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DIALOGUE AND DEBATE: SYMPOSIUM ON COMMODIFICATION AND EU LAW

Commodification of intangibles in post-IP capitalism: rethinking the counter-hegemonic discourse

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Abstract

Intellectual property (IP) is the legal mechanism that transforms intangible instances into tradeable commodities. While creating the conditions for extraction of value and capital accumulation across all domains of economic and social life, IP law defines at the same time the boundaries of commodification by determining the scope of the public domain. Within this traditional framework, opponents of neo-liberal market expansionism have championed the role of IP doctrines and principles such as fair use, exceptions and limitations. However, new informational capitalism relies primarily on non-IP forms of appropriation and de facto control. To a large extent, commodification of intangibles and capital accumulation is no longer distressed by – and even benefits from – traditional public-domain-enhancing IP doctrines. This challenges traditional IP narratives and calls for a new foundation for a truly counter-hegemonic discourse in IP law.

Keywords: intellectual property; public domain; commons; Karl Polanyi; big tech; big pharma

1. Introduction

The crux of much intellectual property (IP) scholarship in the last two decades has been how to define a progressive, counter-hegemonic research agenda vis-à-vis the seemingly irresistible expansion of property rights and the consequent contraction of the public domain in every corner of the intellectual public sphere.[1] To be sure, the very notion of a 'progressive' agenda is highly subjective. For lawyers working for – or on behalf of – private corporations or institutions that defend corporate interests, the research agenda will consist essentially in (re) searching the best solutions to maximise extraction of value and capital accumulation by taking advantage of IP rights. In this context, a progressive agenda is simply the one that 'progresses' the capital's interests and increases market power. By contrast, academic researchers have the right to set their own agenda and they may choose to use this constitutionally protected freedom to question, interrogate, and criticise dominant power structures – and specifically the way in which those structures influence, shape and make use of IP rights.

[1]Among the most influential scholarship on copyright expansionism are L Lessig's, *The Future of Ideas: The Fate of the Commons in a Connected World* (Random House 2001) and *Free Culture: The Nature and Future of Creativity* (Penguin Books 2005), J Boyle, *The Public Domain: Enclosing the Commons of the Mind* (Yale University Press 2008), and Y Benkler, *The Wealth of Networks: How Social Production Transforms Markets and Freedom* (Yale University Press 2007).

The problem is that power structures change over time and so does the interpretation of what should be defined a truly counter-hegemonic approach to IP.[2] Therefore, it may be the case that a research agenda loses its progressive feature, or even becomes *regressive*, if it does not take into due account the changes in the dominant power structures. I argue that this is precisely the risk of IP scholarship today.

I will develop my argument focusing on two related aspects, namely the role of IP law in the commodification of intangibles and the boundaries imposed on commodification by the claims of the public domain. Since the latter is the single most defining element of 'progressivism' in IP research, I will address in particular the changing role of traditional public-domain-enhancing IP doctrines, such as fair use and exceptions, in today's phase of capitalism. I will make my point with the aid of three 'case studies', covering three distinct areas of IP law.[3] But before that, I will delve a bit into social and economic history in an attempt to extract the key dynamics that led to the current global system of IP law.

2. The 'great transformation' and the making of IP law

The IP regime as we know it today took much of its shape, in so-called industrialised countries, in the second half of 19th Century. It is the result of a law-governed process of enabling market forces to extract value from instances that are not even 'things', let alone commodities: actions like writing a book, composing a melody, inventing a new device, designing the shape of an object, indicating the source of origin of goods – all these actions and more, abstracted from the respective intellectual commons to which they belong, could be transformed into tradeable commodities by operation of law.[4]

Such commodification is the result of a process that coincides, historically, with the rise of industrial capitalism and the market economy. To be sure, patents, copyright, and trademarks have been around at least since the 16th Century, when the market economy did not yet exist, let alone a capitalist market economy. In fact, not only can the actions mentioned above be protected by law while remaining an integral part of their respective intellectual commons and without being abstracted from those commons and commodified,[5] but also even markets in *products* resulting from those actions can subsist and thrive in the absence of capitalist forms of production.[6] So capitalism did not 'invent' patents, copyright and trademarks: rather, it took them from the existing arsenal of legal tools and transformed them gradually into forms of property over tradeable commodities – and into commodities themselves to be exchanged in the marketplace. These commodities are not less 'fictitious' than the three factors of

[2]I use the term 'hegemony' in Gramsci's sense, as the dominance of a given power structure supported by legitimating norms and ideas that are widely accepted and consented upon as commonosensical and normal. See E Laclau and C Mouffe, *Hegemony and Socialist Strategy: Towards a Radical Democratic Politics* (Verso Books 1985); N Chomsky and M Waterstone, *Consequences of Capitalism. Manufacturing Discontent and Resistance* (Hamish Hamilton 2021), Ch 1 ('Common Sense, the Taken-for-Granted, and Power').

[3]Infra § 5.

[4]On the role of law in this process of transformation of common goods into capital assets see K Pistor, *The Code of Capital. How the Law Creates Wealth and Inequality* (Princeton University Press 2019), in particular pp 125–31. More generally, on the commodification of intellectual labour, see the seminal work by A Sohn-Rethel, *Intellectual and Manual Labour: A Critique of Epistemology* (Humanities Press 1978).

[5]With respect to author's rights, see the landmark right-based argument developed by I Kant, *On the Unlawfulness of Reprinting* (1785) in L Bently and M Kretschmer (eds), *Primary Sources on Copyright (1450–1900)*, ww.copyrighthistory.org, as discussed in M Borghi, 'Copyright and Truth' 12 (2011) Theoretical Inquiries in law 1; for a systematic interpretation of modern copyright law inspired by the Kantian argument see A Drassinower, *What's Wrong with Copying?* (Harvard University Press 2015).

[6]For instance, markets in *books* can subsist absent commodification of *works* as its constituent part. See Y Sordet, *Histoire du livre et de l'édition: Production et circulation, formes et mutations* (Albin Michel 2021).

