PLEDGES AND COVENANTS:
THE KEYS TO UNLOCK PATENTS

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Recently, driven by the enthusiasm spurred by the Open Innovation movement, also individual patentees as well as wealthy corporations holding valuable patent portfolios have started sharing their patented knowledge. Whether in the open source software environment or in the fields of biosciences and green technologies, during the last few years patent holders have been uniformizing the terms and conditions of their licenses in order to facilitate the access to, the transfer as well as the use of their patents. Patent pledges and covenants have thus become the keys to open patents. Actually, they have unlocked at least diverse doors. Some pledges and covenants have contributed to create large “clubs of patentees” that are reciprocally committed to share their patents. These clubs are inwardly open, but still closed towards the non-members. Other pledges and covenants have set the grounds to make patents open toward whoever is interested in them, on the main condition that this unknown re-user will make her own follow-on innovation be equally open. The paper discusses the legal implications of these phenomena, their communalities and differences.

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I. INTRODUCTION

Recently, an increasing number of patentees – be they individual innovators or wealthy corporations holding valuable patent portfolios – have been relaxing the grip on their own patents by making

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self-limiting commitments even outside the framework of Standard Setting Organizations (SSOs). Restraining their traditional prerogatives via one or more covenants, among which non-assertion pledges are the most connotative ones, these patentees have freely chosen to make the access, transfer, and use of their inventions be easy, cheap and safe for both research and commercial purposes.

Already in 2010, we noticed that, while adopting these many self-limiting commitments, some patentees had been experiencing also diverse ways to uniformize them. We hence used the expression “Open Patenting” (OP) to distinguish this last phenomenon from the many other Open Innovation (OI) initiatives that were taking place then. In particular, we remarked that innovators interested in spurring collaborative innovative processes as well as convenient paths to navigate the patent thicket had been defining a new private order, made of uniformized licensing terms and conditions, to open patented knowledge.

Thus, in this paper we focus on the uniformized patent pledges and covenants that have been used in some recent and successful OP cases just to underline how these commitments may lead to diverse species of openness that accommodate diverse interests. Some pledges and covenants have contributed to create large “clubs of patentees” that are reciprocally committed to share their patents and to prevent their patents from falling preys to patent trolls. These “clubs” are inwardly open, but still closed towards the non-members. Other pledges and covenants have set the grounds to make patents open toward whoever is interested in them, sometimes imposing that this unknown re-user of the licensed patent will not only maintain it open, but also make her own follow-on innovation will be available under the same OP license. Thus, these other OP projects end up contemplating the idea that patent users may become also parts of the innovative process, rejecting the more traditional vision according to which patent users are mere passive and end-points of the innovative processes.

The paper is organized as follows. Section II explains the definition of OP, by remarking how OP licenses, while moving in the footsteps of other open licenses such as Open Source Software (OSS) and Creative Commons (CC) licenses, take distance from pledged patents and

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1 The analysis of SSOs and FRAND, which are the most common pledges used within SSOs, goes beyond the scope of this paper. In this regard, see ex multis Jorge L. Contreras, A Market Reliance Theory for FRAND Commitments and Other Patent Pledges (April 4, 2014). Utah Law Review, Forthcoming; American University, WCL Research Paper No. 2014-26. Available at SSRN: http://ssrn.com/abstract=2309023
3 See http://www.gnu.org/home.en.html. OSS finds many applications in the domain of bioinformatics, genomics, and synthetic biology: BioPerl, BioJava, and BioPython make their work available under the GNU Lesser General Public License.
other OI experiences relating to non-patented innovations. Section III focuses on the pledges and covenants that often find room in OP licenses to analyze the goals that these licenses pursue. Section IV, thus, accounts for the main OP cases where these licenses have been experienced and illustrate how they accommodate the various interest of the many entities and individuals involved. Section V concludes by placing the diverse experiences analyzed within the context of the OI movement.

II. THE OPEN PATENTING PRACTICE

The many and various experiences that fall under the label of OI diverge significantly with regard to what they “open”. A few cases are enough to show how the realm of OI is articulated and compounded. For instance, whereas the Fightaids@home project “opens” computer capacity, in order to efficiently supply spare hardware to whoever is interested in experimenting and researching on the HIV virus, the Innovation Portal is the tool whereby Procter&Gamble “opens” its doors to whoever is interested in submitting a patented innovation that matches the specific innovative needs that the company is expressly interested to satisfy. In addition, whereas some projects – such as PLoS, ArXiv, SourceForge, HapMap, and BLAST – “open” scientific journals, repositories,
and databases storing and pulling together tools and data to guarantee free and easy access to basic knowledge; the already mentioned OSS licenses and CC licenses “open” the copyrights covering the innovation in questions – be it a computer source-code or a creative work – in order to allow the aggregation, sharing and on-going modification of the protected innovation and creativity.

