exchange for regulation on agricultural trade and the dismantling of the quota system governing textile and clothing trade—a priority for developing countries.

The success of these attempts to further strengthen global IPRs protection through negotiation of trade agreements turned out to be a “two-edged sword”, as it triggered the reaction of affected trade partners.³³ For instance, it had a direct impact on multilateral agreements such as the Doha Ministerial Declaration (2001), the related

²⁹Reichman and Okediji, *supra* note 27, p. 1477, “A top priority for policymakers should be to avoid generating legally established fiefdoms, in which a few private rights holders can combine the bulk of all scientific data and literature into monopolized repositories where access and use are restricted and controlled from the top down, and in which the commodified inputs of publicly funded science are distributed on a proprietary basis. Failure to achieve such a shift in priorities places digital and computational science in developed countries at risk of becoming progressively entangled in ‘copyright thickets’”; David, *supra* note 5, p. 36 “‘Bottom up’ initiatives on the part of publicly funded researchers have been creating specialized and sophisticated technical, organizational and legal infrastructures appropriate for their collaborative scientific work. But, the existence of those structures had further, external effects. They provided concrete exemplars that stimulated and rendered more feasible a variety of policy actions and regulatory measures by government science agencies, which in turn reinforced and broadened the movement to provide and protect conditions of open and timely global access to scientific data and information”.

³⁰See, in particular, the Tokyo Round of 1973–79 and the 8th round of multilateral trade negotiations (the Uruguay Round) under the GATT stated in 1986.

³¹Agreement on Trade-Related Aspects of Intellectual Property Rights, opened for signature 15 April 1994, 1867 UNTS 299 (entered into force 1 January 1995) Annex 1C to the Marrakesh Agreement Establishing the World Trade Organisation (TRIPS Agreement).

³²General Agreement on Trade in Services (GATS) of 1995.

³³See for example in the case of TRIPS and their impact with regard to access to medicines amid public health crises.

Declaration on the TRIPS Agreement and public health, and the consequent decision on compulsory licensing with particular attention to the needs of less developed countries.

Thus, the prospect of achieving levels of protection that were even higher than the standards established under the WTO/TRIPS 1994 Agreement, while remaining within the framework of the WTO, finally proved to be unsatisfactory.³⁴ For this reason, the United States (US) and the European Union (EU) have begun to shift their attention from these global instruments to bilateral agreements to be negotiated from time to time with overseas partners. This has led to an increased use of bilateral free trade agreements (FTAs) in an attempt to impose what some describe as excessive obligations in terms of IP.³⁵

This phenomenon affected all countries, but predominantly Asian countries. Until a few years ago many of them were totally unaffected by IPR legislation or had regulation that stemmed from the colonial period, which was poorly modified after obtaining independence, and had fallen into disuse.³⁶ However, attention to this type of regulation has increased since the 1970s and 1980s, when investors who had become interested in the Asian market began complaining about the lack of discipline in this area and put pressure on local governments to bridge the gap.³⁷ IP thus became one of the many political and economic factors considered in the bargaining in trade discussions. This led to a considerable increase in the breadth IP legislation in those countries that agreed to adopt high levels of protection, often for reasons that go

³⁴For further analysis see Primo Braga C A (2016) Innovation, trade and IPRs: Implications for trade negotiations, (March 2016). Working Paper, East-West Center Workshop on Mega-Regionalism - New Challenges for Trade and Innovation, pp. 7–8. <https://ssrn.com/abstract=274550>. Accessed 20 December 2017; see also Watal J (2014) Is TRIPS a balanced agreement from the perspective of recent free trade agreements? In: Drexl J, Grosse Ruse-Kahn H, Nadde-Phlix S (eds) EU bilateral trade agreements and intellectual property: for better or worse? Springer, Berlin, pp. 41–6.

³⁵Hilty R M, Jaeger T (2015) Legal Effects and Policy Considerations for Free Trade Agreements: What Is Wrong with FTAs? In: Antons C, Hilty R (eds) Intellectual Property and Free Trade Agreements in the Asia-Pacific Region. MPI Studies on Intellectual Property and Competition Law, vol 24. Springer, Berlin, Heidelberg, pp. 56–57.