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production – land, labour, and capital – described as such by Karl Polanyi in his seminal work on the 'great transformation'.[7]

Historically, the symbolic landmark of this first transformation is represented by the international treaties signed at the height of the age of classic liberalism and free trade, namely the Paris Convention on industrial property of 1883 and the Berne Convention on literary and artistic property of 1886.[8] The success of the resulting IP regime – which was destined to remain in force, essentially unaltered in its structural elements, for a good century – depended on the tacit assumption that legitimate competing interests over intangible commodities created by law – works, inventions, badges of origin etc – can be defined and balanced ex ante by the law itself. Such ex ante determination operated in various ways, for example by establishing that exclusive rights over certain protected subject matter have limited duration, limited scope (eg expressions and not ideas) and are subject to exceptions (eg fair use in copyright, government's use in patent law, etc) or to other provisions that temper the exclusionary nature of property rights (eg compulsory licensing). By defining de jure the dividing line between what can be claimed as private property and what should remain in the commons, the law enacted a commodification of intangibles that was strictly functional to the correct operation of the market. From a Polanyian perspective, the limits embedded in IP law can be interpreted as part of the 'protective counter-movement' that arises in response to unrestrained marketisation and the degradation resulting from treating human life and nature activities as mere commodities. Such counter-movement does not just protect society and nature from the destructive forces of the market, but is also required for the continued existence of the market structures themselves vis-à-vis the threat of self-destruction. In Polanyi's words:

> For a century the dynamics of modern society were governed by a double movement: the market expanded continuously but this movement was met by a countermovement checking the expansion in definite directions. [This countermovement] was more than the usual defensive behaviour of a society faced with change; it was a reaction against a dislocation which would have destroyed the very organization of production that the market had called into being.[9]

The double movement results from the action of two opposing organising principles, namely economic liberalism and *laissez-faire* on the one side, pushing towards the establishment of a self-regulating market for the factors of production (land, labour and capital), and the 'principle of social protection' on the other side, aiming at the 'conservation of man and nature as well as productive organization' by means of protective legislation and other regulatory techniques.[10]

[7]K Polanyi, *The Great Transformation: The Political and Economic Origins of Our Time* (Farrar and Rinehart 1944) 72. The 'fictitious' commodity character of labour, land and money is evident from the fact that they 'are obviously *not* commodities', in the sense that they are not produced for sale ('Labor is only another name for a human activity which goes with life itself . . . ; land is only another name for nature, which is not produced by man; actual money, finally, is merely a token of purchasing power which, as a rule, is not produced at all', Ibid., 72). 'Nevertheless – concludes Polanyi – it is with the help of this fiction that the actual markets for labor, land and money are organized' (Ibid.). A similar 'fictitious' commodity-character can be ascribed to the actions mentioned above (writing a book, inventing a new device, etc), which become the subject matter of IP law. For a seminal, in-depth Polanyian analysis of the historical development of IP legal institutions, see A Peukert, 'Fictitious Ccommodities: A Theory of Intellectual Property Inspired by Karl Polanyi's "Great Transformation"' 29 (4) (2019) Fordham Intellectual Property, Media and Entertainment Law Journal 1151.

[8]G Galvez-Behar, 'The 1883 Paris Convention and the Impossible Unification of Industrial Property' in G Gooday and S Wilf (eds), *Patent Cultures. Diversity and Harmonization in Historical Perspective* (Cambridge University Press 2020) 38; C Seville, *The Internationalisation of Copyright Law: Books, Buccaneers and the Black Flag in the Nineteenth Century* (Cambridge University Press 2006); S Bannerman, *International Copyright and Access to Knowledge* (Cambridge University Press 2016).

[9]Polanyi (n 7) 130.

[10]Ibid., 132.

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Commodification of intangibles followed a similar pattern, with market forces on the one side pressing for the complete alienation of creative actions from their original collective meaning and their fixation into mere exchange values, and societal forces on the other side seeking to protect universal freedom to access intellectual commons through regulation, legislation and resistance.[11] The IP regime that took shape in the second half of 19th Century can be seen as the outcome of the double movement consisting of capitalism's seizure of economy and society's regulative reaction. In this way, the resulting IP system operated a commodification of certain intangibles while at the same time defining the boundaries of such commodification – and all this by keeping a neutral stance and leaving entirely to the market the task of determining the exchange value of the thus created commodities. Otherwise put, IP law established itself as an integral component of the rule-set of the capitalism game – a component whose relevance grew exponentially, without changing qualitatively its nature, in the course of the 20th Century.

3. The second transformation and the age of IP expansionism

The institutional structures that, within the IP regime, made possible a defence of the freedom to access intellectual commons against unlimited propertisation remained relatively unchallenged for a good part of the 20th Century up to post-World War II 'regulated capitalism'.[12] These structures started shaking at the end of the 1970s with the transition to a new phase of capitalism dominated by a medley of political, economic and intellectual approaches which is now commonly referred to as 'neoliberalism'.[13] At the heart of neoliberalism is the basic idea that human well-being can be best advanced by liberating individual, instead of collective, entrepreneurial forces, and that the precondition to achieve this is an institutional framework characterised by strong private property rights and weak regulatory barriers. Neoliberalism does not necessarily imply a weakened role of the state vis-à-vis the 'market forces' – as per the hegemonic narrative that began to take shape in those years – but rather a new and different role of the state in the capitalist system. As far as IP law is concerned, the most visible consequence of the transition from regulated to neoliberal capitalism was that the interests of the owners of the means of production – which in the classic IP regime represented only one of the competing interests in intangible commodities – were now taken directly onboard by the state. In other words, the neoliberal state diverted the IP regime from its neutral, rule-setting role and converted it to a pure instrument of capital accumulation. Indeed, according to the new hegemonic ideology of IP law-making, inspired by neoliberal economic theories, strong property rights over intangible commodities are the necessary incentives to release individual entrepreneurial forces which in turn ensure expansion, growth and market competitiveness. The ideology triggered a legislative process starting in the 1980s and 1990s in USA and in Europe[14] as an erosion of the limits to commodification imposed under the classic IP regime, which paved the way to the expansion of exclusive rights into every corner of the society and of the globe – a process whose symbolic

[11]Peter Drahos has suggested an understanding of the development of the global IP system as a 'threat to the ethical life of communities', insofar as 'once property in abstract objects becomes part of a global system, it no longer acts within communities to enable freedom but acts upon them to restrict freedom'. P Drahos, *A Philosophy of Intellectual Property* (Ashgate 1996) 91. Many scholars have addressed the role of imperial and colonial forces in the expansion and consolidation of the global IP system. See eg Seville (n 8), I Alexander, *Copyright Law and the Public Interest in the Nineteenth Century* (Hart Publishing 2010), U Suthersanen and Y Gendreau (eds) *A Shifting Empire: 100 Years of the Copyright Act 1911* (Edward Elgar 2013).