Within this context, Open Patenting experiences have been opening patents by using online uniform licenses, that is to say, licenses whose terms and conditions have been the same for any patent belonging to the given experience. OP cases are hence different from other OI experiences that, though pivoting around the aggregation, sharing and modification of scientific knowledge and innovations, neither regard patented inventions, nor take place online, nor pivot around uniformized pledges and covenants. For example, the Public Patent Foundation, which protects the public domain to answer to the blocking effect caused by roughly granted patents, is not an OP experience. Neither are initiatives TDi and DNDi, which are aimed at funding research projects. TDi, in particular, is a web-based community of scientists that does not patent its inventions. Rather, it admits them to fall into the public domain, because it wants to induce a broad and general reduction of patent royalties. Likewise, DNDi is a collaborative, patients’ needs-driven, non-profit drug research and development organization, which does not accept projects in which IPRs are going to be an insurmountable barrier to follow-up research. In addition, any OP project is different from those initiatives that, although regarding patented innovations, do not adopt uniformized patent pledges and covenants for all the patents that they cover. For instance, PatentCommons, which was born with the intent of answering to the software patent threat and which is supported by the

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12 As to the connection between “open science” and databases, that is to say, as to the relationship between openness and well-organized, exhaustive, and freely accessible storages of basic (upstream) information, see Stephen M. Maurer, *New Institutions for Doing Science: From Databases to Open Source Biology* (November 19, 2003), available at [http://www.merit.unimaas.nl/epip/papers/maurer_paper.pdf](http://www.merit.unimaas.nl/epip/papers/maurer_paper.pdf).
13 To be precise, this is the definition of OP that we already adopted in Maggiolino, Montagnani, *supra* nt. 2.
16 This strategy shows that TDi does not worry about parasitic patenting: it does not impose a sort of viral clause upon researchers that will use its results thereby allowing third parties to patent follow-on innovations embodying its results and not to share them. To be sure, it undertakes this strategy because it estimates a low risk of free-riding, and it wants to involve the highest number of researcher that is possible.
Linux foundation,\(^\text{18}\) works as a “facilitator” of patent trade by offering an on-line library of 500 software patents that their 16 owners make available to third parties on individualized terms and conditions that are publicly available on-line.\(^\text{19}\) Still, since each of the collected patents has different licensing terms and conditions, PatentCommons does not offer a comprehensive and easy-to-manage uniformized contractual scheme pivoting around specific patent pledges that apply to all the patents belonging to the repository. Finally, OP experiences are also different from the case of wealthy corporations publicly announcing the intention of not asserting their patents towards anybody who will use the pledged patents in good faith,\(^\text{20}\) as a result of inadvertent means,\(^\text{21}\) to develop a specific technology,\(^\text{22}\) or within a business characterized by some given features.\(^\text{23}\) The reasons why these, which are still patents that have been opened, do not represent hypotheses of OP is that their opening does not take place via a license authorizing the use of the patent, but via single pledges whose reliability is, by the way, somehow questionable.\(^\text{24}\) In addition, these episodes of patents opened via single covenants tend to not occur within structured online systems that spell out the steps according to which someone becomes a user of those patents, thus revealing a lower degree of organization and awareness.

Differently from OI experiences, the sets of licenses adopted within the OP phenomenon have the precise purpose of opening up patents and making their use be more flexible, similarly to


\(^\text{19}\) In practice, via the repository set up by PatentCommons, possible licensees may get to know what patents and to what conditions are available, without incurring into cumbersome one-to-one negotiations.

\(^\text{20}\) For example, this is the case of Tesla, whose CEO has recently wrote a post affirming that «Tesla will not initiate patent lawsuits against anyone who, in good faith, wants to use our technology.» See, [http://www.teslamotors.com/blog/all-our-patent-are-belong-you](http://www.teslamotors.com/blog/all-our-patent-are-belong-you) (last visited, May 26 2015). To be sure, it is hard to attach a univocal legal characterization to such announcement. Does it amount to a contractual offer that becomes binding with users’ acceptances? At least, it must be acknowledged that the answers to this question could vary according to the jurisdictions. Then, according to the jurisdictions of whom?

\(^\text{21}\) While describing its policy towards the farmers involved in investigations of potential seed patent infringements, Monsanto wrote that, «[i]t has never been, nor will it be Monsanto policy to exercise its patent rights where trace amounts of our patented seed or traits are present in farmer's fields as a result of inadvertent means.» See [http://www.monsanto.com/newsviews/pages/commitment-farmers-patents.aspx](http://www.monsanto.com/newsviews/pages/commitment-farmers-patents.aspx).


\(^\text{23}\) Indeed, some firms have recently adhered to a new initiative named “The Patent Pledge” in which companies agree not to assert their software patents against companies with less than 25 employees. See, [http://www.thepatentpledge.org/](http://www.thepatentpledge.org/) (last visited, May 26 2015). To be sure, the binding nature of this pledge is uncertain also because the very same terms of the pledge seems to be intentionally vague.

\(^\text{24}\) The difference between licenses and pledges emerges as well from the practice where big companies, such as Google, are aware they are diverse, though complementary, tools and thereby worth of being both adopted. See the Google Patent Program ([http://www.google.com/patents/licensing/#tab=opn](http://www.google.com/patents/licensing/#tab=opn)) where we can find both pledges such as the “Open Patent Non-Assert (OPN) Pledge” and OP licenses, such as the Licence On Tranfer Agreement”. 