³⁶Antons C, Hilty R (2015b) Introduction: IP and the Asia-Pacific ‘Spaghetti Bowl’ of Free Trade Agreements. In: Antons C, Hilty R (ed) Intellectual Property and Free Trade Agreements in the Asia-Pacific Region. MPI Studies on Intellectual Property and Competition Law, vol 24. Springer, Berlin, Heidelberg, pp. 2–3.

³⁷*Ibid.*, p. 3: “The conclusion of the WTO Agreement on Trade-related Intellectual Property Rights (TRIPS) in 1994 was regarded as a breakthrough in this discussion. It brought IP demanders from industrialized economies considerably higher protection standards and, for the first time in an IP law agreement, a chapter on enforcement. However, while developing countries were hoping that they had agreed to standards that would provide the maximum level of protection for some time, governments from industrialized economies saw gaps and much unfinished business in TRIPS. When it became clear that the current Doha round of WTO negotiations would not help in this regard, the governments of developed nations began to shift the discussion back to the bilateral level and to include provisions and entire chapters related to IP law into bilateral free trade and partnership agreements”.

beyond the official justifications that emphasise the simplistic rationale of providing incentives for technological progress.³⁸

Existing ad hoc regulation of IPRs in a context traditionally characterised by different trading principles and methodologies, such as those typical of free trade, has been criticised by some commentators as producing less than positive effects, at least for the current ‘weak’ parts of the agreement.³⁹ From another point of view, given that IP is a fundamental asset for technological development and innovation, it is necessary to treat it as part of a more general and articulated international agreement with the aim of regulating all legal and economic interests that affect the interaction between the countries involved.⁴⁰ The underlying idea is that investors may be deterred, if not entirely scared away, from investing in foreign markets where “piracy” could reduce or in any way strongly affect economic gain in these industries.⁴¹

Intrinsically, FTAs are flexible tools by their nature. For this reason, they have established themselves as a privileged context to set IP rules that go far beyond the immediate trade indications.⁴²

This said, the phenomenon is sensitive and needs to be analysed. While generalising, for descriptive purposes two general approaches to the inclusion of IPRs clauses in FTAs can be identified.⁴³

³⁸Indeed, even alternative visions of IP development have begun to emerge, especially after the recent “financial crisis”: for example, “soft diplomacy” of China, the “brick by brick” building IP protection in a String of ASEAN agreements, or in the focus on ‘new types’ of IPRs such as for traditional know-how in the agreements concluded by developing countries. *Ibid.*, p. 4 and the footnotes cited there.

³⁹Bhagwati J (2002) Patents and the Poor: Including Intellectual Property Protection in WTO Rules Has Harmed the Developing World. *Financial Times*, 16 September; Panagariya A (1999) TRIPS and the WTO: An Uneasy Marriage. <http://www.columbia.edu/~ap2231/Policy%20Papers/TRIPSWTO.pdf>. Accessed: 20 December 2017.

⁴⁰“*The relationship between trade and innovation is a ‘two-way process’*. On the one hand, trade liberalization and investment flows contribute to technology diffusion and innovation. (...) trade restrictions reduce the supply of intermediate goods to an economy, hampering productivity and technology diffusion. (...) On the other hand, strengthening national innovation capabilities improves a country’s ability to engage in and benefit from the international trading system”, in Primo Braga, *supra* note 35, p. 3.

⁴¹Primo Braga, *supra* note 35, p. 7: “*It is important, however, to recognize that the impact of strengthening IPRs in terms of bilateral trade flows between an innovation-leader and a hypothetical developing (imitation-prone) country is in the end an empirical question*”.

⁴²Parisotto L and Puutio T A (2016) Intellectual Property Rights in the Asia-Pacific Trade Context. Trade, Investment and Innovation Working Paper Series No. 02/May, UN ESCAP, Bangkok, pp. 1–2. http://www.unescap.org/sites/default/files/IPR_Paper_Final-07-16.pdf. Accessed 2 December 2017.

⁴³Antons C, Thampapillai D (2015) An Overview of Free Trade Agreements in the Asia-Pacific Region with a Particular Focus on Intellectual Property. In: Antons C, Hilty R (eds) *Intellectual Property and Free Trade Agreements in the Asia-Pacific Region*. MPI Studies on Intellectual Property and Competition Law, vol 24. Springer, Berlin, Heidelberg, pp. 28–29. For a detailed overview of FTAs within the Asian context, 29–33. See also Hilty and Jaeger, *supra* note 36, p. 44.