[12]Chomsky and Waterstone (n 2) p 204.

[13]See generally D Harvey, *A Brief History of Neoliberalism* (Oxford University Press 2007), Q Slobodian, *Globalists: The End of Empire and the Birth of Neoliberalism* (Harvard University Press 2018) and P Mirowski, *Never Let a Serious Crisis Go to Waste: How Neoliberalism Survived the Financial Meltdown* (Verso 2013).

[14]See European Commission, 'Growth, Competitiveness, Employment. The Challenges and Ways Forward into the 21st Century: White Paper' (1994) (mentioning 'extending intellectual property law' as one of the priorities of the Commission's 'action plan', p 24).

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landmark is represented by the TRIPs Agreement 1994.[15] Legislations of states under the influence of neo-liberal ideology assisted informational capitalism in bringing commodification of intangibles to a new level, both quantitatively and qualitatively. Examples of IP expansionism abound: broadening of the scope of patent subject matter,[16] extension of copyright duration,[17] extended protection for pharmaceutical patents,[18] world-wide enforceability of patents and copyrights (with increasingly high standards of protection imposed on low-income countries),[19] extended trademark protection for 'famous' brands,[20] introduction of new IP rights (semiconductor chips,[21] *sui generis* database right),[22] establishment of stronger and more effective enforcement measures and remedies.[23]

Seen from the angle of the distinction between private property and the public domain, as established within the traditional IP regime, the process of IP expansionism appears as the latest frontier of a law-driven *plunder* of the commons.[24] This was not just a quantitative empowerment of existing rights, but a transformation of the very *raison d'être* of those rights. In fact, the process of plunder is consistent with the changing nature of IP law in the hands of neoliberal states, which loses its original neutral rule-setting character to become a mere instrument of value extraction and capital accumulation. It can be observed that, within the logic of never-ending capital accumulation, no boundaries can be set to the expansion of instruments that make accumulation possible.[25] This inherent indefinability of limits to IP expansion is captured implicitly in the language of legislators and courts alike. A case in point is the proclamation of ensuring 'a high level of protection' that features in key EU directives and is regularly reiterated in the judgements

[15]Agreement on Trade Related Aspects of Intellectual Property, 1994. On the interplay between governments and big business in the TRIPS negotiations see P Drahos and J Braithwaite, *Information Feudalism: Who owns the Knowledge Economy* (Routledge 2002), in particular pp 133–48. See also S Sell, *Private Power, Public Law: The Globalization of Intellectual Property Rights* (Cambridge University Press 2003) and A Rahmatian, 'Neo-Colonial Aspects of Global Intellectual Property Protection' 12 (1) (2009) Journal of World Intellectual Property 40.

[16]*Diamond v. Chakrabarty*, 447 U.S. 303 (1980) (allowing patentability of living organisms); Directive 98/44/EC of the European Parliament and of the Council of 6 July 1998 on the legal protection of biotechnological inventions, OJ L 213/13 (1998) (regulating patentability of naturally occurring resources).

[17]Council Directive 93/98/EEC of 29 October 1993 harmonising the term of protection of copyright and certain related rights, OJ L 290 (1993) (harmonising copyright duration to life of the author plus 70 years); Sonny Bono Copyright Term Extension Act 1998 (extending US copyright duration from life + 50 to life + 70).

[18]Council Regulation (EEC) No 1768/92 of 18 June 1992 concerning the creation of a supplementary protection certificate for medicinal products, OJ L 182 (1992) (extending patent protection for medicinal products to up to five years).

[19]TRIPS Agreement 1994, WIPO Copyright Treaty and WIPO Performance and Phonograms Treaty 1996. CM Correa, *Intellectual Property Rights, the WTO and Developing Countries: The TRIPS Agreement and Policy Options* (Zed Books 1999).

[20]Paris Convention for the Protection of Industrial Property, 1883, amended in 1979 to introduce Art 6 bis ('Well-Known Marks'); First Council Directive 89/104/EEC of 21 December 1988 to approximate the laws of the Member States relating to trademarks, OJ L 040 (1989), Arts 4(3) and 5(2); Federal Trademark Dilution Act, 1995 (expanding the scope of rights granted to famous and distinctive trademarks under the Lanham Act 1946). See MA Lemley, 'The Modern Lanham Act and the Death of Common Sense', 108 (1999) The Yale Law Journal 1687 and J Davis, 'European Trade Mark Law and the Enclosure of the Commons', 4 (2002) Intellectual Property Quarterly 342.

[21]Semiconductor Chip Protection Act, 1984; Council Directive 87/54/EEC of 16 December 1986 on the legal protection of topographies of semiconductor products, OJ L 24 (1987).

[22]Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, OJ L 77/20 (1996). A critical analysis of the law-making process behind the *sui generis* database right is provided by I Gupta, *Footprints of Feist in European Database Directive: A Legal Analysis of IP Law-Making in Europe* (Springer 2018).

[23]TRIPS Agreement 1994, Arts 41-61. For an early, landmark critical examination of the expansionist trend in IP see R Dreyfuss, DL Zimmerman and H First (eds), *Expanding the Boundaries of Intellectual Property* (Oxford University Press 2001).

[24]U Mattei and L Nader, *Plunder: When the Rule of Law is Illegal* (John Wiley and Sons 2008).

[25]The mechanism is described formally in chapter 24 ('The Transformation of Surplus-Value into Capital') of Karl Marx's *Capital*: 'Looked at concretely, accumulation can be resolved into the production of capital on a progressively increasing scale. The cycle of simple reproduction [of capital] alters its form and, to use Sismondi's expression, changes into a spiral'. K Marx, *Capital. Volume 1*, transl by B Fowkes (Penguin Books 2004) 727.

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of the European Court.[26] The judiciary has interpreted the expression as requiring generally a 'broad' interpretation of the property rights harmonised by the EU legislator.[27] Yet, in the absence of a defined yardstick, the concept of 'highness', as referred to the *quantum* of protection to be ensured by property rights, cannot function as a meaningful hermeneutic principle. It is rather a blunt assertion of an imperative: that of ensuring that the interests protected by IP rights are given *default* priority over any other competing interests. The *quantum* of protection is at liberty of expanding indefinitely to ensure that such priority is met. In its abstractness, the language of the legislator seconds the logic of capital accumulation in that, by definition, no 'high level' is ever high *enough*.[28]

Within the legal framework inspired by neoliberal ideology, commodification of intangibles loses the character of a legal fiction strictly functional to the operation of markets in works, inventions and other intellectual instances and turns into a *never-ending task* that law is permanently summoned to achieve (and is never good enough at achieving) on behalf of capital accumulation.