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what occurs with the OSS and CC licenses adopted to manage copyrights on software and creative content respectively. To a certain extent, we can consider OP as a consequence of the open copyright model. Indeed, once established the open copyright licenses for open source software, these triggered the adoption of the CC licenses for copyrighted content. Subsequently, the need for a more flexible licensing tool has expanded also outside the copyright realm, and several patentees have become increasingly interested in subscribing to a diverse – more accommodating – private order whereby, through specific patent pledges and covenants, they could limit their traditional prerogatives in order to reduce the concerns and costs connected to the trading and use of patents and to the developing of follow-on inventions.25

The reason why OP emerged is however multifold. To overcome the traditional ways in which innovation has been conceptualized and managed via IPRs is one of the most prominent justifications. In the wake of the OI movement, many OP projects adhere to the idea that innovation may also amount to a cumulative, bottom-up, demand-driven phenomenon of sharing and collaboration. And, even more importantly in light of the legal nature of the phenomenon, all OP projects pivot around the idea that the very same patents, having become ubiquitous, overlapping, and fragmented, may harm innovative processes instead of fostering them. Thus, over the last decade we witnessed various OP experiences sharing the desire to making a uniform use of patents that, going beyond the strict proprietary prerogatives of patentees, encompasses the many instances that derive from the development of certain markets as well as from the chances offered by the Internet. Then, in more details, each OP initiative has found its specific aims: promoting the development of open source projects, sharing software and hardware patents, pooling together the development of basic research tools, finding business applications for paper patents and even commercializing services and further activities surrounding the granted patents are some among the many.

The diverse interests that underpin the many OP experiences are then confirmed by the fact that each case tends to adopt its own uniform licensing scheme, and this heterogeneous situation has

25 See MARIATERESA MAGGIOLINO, INTELLECTUAL PROPERTY AND ANTITRUST. A COMPARATIVE ECONOMIC ANALYSIS OF US AND EU LAW, Edward Elgar, Cheltenham, UK-Northampton, MA, USA (2011), 37 «especially in industries characterized by cumulative knowledge and / or overlapping cross-markets knowledge , it is likely that patents and copyrights on first innovation can decrease R&D incentives and block future innovation». However, the IPR holder’s right to control follow-on innovations is likely to be stronger when the IPR in question is a copyright, because of the right to create derivative works, than when it is a patent. Indeed, while copyrights encompass the right to authorize derivative works, or, better, the right to authorize commercial exploitation of derivative works (Julie E. Cohen, Copyright, Commodification, and Culture: Locating the Public Domain, in L. GUBAULT & P.B. HUGENHOLTZ (eds), THE FUTURE OF THE PUBLIC DOMAIN, 121, Kluwer Law International, 2006, available at http://ssrn.com/abstract=663652, defining copyright as «the right to control the preparation and exploitation of copies and derivative works»).
made impossible for OP licenses to reach the same effectiveness of OSS and CC licenses. There is thus room to argue that a standardization of these OP licenses could be needed and welcome. At least, this has always been our understanding of the state of the affairs when, a couple of years ago, we proposed a standardized model for all the OP experiences and, now, that we analyze the diverse pledges and covenants characterizing the many OP licenses in force.

To be sure, there is room to argue that a single standardized OP license to be applied to all OP initiatives not only is not desirable but it is not even recommendable. The diverse interests of the many stakeholders involved may generate a scenario in which more than one conceptualizations of openness exist, and where patentees may want to have more than one possibility to accommodate their needs and wills. Hence, in the following we identify the recurrent pledges and covenants that are encompassed within OP experiences and that could path the way towards one or few standardized OP license/s.

B. RECURRING PLEDGES AND COVENANTS IN THE OP PRACTICE

Analyzing many practical and theoretical OP licenses, we came across the following pledges and covenants. Some of them consist in stand-alone commitments that licensors (always patentees) freely undertake to limit their prerogatives. Others address the licensees (either patentees or “mere” patent users) of the pledged patents and belong to more complex arrangements whereby licensors limit their rights on condition that licensees will comply with some specific obligations that, in turn, limit patent users’ freedom.

Non-assertion pledges (also said, non-challenging pledges) whereby patentees commit not to assert their patents. Often, the content of these pledges is descriptively delimited. For example, these pledges may be taken toward whom will pursue a pre-determined purpose or operate in a given industry to develop a certain technology. The reasons why patentees adopt this kind of pledges are many, even outside the framework of SSOs working to guarantee interoperability. For

26 We worked on a more narrow definition of OP in our second paper, M. Maggiolino, M.L. Montagnani, Standardized Terms and Conditions for Open Patenting, 14 Minnesota Journal of Law, Science & Technology 785-816 (2013) (https://conservancy.umn.edu/bitstream/155464/1/Standardized_Terms_for_Open_Patenting_by_Maggiolino_and_Montagnani_MN_Journal_Law_Science_Tech_Issue_14-2.pdf), where we considered just the cases where patentees belonging to many industries have been using the same recurring pledges for both single patents and patent portfolios in an attempt to produce what in the copyright realm are the OSS or CC licenses.