On the one hand, there are FTAs with no or very few provisions on IP with substantive content.⁴⁴ Some of them, taking as a reference Art. XX GATT, do not mention IP, but do stress general exceptions (i.e. art. 15 CIS FTA; art. IV Free trade agreement between India and Sri Lanka, etc.); others provide single permissive provisions, again shaped around Art. XX GATT, establishing that the agreement shall not avoid the adoption or enforcement of measures needed for the protection of IPRs or the prevention of unfair, deceptive or misleading and deceptive practices (the wording of these clauses may differ, but the intent tends to be the same; such as Pacific Islands Countries Trade Agreement (PICTA); Agreement on Trade and Commercial relations between Australia and Papua New Guinea (PACTRA II, etc.).

On the other hand, we may register FTAs with entire chapters dedicated to IP issues.⁴⁵ They provide detailed obligations that go even beyond the TRIPs (so called TRIPs Plus).⁴⁶ For example, facilitation in the patenting process (such as the Korea Singapore Free Trade Agreement, where corresponding applications have been filed in both countries),⁴⁷ accession to further international treaties (such as the Singapore Australia Free Trade Agreement, with reference to a number of international agreements, as WIPO Copyright and the WIPO Performances ad Phonograms Treaty),⁴⁸ border enforcement measures, UPOV standards for plant varieties, and so forth.⁴⁹ This kind of approach represents a rapidly growing trend.⁵⁰

3.2 *Issues in the Proliferation of Free Trade Agreements and IP*

We described above the trends with reference to the proliferation of IP rules in Free trade agreements. Two different processes seem to operate: on the one hand, US and EU are modifying Free trade agreements by means of TRIPs-plus processes; on the other hand, Asia-Pacific countries, motivated by a regional supply chain, are looking to increase and deepen their trade linkages to benefit from increasingly inter-mediated production processes.

⁴⁴Antons and Thampapillai, *supra* note 44, pp. 43–45.

⁴⁵*Ibid.*, pp. 47–49.

⁴⁶With reference to the so-called TRIPs plus standards, see Ruse-Khan HG (2009) Time for a paradigm shift? Exploring maximum standards in intellectual property protection. *J. Trade Law Dev* 1:56–102; and Sell S (2011) TRIPs was never enough: vertical forum shifting, FTAs, ACTA and TPP. *J. Intellectual Prop Law* 18:447–478.

⁴⁷See art. 17.6 and 17.7 Korea-Singapore Free Trade Agreement, <https://www.iesingapore.gov.sg/Trade-From-Singapore/International-Agreements/free-trade-agreements/KSFTA>. Accessed 20 December 2017.

⁴⁸Art. 2 Singapore-Australia Free Trade Agreement (SAFTA), <http://dfat.gov.au/trade/agreements/safta/pages/singapore-australia-fta.aspx>. Accessed 20 December 2017.

⁴⁹Hilty and Jaeger, *supra* note 36, pp. 47–49, 77.

⁵⁰Another opportunity for discussion on copyright rules within FTAs was represented by the Australia Free Trade Agreement: see Burrell, Weatherall 2008.

However, there are no clear empirical nor theoretical indications that this move toward the implementation of stronger standards of protection will necessarily lead to welfare enhancing results.⁵¹ What is certain is that this proliferation of regulation has produced some unintended and negative effects, which need to be seriously considered.⁵²

First, it must be assumed that these binding agreements condition and define both national and international law. In fact, in most cases, free trade agreements result in legislative reforms affecting the states involved and the outcomes of dispute settlement mechanisms. They may, therefore, create regulatory controls that may prevent future reforms from being made on the issues subject to trading, causing an unalterable effect in current regimes.⁵³

Moreover, we have confusion created by the simultaneous existence of overlapping obligations and norms: the so called “Spaghetti Bowl”.⁵⁴ This phenomenon leads to a multiplication of IP-related provisions, so that states are bound by a multitude of parallel obligations vis-a-vis different trade partners.⁵⁵ TRIPS’ strict most-favoured-nation clauses further complicate the task of properly determining the privileges and current obligations.⁵⁶