4. Protective counter-movements (and their limits)

In opposition to the IP expansionism advocated by global capitalism, rationalised by mainstream law-and-economics and executed by neo-liberal states, a new counter-hegemonic discourse emerged in various forms at the end of last century, both in civil society and in academia.[29] As opposed to the Polanyian 'protective counter-movement' that took off in the first transformation, this second counter-movement did not – at least not initially – materialise within the law, but so to speak 'around' the law. Examples of civil-society resistance to IP expansionism are experiences as diverse as the mobilisation against pharmaceutical patents[30] or against agricultural patents and bio-piracy in low-income

[26]See Recitals 4 and 9 of Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society, OJ L 167 (2001); Recital 21 of Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights, OJ L 157/45 (2004); Recital 11 of Council Directive 93/98/EEC of 29 October 1993 harmonising the term of protection of copyright and certain related rights, OJ L 290 (1993); Recital 14 of Directive 2012/28/EU of the European Parliament and of the Council of 25 October 2012 on certain permitted uses of orphan works, OJ L 299/5 (2012); Recital 27 of Directive 2014/26/EU of the European Parliament and of the Council of 26 February 2014 on collective management of copyright and related rights, OJ L 84/72 (2014); Recitals 2, 3 and 62 of Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market, OJ L 130/92 (2019). The expression is commonly used in many areas of EU law (eg competition law, consumer protection, data protection, etc). In relation to IP law its origins can probably be traced back to the 'Bangemann report' of 1994, whose sentence 'Europe has a vested interest in ensuring that protection of IPRs receives full attention and that a high level of protection is maintained' (p 21) has been frequently cited in subsequent policy documents. See B Farrand, *Networks of Power in Digital Copyright Law and Policy: Political Salience, Expertise and the Legislative Process* (Routledge 2014).

[27]Broad interpretation of the reproduction right in Case C-5/08 *Infopaq* ECLI:EU:C:2009:89 ('The broad definition of reproduction is necessary to ensure the high level of protection', Opinion of AG Trstenjak, § 57), of the right to communication to the public in Case C-275/15 *TV Catchup* ECLI:EU:C:2016:649 (Opinion of the AG Saugmandsgaard Øe, §41) and ECLI:EU:C:2017:144 (Judgment of the Court [Fourth Champber] § 20), of the distribution right in Case C-419/13 *Art and Allposters* ECLI:EU:C:2014:2214 (Opinion of AG Cruz Villalón, § 34), of the anti-circumvention provisions in Case C-355/12 *Nintendo* ECLI:EU:C:2013:581 (Conclusions of the AG Sharpston, § 43) and ECLI:EU:C:2014:25 (Judgment of the Court [Fourth Chamber] § 27), and broad scope of the accountability of intermediaries in Case C-314/12 *UPC Telekabel* ECLI:EU:C:2013:781 (Opinion of AG Cruz Villalón, § 57).

[28]This dynamic is captured as well by the language of 'incentives', introduced by law and economics and featuring ubiquitously in every official document on IP policy. For a critique see A Drassinower, 'A Note on Incentives, Rights, and the Public Domain in Copyright Law' 86 (5) (2011) Notre Dame Law Review 1869.

[29]For an investigation into 'IP resistance' in civil society and academia see DJ Halbert, *Resisting Intellectual Property* (Routledge 2006).

[30]Oxfam, *South Africa vs. the Drug Giants: A Challenge to Affordable Medicines* (Oxfam Background Briefing, February 2001).

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countries,[31] the open-knowledge instances advocated by indigenous communities,[32] the free software movement in the USA, later termed 'open source', and the many experiences that took inspiration from it such as Creative Commons and open access.[33] The open source movement is an interesting case in that, for the first time, a law traditionally deputed to protect literary and artistic expressions, and subsequently stretched to protect computer programs at the height of the neoliberal IP age,[34] was creatively employed as a basis to *outlaw* propertisation and to maintain free software as intellectual commons.[35] The desired legal effect is obtained exclusively by means of contract law, without needing to alter or twist existing copyright law.

Alongside civil-society reactions, much of the academic research in IP law has been focused on addressing criticisms towards the many forms of IP expansionisms and developing alternatives to rampant propertisation of knowledge, information and culture. One of the most influential narratives in this connection has been the notion of a new 'enclosure of the commons' that replicates, in the world of intangibles (ideas, etc), the movement that led to the end of the commons at the beginning of the industrial revolution.[36]

The common thread of this heterogeneous counter-movement, which consolidated rapidly into mainstream academic research, has been the relaunch of structures and principles elaborated in the classical age of IP formation and eclipsed during neoliberal IP expansionism, namely principles and norms that set limits to exclusive rights over intangibles and uphold the claims of the public domain.[37] The emphasis was not much on subverting or abolishing IP law,[38] but rather on restoring the eclipsed function of legal instruments that, within the classic IP system, limit the unencumbered commodification and propertisation of intangibles. These instruments are, most notably, exceptions and limitations, fair use, exclusions from patentability, liability rules and compulsory licensing.

However, the efficacy of these instruments depends crucially on two assumptions. The first assumption is that commodification of intangibles inevitably requires IP law – hence the stronger the IP regime, the wider the commodification. The second, strictly related assumption is that IP law can set limits to commodification insofar as it determines ex ante the balance between the various interests involved in the exploitation of those commodities – in particular, the interests of the owners and those of the users. Both assumptions spring almost naturally from the logic of capital accumulation as seen in operation across the two transformations discussed so far. And yet both assumptions are deeply challenged in the current stage of informational capitalism.

[31]V Shiva, *Biopiracy. The Plunder of Nature and Knowledge* (South End Press 1997), K Aoki, 'Neocolonialism, Anticommons Property, and Biopiracy in the (Not-so-Brave) New World Order of International Intellectual Property' 6 (1998) Indiana Journal of Global Legal Studies 11.

[32]K Bowrey and J Anderson, 'The Politics of Global Information Sharing: Whose Cultural Agendas Are Being Advanced?' 18 (2009) Social and Legal Studies 479.