27 For example, consider the non-assertion pledge of the Eco-Patent Commons stating that, «Patents included in the Commons shall be subject to a covenant, or pledge, not to assert the patent against implementers' environmentally beneficial use of the pledged patent(s). That is, subject to defensive actions described below, the patent holders shall not assert their pledged patents against an implementer's infringing machines, manufactures, processes, or compositions of matter that alone, or when in a larger product or service, achieve environmentally beneficial results.» (emphasis added).
example, non assertion pledges may serve to better the reputation of companies or to debunk the narrative of “Goliath-patentees” using their IPRs against “David-innovators”. Yet, mainly, non-assertion pledges answer to the patent thicket problem due to the sheer number of patents granted every year by PTOs. These pledges, indeed, create a “safe environment” where individuals and companies are free to develop their innovative activities without worrying to be summoned as infringers of someone else’s patent. No wonder, hence, that non-assertion pledges are the core of every OP license, because they remove one of the main obstacles that current overlapping and fragmented patents put to innovation, collaborative and cumulative one included.

**Anti-transfer pledges** whereby patentees promise not to transfer their patents to some companies that could use them as bargaining chips in sham litigations.\(^{28}\) Also, these commitments have the purpose to displace one of the main obstacles that patentees find to trading their patents, i.e. the fear that their patents will end up by being used to bully or troll other innovators.

**Defensive termination clauses** whereby patentees are freed from their commitments when patent users take some well-identified patent-related practices. For example, often patent users bringing offensive infringement action against patentees lose their status of licensees.\(^{29}\) In other words, these clauses are meant to introduce an element of reciprocity into the license, by conditioning the obligations undertaken by patentees to the occurrence of equal “innovation-friendly” behaviors from the part of the patent users. No wonder, thus, that this element of reciprocity represents the backbone of many OP projects.\(^{30}\)

**Royalty pledges** among which there are the royalty-free clauses as well as clauses that contemplate diverse royalties according to the additional services provided to the patent users. To be sure, these clauses have to do with the spurring of innovation in two peculiar ways: first, because

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\(^{28}\) This can be inferred, for example, from the reading of the preamble of the DPL where it is stated that, «[t]he DPL legally binds patent owners to supporting access and freedom within the DPL community and thus provides assurances that patenting a given innovation will not be abused or misused within the DPL community». Yet, it is true that patent users are the only ones who are expressly forbidden to transfer the DPL patents to trolls. Indeed, clause 2(e) states that, «[l]icensor reserves the right to revoke and/or terminate this License with respect to a particular Licensee if ... ii. [l]icensee assigns, transfers, or grants an exclusive license for a Patent to an entity or individual other than a DPL User without conditioning the assignment, transfer, or exclusive license on the recipient continuing to abide by the terms of this License, including but not limited to the revocation and termination rights under this Section.» See, http://www.defensivepatentlicense.org/ (last visited on May 26, 2015).

\(^{29}\) Consider, for example, that a patentee involved in the Defensive Patent License can void ab initio her non-assertion pledge in respect to a party when «i. Licensee makes any Infringement Claim, not including Defensive Patent Claims, against a DPL User; orii. Licensee assigns, transfers, or grants an exclusive license for a Patent to an entity or individual other than a DPL User without conditioning the assignment, transfer, or exclusive license on the recipient continuing to abide by the terms of this License, including but not limited to the revocation and termination rights under this Section.»

\(^{30}\) For example, the Defensive Patent License envisages that the patentees’ commitments to offer any of their patents holds true towards anyone who makes a similar commitment.
they make the “working upon someone else’ innovations” be cheaper\textsuperscript{31} and, second, because they increase the potential commercial uses of the pledged patents.\textsuperscript{32}

**Discontinuation clauses** that govern the cases where patentees take a step back and set themselves free from their previous commitments. The main goal of these clauses is to guarantee that the “opened” patents remain available to those who were licensees at the time of the withdrawal. In other words, in the great majority of OP experiences the OP licenses will remain in force, but the withdrawn patentees will regain the power to exercise its traditional prerogatives concerning her own inventions.

**Grant-back covenants** whereby patent users commit to grant back to the patentees any improvement and follow-on invention resulting from the use of the patent.\textsuperscript{33} These clauses, coming within some licensing schemes creating online patent pools, pursue two main goals. First, they serve to guarantee a sort of fairness, by preventing the patent users to close up the pledged patents by including them into patentable improvements or follow on inventions. Second, these commitments are meant to keep into the pool whatever “good result” comes out from the employment of the patents put in commons. In other words, these clauses try to increase the attractiveness of the pool or, at least, not to deplete its value by moving out of it the improvements resulting from the shared technologies.

**Viral covenants** whereby patent users are forced to subject their improvements or follow-on innovations to be conducted in the same manner in which the release patent was treated.\textsuperscript{34} Hence, also these clauses introduce an element of fairness in the relationship between patentees and patent users by preventing the latter from closing the open innovations up into subsequent patentable inventions. In addition, these clauses contribute to reinforce the very same OP phenomenon, by spread along the same OP license employed to open the first technology released.

In the subsequent section, we describe how the combination of the mentioned pledges and covenants have shaped some famous OP experiencing, making each of them somehow different from the other.

III. **TO EACH OP EXPERIENCE ITS OWN LICENSE**

\textsuperscript{31} In Eco-Patent Commons, it holds true that «Implementers can make, use, sell, and import infringing machines, manufactures, processes, or compositions of matter under patents on the Patent List without payment of any royalty or similar payments to Patent Pledgers if such infringing items alone, or when included in a product or service, achieve an environmentally beneficial result.».