Finally, embedding IP rules within free trade agreements may present significant biases to the process and outputs. The IP rules traditionally deal with trade; IPRs are about aspects related to modern life, such as health, agriculture, etc. It is quite obvious therefore how the stakeholders involved, the methodologies used and the underlying principles governing the negotiation of free trade agreements significantly differ from those used in non-trade related aspects of IPRs. This is even clearer with reference to possible conflicts of interests that arise, for example, between IPRs and public health or biological diversity.⁵⁷

⁵¹Primo Braga, *supra* note 35, p. 5, in part.: “Moreover, as some analysis argue, there is no conclusive evidence that strengthening, for example, patent regimes will lead to more innovation”.

⁵²See Parisotto and Puutio, *supra* note 43, pp. 2–3.

⁵³*Ibid.*, p. 2.

⁵⁴Hilty and Jaeger, *supra* note 36, p. 58; In part.: “The ‘spaghetti bowl’ of FTAs leads to a multiplication of IP-related provisions, so that states are bound by a multitude of parallel obligations vis-a-vis different trade partners”.

⁵⁵*Ibid.*, p. 57, stress this criticality: “the relationship under international law of TRIPS-plus FTAs to the pre-existing TRIPS regime and the relationship among the provisions of the various FTAs require examination, particularly as concerns conflicting provisions. On that basis, the combined legal effect of the applicable rules of international law and of the TRIPS-plus obligations laid down in FTAs can be assessed. Do the various FTA obligations mutually add-up in the sense of a regulatory race to the top’, or do they cancel each other out or apply only inter partes, or do they have any other effect and, if so, under what circumstances do these legal effects occur?”.

⁵⁶*Ibid.*, pp. 58–65.

⁵⁷Parisotto and Putio, *supra* note 43, pp. 2–3: “However, the very fact that IPRs are negotiated in the FTA setting imply a certain imbalance of interest. Were interest fully aligned, there would be no need for a treaty as one could expect national legislation to reflect said interest without any added benefit from FTA obligations. Diverging interest are often combined with imbalances of power – a consequence of a world where countries fall along a wide spectrum of economic and social power”.

This fatal combination of imbalances and fragmentation that characterises free trade agreements can ultimately be dangerous.

At a more general level, the tendency to include particularly stringent and restrictive IP clauses often results in overprotection. The protection of IPRs, in fact, goes beyond the level that is economically and socially justifiable. This, absurdly, has an effect of hampering innovation and promoting the creation of technological and knowledge monopolies.⁵⁸ Thus, it becomes clear how the ideology of free trade can lead to an unstable international economy and ultimately fails to favor progress and innovation.

Lastly, a high level of IP protection may be inappropriate for developing countries, rising issues linked to legitimacy and poverty alleviation.

3.3 *Trans-Pacific Partnership (TPP) and Copyright: A Paradigmatic Example*

A paradigmatic example of what we have argued is represented by the famous *Trans-Pacific Partnership* (TPP)—a trade agreement among Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Perù, Singapore, USA and Vietnam. The finalised proposal was signed on 4 February 2016 in Auckland, New Zealand. According to the opinion of many commentators, the TPP could have significant economic-global implications, covering countries accounting for 40% of world's GDP.⁵⁹ It also inaugurated a new period with reference to trade governance.

It currently cannot be ratified due to the USA's withdrawal from the agreement on 23 January 2017.⁶⁰ However, since then negotiations have continued on the Regional Comprehensive Economic Partnership (RCEP). Recently, trade ministers from eleven Pacific Rim countries reached an agreement in principle on core elements of the TPP, now renamed the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). It is not surprising, therefore, that the most controversial parts of this agreement are those in the field of IPRs, where it is clear that the USA would like to "impose" higher standards of IPRs that better reflect US law now in force.⁶¹

Although we do not know what will happen to this Free trade agreement and whether from its ashes, the above mentioned RCEP or CPTPP will eventually

⁵⁸Hilty and Jaeger, *supra* note 36, p. 73: "*The practice of laying down TRIPS-plus standards in FTAs is commonplace in the Asia-Pacific 'spaghetti bowl' and outside it, in spite of the fact (highlighted earlier) that the provisions of such agreements are either irrelevant because they duplicate pre-existing obligations or that they drive protection standards ever further upward. Yet, there appears to be no significant opposition from Asian governments in this regard*".