[33]See G Moody, *Rebel Code. Inside Linux and the Open Source Revolution* (Perseus 2001) and, for a discussion of new forms of collective creativity based on principles of 'sharing', Benkler (n 1).

[34]TRIPS Agreement 1994, Art 10.

[35]E Moglen, 'Anarchism Triumphant: Free Software and the Death of Copyright' in N Elkin-Koren and NW Netanel (eds), *The Commodification of Information* (Kluwer 2002) 107.

[36]Lessig (n 1) and Boyle (n 1).

[37]A systematic doctrinal discussion of public domain in IP law can be found in JC Sciolla, *Il pubblico dominio nella società della conoscenza. L'interesse generale al libero utilizzo del capitale intellettuale comune* (Giappichelli 2021).

[38]A notable exception is M Boldrin and DK Levine, *Against Intellectual Monopoly* (Cambridge University Press 2008), reviving, in modern key, the mid-Victorian era British patent abolitionism movement: see F Machlup and E Penrose, 'The Patent Controversy in the Nineteenth Century' 10 (1) (1950) Journal of Economic History 1.

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5. The third transformation: towards post-IP capitalism?

Empirical evidence shows that today's largest corporations own smaller IP portfolios compared to the big players of 20 or so years ago: this is because, with the notable exception of big pharma, the underlying business models of today's most successful corporations do not depend significantly on patents or other IP rights that confer exclusive control over the means of production.[39] Indeed, unlike traditional media corporations, current big tech companies extract value from intangible commodities such as informative or creative content without formally 'owning' any of them and without claiming any IP rights over them.[40] Interestingly, the intangible commodities that are generated and traded in the so-called 'platform economy' – namely users' 'behavioural surplus'[41] – do not become commodities by operation of IP law (of by any other law, for that matter). Instances like the time spent on a platform or the attention-span spent on a certain item become tradeable commodities, in what Shoshana Zuboff terms the market for 'behavioural futures', not by virtue of a legal entitlement such as a legally defined property right, but simply by effect of de facto possession.[42] It is mere control, not law, that confers exchange value to data on human behaviour, thus enabling extraction of value and capital accumulation. Likewise, big tech can exclude others from the use of value-extraction technology (ie the algorithm) not by operation of IP law but by mere effect of de facto control of those means of production. Possession and control, secrecy of algorithms and free ride on third parties' intangible goods, enable extraction of value, capital accumulation and concentration of informational power on an unprecedented level. As Julie Cohen aptly explains:

> For the most part, traditional intellectual property rights play helpful but only secondary roles in the process of de facto propertisation, functioning as sources of leverage that can be invoked to channel would-be users towards entering the access-for-data bargain on the platform's terms and/or to prevent would-be competitors from gaining access to information stored on the platform by other means. [. . .] At least from Google's perspective, exclusive control of data and algorithms is a more reliable guarantor of dominance than copyright might be.[43]

This shift in the economic structure of informational capitalism has noteworthy consequences for IP law. In particular, reliance on de facto power of control challenges the second assumption of the mainstream counter-hegemonic discourse that we have sketched above, namely the capacity of IP law to define ex ante the balance between different interests at stake. In this situation, traditional IP doctrines and principles like fair use and exceptions may not only be ineffective in protecting

[39]This evolution is now documented extensively in JM Barnett, *Innovators, Firms and Markets: The Organizational Logic of Intellectual Property* (Oxford University Press 2021).

[40]For example, Facebook's Terms of Service read: 'You retain ownership of the intellectual property rights in any such content that you create and share on Facebook and other Meta Company Products that you use. Nothing in these Terms takes away the rights you have to your own content' subject, however, to the release of a 'non-exclusive, transferable, sub-licensable, royalty-free and worldwide licence to host, use, distribute, modify, run, copy, publicly perform or display, translate and create derivative works of your content' (https://www.facebook.com/legal/terms). All platforms adopt similar contractual arrangements. See A Quarta, *Mercati senza scambi: le metamorfosi del contratto nel capitalism della sorveglianza* (ESI 2020) 173–87.

[41]The concept has been introduced and elaborated extensively by S Zuboff, *The Age of Surveillance Capitalism* (Profile Books 2019).

[42]M Ricolfi, 'Regulating De Facto Powers: Shifting the Focus' in G Ghidini and V Falce (eds), *Reforming Intellectual Property* (Edward Elgar 2022) 177.

[43]Julie E Cohen, *Between Truth and Power: The Legal Constructions of Informational Capitalism* (Oxford University Press 2020) 45–6. As I explain in the next section, traditional IP rights not only play a 'secondary' role in the process of propertisation, but may even be an impediment to de facto propertisation. The latter proceeds much more speedily *without* IP rights, or by relying on IP exceptions and limitations.

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the public domain, but can even have the opposite effect of enabling further commodification and enclosure of the commons.[44]

Three cases will illustrate the scale of the challenge posed to IP 'progressive' scholarship by the now dominant capitalist mode of production.

A. Case 1: the Google Books project, or the commodification of the world's books' computational potential

The first example is the Google Books project.[45] Between 2004 and 2012, Google, in partnership with libraries from all over the world, digitised over 20 million books, 4 million of which were either presumably or certainly still in copyright.[46] Digital copies of in-copyright books were made without asking permission from the rights holders, stored in Google's servers and made searchable and findable to everyone on the internet. However, those copies were not displayed as such to the public: all users could see were short snippets in response to search queries. In order to read the book, users would have had to buy it or borrow it from a library. So where did Google extract value from in this whole operation? Not from displaying the books to readers, but from making them available for *internal* uses made by Google engineers.[47] Some of these uses are necessary for service development (for instance linking each search result to the 'right' book and where to buy it or borrow it). Others create surplus value in many ways: text mining, machine learning, automated translation, algorithmic voice recognition, and all 'artificial intelligence' operations that will emerge in the future. Google christened this category of operations 'non-display uses',[48] namely uses that are *other* than those for which books are written and published, ie *other* than those for which copyright was invented. In a sense, the line was drawn between the object of 'traditional' copyright capitalism (*display*) and that of the new all-encompassing informational capitalism (*non-display*). The object of value-extraction is no longer the book's 'content', but its suitability to feed in automated processes of creation of value – briefly its *computational potential*.