\textsuperscript{32} See http://www.bios.net/daisy/bios/home.html

\textsuperscript{33} See, http://www.bios.net/daisy/bios/home.html

\textsuperscript{34} Emily Marden, *Open Source Drug Development: A Path to More Accessible Drugs and Diagnostics?*, 11 MINN. J.L. SCI. & TECH. 217, 230 (2010).
Along the years, the flourishing of open patents have spurred a strong need for uniformity which, in turn, has prompted the creation of legal tools not only to govern such a multiform reality, but also to incentivize patentees and non-patentees to adhere to the OI movement by crunching the transactions costs of patent managing. At the same time, the several ways whereby uniformity has been actually pursued have made the connected experiences be somehow different one from the other, as if they belonged to a continuum. That is why, in the end, each OP experience has its own OP license.

To be sure, each OP experience has also its own digital mechanism. Whereas in some cases individual entities have just made their own OP licenses available on the internet, many OP experiences pivot around some platforms\(^{35}\) that are in charge of providing not only the connected OP license, but also the procedure whereby individuals and entities contact each other to explore, release and use the opened patents.

A. CLUBS OF PATENTEES: OP LICENSES FOR PATENTEES

In 2012, professors Schultz and Urban proposed a model, named the Defensive Patent License (DPL), for an online pool among all patentees who agree to cross-license their patents at the same terms and conditions and as long as these terms and conditions are mutually respected.\(^ {36}\) This model was then discussed by Hayes and Schulman who proposed modifications and labeled the revised license the Modified Defensive Patent Licence (MDPL).\(^ {37}\) Both licenses contain a non-assertion pledge, whereby a licensee must forgo any offensive patent claims against other license users or risk revocation of that license by the licensor, subject to a defensive termination provision, a free of charge pledge, and a discontinuation clause, which is where they differ mostly. Though both schemes make the revocation of DPLs and MDPLs effective after six-months notice, under the DPL regime the revocation concerns only future patents (i.e., those patents filed or acquired after the “discontinuation date”), while discontinuation under the MDPL releases the whole portfolio previously licensed thereunder. Hence, the DPL is an irrevocable and perpetual license as to the patent portfolio existing at the moment of entry and born during the participation period, while for future patents it works as a revocable and temporary commitment.\(^ {38}\)

\(^{35}\) To be sure, the existence of these entities requires the payment of membership fees.


\(^{38}\) According to the scholars that conceived the schemes, the above differences find a justification in the types of entities that they want to involve in such “fenced environments.” Whereas the DPL runs the risk of only appealing to small and medium companies with the promise of being part of a decentralized, large proprietary defensive portfolio whose costs
Interestingly enough the DPL moved from the theoretical level to the practice and became available for patentees in 2014, when the DPL website was launched, in partnership with the Samuelson Law, Technology & Public Policy Clinic of the University of Berkeley, the Internet Archive, the Engelberg Center on Innovation Law & Policy of NYU, and the Electronic Frontiers Foundation. The aim of the initiative recalls what stated in the theoretical proposal, i.e. encouraging innovation by providing a legal tool that will guarantee freedom to operate, will limit the risk of patent trolls, will encourage the participation in the patent process, and will reduce litigation costs. In practical terms, the DPL 1.1 is already available for use on the website and can be freely adopted by any patentee that joins the DPL community by declaring, on any publicly available website, her commitment to offer any patent she holds or obtains under the DPL to anyone who makes a similar commitment (“Offering Announcement”). When the patentee is contacted by another DPL user willing to accept the license to her patents, she will provide the user with the URL for the website where she posted the commitment. By opting into the DPL network and adopting the pledges and covenants included in the DPL 1.1, patentees are eligible to receive royalty-free licenses for the patent portfolios of every other DLP user. Anyone taking a license promises to put all of her patents under the DPL, and, in the event that the patents are sold, DPL users must legally oblige the new owner to abide by prior DPLs. If one ceases offering one’s patents under the DPL, previous licensees will keep their DPLs royalty-free, but the “leaving user” may have her licenses converted from royalty-free to fair, reasonable, and non-discriminatory terms (FRAND) at the discretion of the remaining licensors.

Recently, another online tool has been adopted and it already promises to become a successful online pool. In July 2013, in the wake of another proposal formulated by Hayes and Schulman, the License on Transfer (LOT) Network was launched and it already contains nearly and benefits are distributed across its users, the MDPL seeks to engage big stakeholders by modifying some of the DPL’s clauses that would be too risky for them (such as the irrevocable and perpetual nature of the DPL grant). In particular, given the network effects that such environments are likely to generate, the MDPL aims at having large and established companies involved to achieve enough scale to “cover” the whole industry or economic sector. The two schemes do not aim at fostering Open Innovation via the spreading of patented knowledge; rather, they support Open Innovation by assuming that the innovation-friendly environments that they create will grow thanks to their own economic profitability and the network effects that they will trigger.