⁵⁹Primo Braga, *supra* 35, p. 8.

⁶⁰*Ibid.*, pp. 8–10.

⁶¹This is about: longer terms of protection (for copyright, trademark, and patent, by means of regulatory changes, in comparison with TRIPS provisions); additional rules for biologic medicines (pharmaceutical products developed from living organisms), including minimum standards for data protection.

emerge,⁶² the TPP, with reference to IP rules, can rightly be cited and used as a model of a TRIPS Plus agreement.⁶³ In particular, we will refer to two clear examples of copyright protection.

First, we analyse the copyright terms of protection policy. Article 18.63 TPP establishes:

Each Party shall provide that in cases in which the term of protection of a work, performance or phonogram is to be calculated:

- (a) on the basis of the life of a natural person, the term shall be not less than the life of the author and 70 years after the author's death; and
- (b) on a basis other than the life of a natural person, the term shall be:
 - (i) not less than 70 years from the end of the calendar year of the first authorised publication of the work, performance or phonogram; or
 - (ii) failing such authorised publication within 25 years from the creation of the work, performance or phonogram, not less than 70 years from the end of the calendar year of the creation of the work, performance or phonogram.

In relation to art. 18.63 (a) and (b) art. 12 (Term of protection) TRIPS provides:

Whenever the term of protection of a work, other than a photographic work or a work of applied art, is calculated on a basis other than the life of a natural person, such term shall be no less than 50 years from the end of the calendar year of authorized publication, or, failing

⁶²The Canadian government took a strong stance on the Intellectual Property (IP) chapter and made a significant improvement to the TPP's original unbalanced copyright rules by suspending the IP provision almost in its entirety (the suspended chapters in the new agreement are still subject to discussion and could be reopened, should the U.S. decide to rejoin the deal down the line). See: <http://www.rabble.ca/columnists/2017/12/copyright-new-tpp-milestone-or-pr-move>; <http://www.michaelgeist.ca/2017/11/bursting-ip-trade-bubble-canadas-position-ip-rules-takes-shape-suspended-tpp-provisions/>. Accessed 4 December 2017.

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⁶³See Primo Braga, *supra* note 35, p. 9. The Author particularly emphasises that: "It is worth noting that some of these provisions go beyond the "TRIPS plus" aspects that the USA had already negotiated on a bilateral basis in the context of its FTA treaties with countries such as Australia, Chile, and Peru". For further analysis see Yu P K (2017) TPP, RCEP and the Future of Copyright Normsetting in the Asia-Pacific. In: Corbet S, Lai J (eds), Making copyright work for the asian pacific? Juxtaposing harmonisation with flexibility, ANU Press, 2017, Forthcoming; Texas A&M University School of Law Legal Studies Research Paper No. 17–82, <https://ssrn.com/abstract=3054328>. Accessed 29 January 2018; Lee J-A (2017) Digital Copyright in the TPP. In: Chaisse J, Gao H, Lo C (eds), Paradigm Shift in International Economic Law Rule-Making: TPP As a New Model for Trade Agreements? Springer, pp. 371–388; The Chinese University of Hong Kong Faculty of Law Research Paper No. 2017–24, <https://ssrn.com/abstract=3078371>. Accessed 29 January 2018.

such authorized publication within 50 years from the making of the work, 50 years from the end of the calendar year of making.

The above clearly shows that the 50-year-long term after having been subjected to criticism primarily from the USA, has been altered in the TPP to ‘*not less than 70 years*’, in line with the standard already adopted by many western countries.⁶⁴

Another example that is worth mentioning. It relates to copyright enforcement. Article 18.68 (Technological Protection Measures (TPMs)) of TPP states:

1. In order to provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that authors, performers, and producers of phonograms use in connection with the exercise of their rights and that restrict unauthorised acts in respect of their works, performances, and phonograms, each Party shall provide that any person that:

(a) knowingly, or having reasonable grounds to know, circumvents without authority any effective technological measure that controls access to a protected work, performance, or phonogram; or (...)

is liable and subject to the remedies provided for in Article 18.74 (Civil and Administrative Procedures and Remedies).