The way in which Google ensures exclusive control over the computational potential generated by the world's books has nothing to do with IP rights and is explained by the design of the Google Books mass digitisation project. The partnership between libraries and Google is based on a non-monetary exchange, whereby each partner library gives Google access to books in its collection and receives a digital copy in return. The parties sign a contract that, among other things, regulates the use of the digital copies created under the partnership programme: under those contracts, Google retains the freedom to make every possible use of the copies, while the library has no permission to carry out, or to allow others to carry out, acts that involve automated and systematic access to the digital copies. Moreover, the partner library is under the obligation of implementing technological measures to restrict automated access to the corpus of digitised books or to any

[44]I have addressed the changing role of fair use in M Borghi, 'Reconstructing Fairness: The Problem with Fair Use Exclusivity' in D Gervais (ed), *Fairness, Morality and Ordre Public in Intellectual Property* (Edward Elgar 2020) 53–7. On the hijacking of open science principles by platform capitalism see P Mirowski, 'The Future(s) of Open Science' 48 (2) (2018) Social Studies of Science 171.

[45]This section draws from the analysis developed in M Borghi and S Karapapa, *Copyright and Mass Digitization* (Oxford University Press 2013).

[46]Numbers reported in the Petition for a Writ of Certiorari, *Authors Guild, Inc. v. Google Inc.*, 578 U.S. 849 (2016), 1. The current status of the project is unclear; some commentators argue that the project has been unofficially discontinued after 2013; see S Rosenberg, 'How Google Book Search Got Lost' (*Wired* 11 April 2017).

[47]Reportedly, a Google engineer declared 'we're not scanning all those books to be read by people. We're scanning them to be read by our AI' (cited in Borghi and Karapapa, n 45, p 14).

[48]The wording features in the Amended Settlement Agreement, *Authors Guild v Google*, Case No 05 CV 8136-DC, 13 November 2009, § 1.94. The use of the verb 'display' is not incidental; under the US Copyright Act, one of the six exclusive rights of the copyright owner is defined as the right 'to display the copyrighted work publicly' (USC, § 106(5). See M Borghi and S Karapapa, 'Non-Display Uses of Copyright Works: Google Books and Beyond' 1 (2011) Queen Mary Journal of Intellectual Property 21.

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portion of it. So, while each library has access to their own digital copies and can make use of them as part of their service – for instance, for purpose of preservation or for enabling access to print-disabled persons – no one, besides Google, has 'automated access' to the *whole* corpus of digitised books. To be sure, Google's competitors are not foreclosed from engaging themselves in mass digitisation of books and developing their own 'non-display uses'. However, this is a purely speculative option. Although the digitisation agreements between Google and the libraries are non-exclusive, and in theory a library is free to enter into a further digitisation contract with a competitor of Google's, no library can have an interest in digitising its collection twice. Digitization is by definition a once-and-for-all operation. So, the combined effect of these two elements – the 'natural monopoly' enjoyed by the first-comer in digitisation *and* the 'artificial monopoly' created by contractual and technological restrictions imposed on automated access – ensures exclusive exploitation of all world's books' computational potential.

Interestingly, Google's exclusivity over such computational potential has been eventually sealed by a legal instrument that, in 'classic' copyright law, served the purpose of preventing and limiting exclusive control over copyright works, namely fair use. In fact, in a series of lawsuits for copyright infringement brought by authors' and publishers' associations against Google and its partner libraries, US courts found that the activities carried out in the context of the Google Books project are permissible 'fair use' under section 107 of the Copyright Act 1976.[49]

The interesting aspect is the way in which computational potential becomes a commodity endowed with exchange-value: not by operation of copyright law (or any other IP law), but by mere exercise of annexation power and implementation of technical operativity. Incidentally, the non-display character of the various forms of value-extraction carried out on books (text mining, machine learning, etc) is also reflected in the fact that these uses are secret, opaque and ultimately unaccountable. While the book's content, once published, becomes part of the public sphere, losing progressively its proprietary character the more it is appropriated by others (a phenomenon that is reflected in classic copyright principles such as limited duration of protection, whereby all works fall in the public domain after a given time), the book's computational potential can be *entirely* appropriated by the capitalist *for whichever purpose* and *for an unlimited time*. The capitalist can remain in full control of this commodity perpetually, or as long as its computational power allows it.

B. Case 2: Ryanair and unilateral commodification of information

The case of *Ryanair v PR Aviation*[50] exemplifies a situation that has become common in the web economy, namely the fact that control over informational resources is better achieved by means of unilateral contractual and technical restrictions than through classic IP law. Even IP rights introduced during the neoliberal, expansionist age provided for mechanisms to achieve a balance between proprietary interests and public domain. This is the case with the 'database right' introduced by the EU legislator in the mid-1990s as a *sui generis* form of protection for databases that do not meet the requirements of originality and creativity to attract copyright.[51] In order to be eligible for the *sui generis* right, the database must have required 'substantial investment' in either obtaining, verification or presentation of the contents. Moreover, the *sui generis* right is subject to some exceptions and limitations; in particular, the 'lawful user' has the right to perform any acts that are necessary to access the contents and to carry out a normal use of the contents of the

[49]*Authors Guild, Inc. v HathiTrust*, 755 F.3d 87 (2d Cir. 2014); *Authors Guild, Inc. v Google, Inc.*, 804 F.3d 202 (2d Cir. 2015), *cert. denied* 578 U.S. 849 (2016).

[50]Case C-30/14 *Ryanair v PR Aviation* ECLI:EU:C:2015:10. For a critical discussion see M Borghi and S Karapapa, 'Contractual Restrictions on Lawful Use of Information: Sole-Source Databases Protected by the Back Door' 37 (8) (2015) European Intellectual Property Review 505.

[51]Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, OJ L 77/20 (1996).

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database, including extraction and re-utilisation of insubstantial parts of a database that has been made freely available to the public.[52] To strengthen these rights, the law determines that any contractual restrictions of these lawful uses shall be null and void; in other words, the exception for lawful use is mandatory and may not be limited by contract.[53] The rationale for these provisions that limit the scope of exclusivity in databases is to avoid lock-in of information and data, namely to prevent that property rights over *collections* of data turn into monopolies over information, facts and data as such. This is particularly relevant when the protected database is the only source of a specific information, namely when the relevant information cannot be obtained independently or from other sources.