39 http://www.defensivepatentlicense.org/
40 In even more practical terms, the patentee is encouraged to email the “Offering Announcement URL” to the DPL Foundation at defensivepatent@gmail.com so that others can learn about it and contact her to accept her licenses. In addition to sending the link to her Offering Announcement, the patentee should also include her current contact information for licensing purposes and a list of her patents (including country of issue, patent no., and title). See, http://www.defensivepatentlicense.org/content/frequently-asked-questions#how-does-the-dpl-work.
41 See Defensive Patent License v1.1, article 2(e), http://www.defensivepatentlicense.org/sites/g/files/g1216936/f/201412/DPL%201.1.pdf
300,000 patent assets, including over 50,000 US issued patents.\textsuperscript{42} The LOT Network mitigates the risks of costly litigations and allows Network participants to focus on innovative products and services. Similarly to the above cases, the LOT Network pools together the patent portfolios of the participants that, indeed, grant portfolio wide licenses. However, differently from the other experiences, the LOT agreement provides that the each of the licenses concluded within the Network becomes effective only when the related patents are transferred to third parties. In other words, to have the patents transferred outside the pool is the “triggering event” that causes the LOT license to become effective. The main reason for this so far unusual mechanism is that of avoiding patent litigations that occur whenever patent assertion entities acquire patents to seek financial gains by enforcing them against others. As to the \textbf{withdrawal} mechanism, it becomes effective if during the participation period the withdrawing participant held at least 10 U.S. patents, or triggered a license to at least one of its own patents. The withdrawing LOT Network participant keeps any license and released patents that triggered while it was a participant, while she will not receive the benefit of any triggered license which occurs after withdrawal. In other words, patents owned by the withdrawing LOT Network participant at the time of withdrawal remain subject to the obligations in the LOT Agreement and will still trigger the license even if they are transferred after the withdrawal, however the license will be only effective for active LOT Network participants at the time of the withdrawal. The LOT license also provides the Network users with a \textbf{defensive termination clause} stating that, when a Network participant asserts an offensive patent proceeding against a non-assertion entity to which a triggered patent has been transferred, she loses all the benefits coming from being part of the the LOT Network.

In sum, hence, the DPL and LOT serve to create organized structures that make possible for patentees to open up their patents within “safe environments” that can coexist with the outside and well-identifiable world where patents are traditionally traded and licensed against fees. To put it in another way, these OP licenses create online pools among all the patentees who agree to cross-license their patents at the same terms and conditions. Therefore, all these licenses arguably raise a “fence” around the safe environments that they define – a fence thanks to which different rules not only govern patents’ exploitation inside and outside the “fenced environment”, but also affect the process of innovation which will be opened just inside or, at least, just on behalf of those who belong to the pool. As a matter of fact, indeed, these fenced environments are open only to patentees: they give rise to clubs of patentees that are open inward but still closed toward the rest of

the world. After all, in the case of DPL and LOT, patentees – and, in particular, big firms holding valuable portfolios – are the ones who, worry about trolls, are naturally interested in these defensive tools.

B. OP LICENSES FOR PATENT USERS: ANYBODY MAY BECOME AN INNOVATOR

Other OP licenses have not been conceptualized to primarily deal with patentees’ needs and wants. Rather, they have been meant to create “unfenced environments” accommodating first and foremost the interests of the users of the opened patents. Indeed, some of these other OP licenses address mere researchers and envisage some clauses managing the royalties due for the commercial use of the shared patents. But, to be sure, these solutions do not prevent patent users from becoming part of the innovative processes and inventors on their own. Just the opposite! By allowing users to enjoy open patents at uniformized terms and conditions, these OP licenses create the conditions for anyone to be engaged in the innovative process and for the innovative process itself to become a real collective experience. Some OP licenses, indeed, even provide for some specific pledges and covenants governing the improvements and follow-on innovations developed by the users of the opened patents.

As a way to illustrate the attention paid to patent users, we can start by mentioning the case of repositories equipped with OP licenses. To «make it easier and faster to innovate and implement industrial processes that improve and protect the global environment», indeed, the Eco-Patent Commons™ (hereinafter, “Eco-Patent”), launched in 2008 by IBM, Nokia, Sony and Pitney Bowes and hosted by the Environmental Law Institute since 2012, has created a set of default rules that apply to all the patents included in the repository. These rules are available online and establish the conditions at which patents can enter the “commons”, and users (be they other patentees or final users) can employ them. In particular, acting via an executive board, Eco-Patent admits the patents capable of achieving «environmentally beneficial results», if they come with a

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44 See Clark D. Asay, Enabling patentless innovation, 74 Md. L. Rev. 431, (2015) where it is explained that patent trolls can act against individuals patentees, foundations and big corporations. Yet, the last are their only and actual target because they are the ones who hold the big money.
45 «While these Ground Rules provide guidance and explanation, the Pledge language takes precedence over these Ground Rules in case of any inconsistency».
46 http://ecopatentcommons.org/sites/default/files/docs/ecopatentgroundrules.pdf
47 The Board has a structure and governance. To the Board, for example, the application/pledge forms must be submitted. The board is in charge of sending the diverse notifications and notices accompanying the life on the patent within the commons.
non-assertion pledge that, subject to a defensive termination provision, remains in force even irrespective of patentee’s withdrawal. Then, all those who are interested in using those patents, will be capable of doing it free of charge.