(...) Each Party shall provide for criminal procedures and penalties to be applied if any person is found to have engaged wilfully and for the purposes of commercial advantage or financial gain in any of the above activities (...)."

Explicit civil and administrative sanctions are therefore foreseen to punish those who, knowingly or having reasonable grounds to know, circumvent without authority any effective technological measure; penalties that may even be of a criminal nature for those who have put into practice the stigmatised conduct wilfully or even for commercial advantage or financial gain. On this point, TRIPs does not set any rules, leaving the various contracting States free to provide remedies and modularise them with reference to the cultural and legal sensitivity of the relevant legal order.

Furthermore, other critical requirements are those related to: the creation of new threats for journalists and whistleblowers, due to a dangerously vague text on the misuse of trade secrets; the enactment of a “Three-Step Test” language that puts restrictions on fair use, due to restrictive language in the TPP’s IP chapter; greater liability that has been placed on Internet intermediaries which has forced the adoption of the U.S DMCA.⁶⁵

3.4 FTAs and IPRs: A “Marriage of Convenience”

It is evident that IP rules in the context of FTAs represent a sort of “bargaining currency”, used as a trading tool to obtain a different result from the core legal entitlement.⁶⁶ In the literature, the emphatic expression of ‘marriage of convenience’

⁶⁴The RCEP contains, indeed, no requirement for countries to extend the copyright term beyond the minimum specified in the Berne Convention (50 years).

⁶⁵Electronic Frontier Foundation (undated) <https://www.eff.org/issues/tpp>. Accessed 17 December 2017.

⁶⁶See Primo Braga, *supra* note 35, pp. 6–7. See also: Hilty and Jaeger, *supra* note 36, p. 77: “If TRIPs-plus IP standards become a kind of ‘bargaining currency’ to negotiate FTAs, there is an

has been used to explain this eventuality.⁶⁷ Indeed, IPRs are territorial. The attempt to promote harmonisation at the international level dates back to the nineteenth century. We may recall the Paris Convention 1883 on patent, and the Berne Convention 1886 on copyright, which adopted national treatment provisions as a benchmark for international harmonisation. The trend then accelerated after World War II. Already in the 1970s, the United States had begun lobbying for the adoption of IP rules (see, for example, the Anti-Counterfeiting Code at GATT level, which laid the foundations for extending these ‘Harmonisation’ activities, and which possibly forced their adoption in other areas of IP).

Some countries may be required to accept high levels of IP protection dealing with technology exporting to country partners where they are seeking market access. Conversely, the same countries might be tempted to omit IP rules when negotiating with developing country partners who are unaware of the importance of higher IP standards.⁶⁸

An example is the IP obligations under the free Trade Agreements, and the implications of the USA’s attempt to establish a strong IP regime. In other words, the USA is using negotiating instruments to foster and improve, from its perspective, global intellectual protection.

Moreover, supporters of high levels of IPRs protection are typically the countries that are characterised as innovation leaders. This relationship is not always true. Once an economy has reached a certain level of development, the pressure from local entrepreneurs to gain access to technology developed in foreign countries often pushes down the standards of protection and encourages imitation activity (sometimes characterised by “piracy” phenomena to the detriment of foreign rights holders).⁶⁹

The world is actually composed of countries with different degrees of development, which may have different and sometimes conflicting interests in this type of scenario. By trying to schematise, we can state that there are basically four groups of countries with substantially different interests with respect to FTAs⁷⁰:

- (a) “Traditionally developed countries”: they have already enhanced standards of domestic IP protection, most of them going beyond TRIPS; their interests in FTAs lies in a geographical expansion of such standards.
- (b) “Newly developed countries”: they have standards based on their own economic development and have an interest in enhanced IP standards.
- (c) “Developing countries”: they lack sustainable economic development and would not yield their own interest in enhanced IP standards; some IP protection might

obvious risk that substantially more or broader IP protection than would be required from an economic point of view is established”.

⁶⁷Primo Braga, *supra* note 35, pp. 6–8.

⁶⁸Hilty and Jaeger, *supra* note 36, pp. 28–29.

⁶⁹Primo Braga, *supra* note 35, p. 5.