Price-comparison websites and meta-search engines have relied on the lawful user exception to 'scrap' data from publicly available information, such as listings of goods and prices made available by third-party websites. PR Aviation is a price comparison and booking service which operates by sourcing information on scheduled flights times and prices that is publicly available from airlines' websites. The activity was in breach of the click-wrap 'terms and conditions' of one of the airline's website: indeed, under Ryanair's T&C, the website can be used by individuals for private non-commercial purposes but automated access ('screen-scraping') for commercial purposes is expressly prohibited, unless a license to this effect has been negotiated.[54]

The question before the CJEU was whether PR Aviation's activity was lawful. However, the question was complicated by the fact that Ryanair's database, consisting of a list of flights schedules and prices, did not meet the threshold of 'substantial investment' to attract *sui generis* database right. In other words, it was an unprotected database. So, it would have been logical to expect that the Court would have denied the validity of a contractual bond conferring protection on entities that, under European law, were not protectable. On the contrary, the Court concluded that, *because* the database in question is not protectable, the mandatory exception for lawful use does not apply either. In the words of the Court:

> it is clear from the purpose and structure of Directive 96/9 that [the provisions] which establish mandatory rights for lawful users of databases, are not applicable to a database which is not protected either by copyright or by the *sui generis* right under that directive, so that it does not prevent the adoption of contractual clauses concerning the conditions of use of such a database.[55]

The conclusion is paradoxical, in that unprotected databases can benefit from stronger contractual protection than databases covered by copyright or the *sui generis* right. However, the argument is not (at least not formally) incorrect: 'entities' that do not receive IP protection are not subject to the balancing mechanisms that regulate the exercise of IP rights. The implicit assumption is that where IP protection is missing, a no man's land extends where ex ante regulation has no place. A non-protected database is mere object of possession upon which the possessor may unilaterally impose contractual conditions of use. In addition, the possessor may enforce these unilateral contractual clauses by means of technology, for instance by disabling access to third parties that try to engage in automatic access of the website (scraping) without having a licence. In other

[52]Ibid. Arts 6(1) and 8.

[53]Ibid. Art 15.

[54]See the Terms of Use of Ryanair Website 'This website is the only website authorised to sell Ryanair flights, whether on their own or as part of a package. Price comparison websites may apply to enter into a written Licence Agreement with Ryanair, which permits such websites to access Ryanair's price, flight and timetable information for the sole purpose of price comparison. [. . .] You are not permitted to use this website other than for private, noncommercial purposes. Use of any automated system or software to extract data from this website for commercial purposes ('screen scraping') is prohibited' <https://careers.ryanair.com/terms-of-use> accessed 31 May 2023. For an in-depth discussion of Member States' jurisprudence on screen scraping see Quarta (n 40) 244–73.

[55]*Ryanair v PR Aviation* § 39.

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words, *unlimited* exclusive control over informational resources can be achieved by *avoiding* IP protection and the limitations it entails.

C. Case 3: Pfizer, or increasing dominance by abandoning IP rights

Patents rights are a key component in the process of accumulation of capital in the pharmaceutical industry. As mentioned before, pharmaceutical companies are nowadays (along with companies in the chemical sector) a 'special case', in the sense that they operate in a highly IP-dependent environment.[56] Not surprisingly they have also been the companies who have constantly lobbied for stronger IP protection at both national and international level, in particular patents.[57] IP protection is typically extended through practices of 'patent evergreening' and by registering drug names as trademarks. However, patent and trademark protection is increasingly being complemented and even supplemented by non-formal IP protection methods such as trade secrets, confidential know-how and 'data exclusivity'.[58] When effective, these methods have the advantage of evading the rigours of patent law (substantial requirements, exclusions, etc) and surviving the expiry of exclusive rights (typically 20 years plus maximum five under supplementary protection certificates). In addition, unlike patents, they are not subject to liability rules such as compulsory licensing mechanisms, which developing countries are allowed to enact to overcome excessive pricing.[59] This explains why pharmaceutical companies are investing in developing highly specialised production know-how that can form the basis of knowledge-transfer agreements and cannot be easily acquired independently by manufacturers of generics.[60]

A perfect illustration of how non-formal IP operates in the pharmaceutical sector is provided by a case handled by the UK competition authority against Pfizer and one of its licensees in the UK, Flynn Pharma.[61] Pfizer provided Flynn with a licence for the exclusive supply in the UK of phenytoin sodium, a life-saving epilepsy drug marketed as *Epanutin*. The prices of *Epanutin* were set under the price regulation scheme of the UK national health service (NHS). The patent on phenytoin sodium had long expired, but the name *Epanutin* was a valid registered trademark. In 2012 the companies 'de-branded' the drug, meaning that it could be distributed as generic medication. As a consequence of de-branding (or genericisation), the drug was no longer subject to price regulation and was exposed to competition with other generics manufacturers. However, since no other competitors were in a position to produce the drug, the companies could raise the price up to 1,600 per cent. The practice was eventually found to be an abuse of dominant position by the CMA.

Control over know-how and exploitation of market dominance turned out to be more effective tools than formal IP rights (patents and trademarks) to enable a pharmaceutical company to charge over-competitive prices.

[56]Barnett (n 39).

[57]Drahos and Braithwaite (n 15).

[58]A Kapczynski, 'The Public History of Trade Secrets' 55 (2022) UC Davis Law Review 1367.

[59]TRIPs Agreement, Arts 31 and 31 bis. See Correa (n 19).

[60]Boldrin and Levine (n 38). This specific aspect became the foundation for arguing against the effectiveness of the patent waiver proposal presented by India and South Africa in October 2022 to enhance the production of Covid-19 vaccines: see Reto M Hilty et al 'Covid-19 and the Role of Intellectual Property. Position Statement of the Max Planck Institute for Innovation and Competition' (7 May 2021). For an opposite view see S Thambisetty et al. 'The TRIPS Intellectual Property Waiver Proposal: Creating the Right Incentives in Patent Law and Politics to end the COVID-19 Pandemic', LSE Legal Studies Working Paper No. 06/2021.

[61]Competition and Market Authority, Case CE/9742-13 and Case 50908 (21 July 2022).