Another very basic example of an OP License that addresses patent users, whoever they may be, is the “Yahoo! DomainKeys Patent License Agreement v1.2”, developed by Yahoo! and made available on a searchable website in order to enable third parties to freely use some of its patents on hardware and software under uniformized terms and conditions. In particular, the agreement states that: «by attempting to exercise any rights granted under this Agreement, Licensee (i.e. who will use Yahoo! patented hardware and software) agrees to be bound by all the terms and conditions set forth below, and subject to those terms and conditions, Licensee may use the intellectual property described below». What is peculiar of this public offer to license is that: (i) third parties accept it by doing nothing more than using Yahoo!’s protected materials; (ii) the uniformized terms and conditions hold for the sole patents that Yahoo!’ has chosen to release and not for the many patents that the many firms operating in the same industry (or scientific sector) have opted to bestow; and (iii) these protected materials are available to whoever will use them (even independent researchers), and not only to those that have previously decided to get involved into a specific open project via the granting of their own patents or via entering the project platform. As in the above OP licenses, the Yahoo! license grants a royalty-free, perpetual, worldwide, sublicensable, non-exclusive license to the licensee to make, use, sell, offer for sale, and/or import implementations, i.e. those specific portions of a hardware or software implementation expressly required to be compliant with the Yahoo! specifications. In addition, the license includes a non-assertion pledge and a defensive termination clause.

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48 See supra ft 27.
49 See supra ft 29.
50 Indeed, Eco-Patent establishes that, though members are free to withdraw their patents from the “commons” at any time, the non-assertion pledge covering the withdrawn patents survives and remains in force for all patents granted to the commons.
51 «Implementers can make, use, sell, and import infringing machines, manufactures, processes, or compositions of matter under patents on the Patent List without payment of any royalty or similar payments to Patent Pledgers if such infringing items alone, or when included in a product or service, achieve an environmentally beneficial result».
52 The licensing scheme is available at http://domainkeys.sourceforge.net/license/patentlicense1-2.html.
53 Art 3.2 works as a disclosure/attribution clause establishing that «to indicate your assent to the terms and conditions of this Agreement and in order to obtain a license to make, use, sell, offer for sale, and/or import Implementations, You must include, attach or preserve the following prominently displayed statement in the source code and object code of any such Implementations: “This code incorporates intellectual property owned by Yahoo! and licensed pursuant to the Yahoo! DomainKeys Patent License Agreement.”». 

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A similar license, developed within the field of biology though, is the “BioBrick™ Public Agreement”, a free-to-use legal tool allowing individuals, companies, and institutions to make their standardized biological parts be free for third parties to use. In this case, however, the licence – which is publicly available on a centralized website – is to be used together with a repository of the licensable materials (whether patented or not) which is equally publicly accessible. In particular, the BioBrick™ Public Agreement encompasses two agreements: i.e. the “Contributor Agreement” and the “User Agreement”. Patent owners are those who subscribe the former, by clicking the “Agree and Submit” button; differently, users – i.e. those who are interested in using the licensable materials – subscribe the latter by clicking the “Agree” button. Via the Contributor Agreement, patent owners: (i) permit users that receive the materials, i.e. DNA strings encompassing both patented or not patentable elements, to use them under the User Agreement; (ii) irrevocably agree not to assert (or threaten to assert) their patents (or other property rights) protecting those materials; (iii) agree that the submitted materials may be modified to include a BioBrick™ identification tag as well as the biobricks.org/bpa URL. On the other hand, via the User Agreement, users: (i) acquire the right to use the granted materials; (ii) understand that no fees will be charged for providing access to, or use of, the materials, but that additional fees may be charged for other activities, such as the manufacture and shipping of the materials as well as for consulting services as to the use of the materials; and (iii) acknowledge attribution to the patentee. Moreover, nothing in these licenses prevent patent owners and users from voluntarily entering into separate agreements, even with third parties, as long as such agreements do not diminish or derogate the BioBrick™ Public Agreement and regard materials other than those contributed/received. In sum, once a contributor signs the Contributor Agreement, she enters into a contract with anyone who has signed, or will later sign, the User Agreement. The BioBrick™ Public Agreement, hence, realizes a mechanism of irrevocable offer, similar to the one implemented by Yahoo!, with the addition of a real platform (and not only a website where the license is available), and the request of making an express acceptance of the license.

In line with the legal-tools adopted to open up patented knowledge, another example is the GreenXchange project (GX), which was launched by Science Commons at the beginning of 2009 to promote sustainability via the creation of a platform for the exchange of know-how and patents, but