⁷⁰For a precise classification of the groups of states characterized by different interests, see Hilty and Jaeger, *supra* note 36, pp. 73–77.

foster incentives to the domestic industries to invest in knowledge and innovation.

- (d) “Underdeveloped countries”: IP protection might not lie in their interest at all; indeed, to allow some development, the domestic population should be free to get access to the global state of the art standards to then become developing countries.

In conclusion, the risk is to establish substantially more or broader IP protection than required from an economic point of view.

4 Conclusions

As the third section demonstrated, the inclusion of the intellectual property discipline in Free trade agreements, traditionally used to manage only strictly commercial issues, leads in some cases to even a tightening of the rule in a perspective based more on the logic of exchange and negotiation, rather than on a correct balance of the interests involved. The strengthening of a certain way of understanding intellectual property (especially as followed by some Western countries) risks to determine a cascading effect towards increasingly less profiled solutions on the new technological context and new creative phenomena.

This kind of approach leads to a lesser diffusion and sharing of intellectual works and ideas, with a definitely negative impact on creative and innovative processes.

A more balanced approach to IP and copyright promises different approaches instead. It promises to make science more open, that is more cooperative, inclusive, democratic and based on integrity. In addition, Open Science can be included among the grounds for innovation and development of all countries, including non-Western countries.⁷¹ The OS is hampered, *inter alia*, by the overprotection of intellectual property rights in general. FTAs are one of the tools for extending copyright protection. International agreements represent a stage of a long process that may lead to the effective extension of the right of exclusivity. But they obviously also have a symbolic value. Even from this point of view, the extension of copyright protection is one of the most serious threats to the development of the OS.

How is it possible to reverse the tendency to widen the copyright protection through FTAs?

An initial strategy is to make the process of negotiating treaties more transparent and inclusive.⁷² Some steps have been made to achieving this goal in recent years. With reference to some treaties we have moved from total secrecy to the publication of the reference texts. This is also the result of the commitment of various actors in the system (such as associations to defend individual freedoms and rights) who

⁷¹Caso and Ducato, *supra* note 3; Moscon, *supra* note 28.

⁷²For further details on the issue on open trade negotiations and transparency, see Limenta, M (2012) Open Trade Negotiations as Opposed to Secret Trade Negotiations: From Transparency to Public Participation. *New Zealand Yearbook of International Law*, vol. 10, p. 73.

are determined to make the negotiation process more transparent. Yet, much still remains to be done to give voice to all stakeholders.

A second strategy may be to include general clauses in the FTAs that give flexibility to the protection system.⁷³

The chessboard of international bargaining has become increasingly complex. The advent of the Trump administration seems to have changed the role of the US taken after it joined the Berne Convention to one where it seeks to impose high standards of copyright protection on the world, but at the same time defend the flexibility of the general fair use clause. Their withdrawal from TPP represents an emblematic example of that. In addition, other Western countries such as Canada and other international players such as China and Australia can play a major role in the regulation of intellectual property. In this scenario, the European Union may assert its own role. Unfortunately the EU has an ambiguous position on the subject of Open Science. On the one hand, it seems a great supporter of OS and OA,⁷⁴ but on the other hand the recent policies for the digital single market are pushing for a further extension of copyright.⁷⁵

If those responsible for IP rules appreciate that copyright requires lower levels of protection and greater flexibility, then Open Science will have a greater chance to develop and establish itself; and this new policy will benefit the whole of humanity. The historical moment is propitious, the indiscriminate extension of property is the subject of considerable attention by stakeholders and has attracted wide criticism from scholars. The equation between the extension of intellectual property and economic development is no longer an established truth immune from criticism.

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⁷³Some authors have proposed to foster the role of the “misuse of right”. See Hilty and Jaeger, *supra* note 36, p. 81: “*conclusion of a global accord on the prevention of a misuse of rights that goes beyond the sphere of just antitrust law. Such an accord would fix specific countermeasures to be taken by states parties to forestall or end certain kinds of abuses of individual IP rights upon enforcement*”.

⁷⁴See, e.g., European Commission 2016.

⁷⁵See Proposal for a Directive of the European Parliament and of the Council on copyright in the Digital Single Market—COM (2016) 593.