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6. Redefining counter-hegemony in IP law

We are witnessing a situation whereby intangible commodities are created outside the traditional IP framework by mere effect of de facto occupation by rampant capitalists. Indeed, as seen in the examples discussed in the previous section, the protagonists of the current stage of capitalism rely less on large IP portfolios and more on non-formal IP (trade secrets), non-IP (contract) and even the opposite of IP (fair use), coupled with power of control over the means of extraction of surplus value. Unlike traditional media companies, big tech companies extract huge amount of value from intangible commodities such as informative or creative works without formally 'owning' any of them, and transforming users' 'free access' into a new frontier of value-extraction.[62] Likewise, leaders in an industrial sector exploit secondary markets by imposing unilateral conditions on the use of unprotectable entities that are under their control. And even industries that still rely heavily on IP rights, such as big pharma, can occasionally benefit from abandoning formal IP protection to rely on de facto control of the means of production and market dominance. As a consequence, not only is the public domain, in its classic definition as property-free zone,[63] no longer a guarantee of the commons, but traditional IP doctrines and principles like fair use, exceptions and scope limitations can have the opposite effect of enabling further enclosure of the intellectual commons.

Unlike IP rights, these forms of de facto control elude the limits imposed by the legislator and the mechanisms devised to balance ex ante conflicting interests and rights.[64] While IP rights are traditionally subject to statutory and doctrinal limitations (in terms of duration, requirements for protection and exceptions to exclusive rights), no conditions apply to de facto possession, as long as the possessor is able to maintain control power. Unless regulators intervene to impose specific sharing or disclosure obligations, private corporations may be in a position to enjoy full and unfettered control over information resources to an extent never before seen in capitalism's history.

De facto exclusivity frustrates the purpose, still envisioned in classic IP law, of maintaining a commodity-free zone of intellectual commons. While proprietary entitlements over essential infrastructures in the information market may attract ex post antitrust scrutiny,[65] the question remains whether IP law has in itself the resources and principles to mitigate ex ante the detrimental effects of exclusivity over permissible uses.

Surprisingly, the question has so far received only sporadic attention from jurisprudence and scholarship.[66] In the prolonged Google Books case, antitrust concerns contributed significantly to the rejection of the proposed Settlement Agreement.[67] The US government submitted that the Agreement would have given Google 'a de facto monopoly over unclaimed works' and a unique position with respect to online book searches.'[68] The concern was entirely reflected in the judgement that found the proposed Agreement inadmissible, since – among other things – it would have provided Google with a 'significant advantage over competitors, rewarding it for engaging in wholesale copying of copyrighted works without permission'.[69] As discussed previously,[70] this is precisely the effect that the finding of fair use in favour of Google produced. However, at no stage of the litigation did this concern attract the attention of the courts.

[62]G Pessach, 'Beyond IP – The Cost of Free: Informational Capitalism in a Post-IP Era' 54 (1) (2016) Osgoode Hall Law Journal 225.

[63]Ciani Sciolla (n 37).

[64]Ricolfi (n 42).

[65]See generally A Ezrachi and ME Stucke, *Virtual Competition* (Harvard University Press 2018). See also Borghi and Karapapa (n 45) pp 110–15 (discussing the 'refusal to license' doctrine as applied to electronic archives and databases).

[66]See Ricolfi (n 42) and Cohen (n 43).

[67]*Authors Guild, Inc v Google Inc*, 770 F Supp 2d 666 (S.D.N.Y. 2011).

[68]Ibid., 671.

[69]Ibid., 673.

[70]Supra § 5.A.

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While reliance on protective structures and strategies developed during the IP expansionist age, such as open source licences, may still be locally effective to counter intellectual enclosures,[71] a truly counter-hegemonic research agenda can no longer be based solely on traditional public-domain-enhancing doctrines. When de facto powers and self-enforcement mechanisms become functional equivalents to IP exclusivity, and control of essential factors of production can be almost entirely determined by unilateral action no longer mediated by law, lawless commodification supplants the IP regime as the primary determinant of commodification of intangibles. Probably for the first time in history, capitalism can now govern the processes of extraction and accumulation of capital in the (quasi) absence of law and legal institutions, such as formally recognised property rights.[72] In this scenario, legal principles that 'weaken' IP rights have mainly the effect of expanding the 'no man's land' where brute power is the only currency. It is therefore no surprise that the (once) counter-hegemonic discourse of 'weak IP' has been eagerly co-opted by dominating IT corporations and successfully used as a lobbying tool.[73] Even less surprising is the co-optation of language and tools of 'openness' by rampant capitalism, from big pharma's hijacking of 'open science'[74] to big tech's appropriation of open-source software code under the guise of endorsing 'open innovation'.[75]

A truly counter-hegemonic research agenda in IP law must face the fact that the traditional IP structure of ex ante regulation based on 'exclusivity vs. permitted uses' is increasingly doomed to fail. If this is true, then counter-hegemony in IP can no longer be understood as unconditional adherence to public-domain-enhancing doctrines. The equation 'weak IP = stronger public domain', which until recently could have been considered a fairly correct understanding of capitalism's reality, is certainly insufficient now. It is time that the counter-hegemonic discourse faces directly the task of protecting the weak (ie the less powerful) vis-à-vis the strong (ie more powerful). It is only in this perspective that progressive IP scholarship can get reacquainted with its original counter-hegemonic mission.

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[71]Infringement of open source licences is the basis of an ongoing class actions filed by independent software developers against GitHub, Microsoft and OpenAI: <https://githubcopilotlitigation.com> accessed 31 May 2023.

[72]The phenomenon has been more broadly noted and described by Roger Brownsword in relation to new technologies. See R Brownsword, 'In the Year 2061: From Law to Technological Management' 7 (2015) Law, Innovation and Technology 1, and R Brownsword, *Law, Technology and Society. Reimagining the Regulatory Environment* (Routledge 2018). See also (in response to Brownsword's analysis) W Lucy, 'The Death of Law: Another Obituary' 8 (1) (2022) The Cambridge Law Journal 109.

[73]J Hughes, 'Fair Use and Its Politics – At Home and Abroad' in RL Okediji (ed), *Copyright Law in an Age of Limitations and Exceptions* (Cambridge University Press 2017) 267; Cohen (n 43) p 123. More generally, on the tendency of capitalist hegemony to 'internalise' dissent see Laclau and Mouffe (n 2) pp 93–100.

[74]Mirowski (n 44).

[75]C Xiang, 'OpenAI Is Now Everything It Promised Not to Be: Corporate, Closed-Source, and For-Profit' (Vice 28 February 2023) <https://www.vice.com/en/article/5d3naz/openai-is-now-everything-it-promised-not-to-be-corporate-closed-source-and-for-profit> accessed 31 May 2023.

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