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54 See https://biobricks.org/bpa/
55 See https://biobricks.org/bpa/contributors/
56 See https://biobricks.org/bpa/users/agreement/
57 OP not only accomplishes successfully the need for a new model of innovation, but also may represent a profitable business venture: it is less expensive than other off-line experiences and it is more likely to succeed among customers.
which is now no longer active.\textsuperscript{58} GX’s legal infrastructure resulted from the merging of two different sets of tools: the specific ones, which distinguished the GX project, and the general ones that, though tested within the GX community, had been created by CC in order to facilitate the use and trade of any kind of patent,\textsuperscript{59} and are still in use. As to the former, GX supplied \textbf{three different kinds of standardized pledges governing fields of use and royalties}; namely: the “standard option”, adopted by 2 firms, whereby GX users obtained a royalty-free license for commercial uses; the “standard plus option”, opted by 5 firms, whereby GX users paid for using the patent under specific restrictions; and the “research non-exempt option”, chosen by 456 firms, whereby GX users were allowed to research, improve and adapt the licensed patents, and then to patent the improvements for non-commercial uses. Therefore, whereas the standard and standard plus pledges provided a path to commercialize the GX patents, the research non-exempt option sought to tackle the blocking effect that some patents may produce upon follow-on innovation.\textsuperscript{60} As to the general legal tools developed by CC and tested within the GX community, they were and still are meant to fulfill an analogous goal: to facilitate research and patent trade via the full disclosure of the available information and the supply of uniformized licensing terms and conditions. Indeed, CC has elaborated three different tools: the “Research Non-Assertion Pledge”, the “Model Patent License”, and the “License Data Record”. The first two are contractual schemes: they are suitable for patent holders who, respectively, are interested in promoting basic research and making a public offer to license their patents on uniformized terms. Indeed, by the Research Non-Assertion Pledge patentees, \textbf{subject to a defensive termination clause}, make a \textbf{revocable promise not to assert} one or more of their patents against any nonprofit institution engaging in a non-commercial research use of them.\textsuperscript{61} The Model Patent License, on the other side, consists in a binding public offer, making patents available \textbf{on reasonable and non-discriminatory terms} to whoever could be interested in using them.\textsuperscript{62} The License Data Record, instead, is supposed to be a repository of the main data regarding the patenpees and licensees involved in the project using the CC tools. It would not only integrate the project metadata with the major search engines, software systems, and content creation systems, but also supply a standardized description of the available patents and of the clauses

\textsuperscript{58} See, https://en.wikipedia.org/wiki/GreenXchange\#cite_note-6
\textsuperscript{59} See http://wiki.creativecommons.org/Patent_Tools_Public_Discussion
\textsuperscript{62} https://wiki.creativecommons.org/Model_Patent_License (last visited on May 30, 2015)
attached to them to the public.\textsuperscript{63} Now that the GX project drown, the above-mentioned CC tools remain good examples of OP licenses, pivoting around uniformized terms and conditions, that unfortunately do not find - as far as we know - any practical application yet.

Since 2005 another sectoral license has been employed within the BiOS initiative,\textsuperscript{64} launched by CAMBIA,\textsuperscript{65} an independent, non-profit research Australian institute, with the intent of establishing a legal framework enabling common access to some biotechnological technologies and facilitating their development. On this purpose, BiOS makes available a \textbf{worldwide, non-exclusive, royalty-free, non-assertion license} both to make and use the granted technology and to \textbf{license back its improvements} either for \textbf{commercial or noncommercial uses}. For instance, by subscribing the two Bios-compatible agreements regarding “health technologies” and “plant molecular enabling technologies”, on the one hand, \textbf{patentees} allow the use of their technology without requiring royalties or imposing other conditions that could disfavor the production of goods and services involving the technology in question and, on the other hand, users agree to not appropriate the fundamental core of the technology and to license back its improvements to whoever contributed to their development. In other words, BiOS-compatible standard contracts establish a system of cross-licensing where what is licensed is not only the base technology, but also its improvements which – to be precise – must be shared with whoever support their development. These sharing and pooling activities are carried out through a website where the patent repository and the OP license are available. Whoever is interested in getting one of these technologies may first search the repository and then contact the Bios Initiative Administrator in order to negotiate her entry within the pool, given that the entry will happen according to the uniformized terms and conditions of the Bio-agreements. In practical terms, the entry will entail the signature of a specific “Bios-compatible agreement” according to the kind of “IP and technologies”\textsuperscript{66}

\textsuperscript{63} In theory, a patent holder who is interested in being involved in the GX projects (or in other Internet-based OP initiatives) fills in the License Data Record available on the web, by specifying whether she wants to change some terms and condition of the default Model Patent License, such as the clauses concerning fees and royalties, fields of use limitations, have made right limitations and so on. Who is interested in such a patent – which, as a consequence, is put out for license together with its terms of use – has only to accept the offer via the website, so to obtain a non-exclusive and non-transferable license to make, use, sell, offer for sale, and import products, services and processes embodying the patent.

\textsuperscript{64} See http://www.bios.net/daisy/bios/home.html.


\textsuperscript{66} In broad term, “IP and Technologies” are defined as «enabling technologies and associated patents, patent applications, knowhow, and materials in the sphere of activity of ___________ [e.g. health, plant molecular enabling technologies]» (letter B of the “CAMBIA Biological Open Source (BiOS) License for Plant Enabling Technologies Version 1.5”, letter C of the “CAMBIA DRAFT Health Technologies BiOS 2.0 agreement”, letter C of
in which the prospective licensee is interested, a “Bios Mutual Non-Assertion Agreement”, and a “Bios Technology Support and Material Transfer Agreement”. This last is purposely meant to regulate, among the others, the case when the website offers technological support to the licensee, who, if a profit entity, will be chargeable. In this case then all the features of the above legal-tools are available, with the adding of the license back mechanisms for improvements.

The same, if not stronger, feature of combining sharing and pooling is retrievable in the Open Invention Network (OIN), \(^{67}\) a defensive patent pool with the mission to protect Linux, that since its launch in 2005, has gained strong industry support with backing from Google, IBM, NEC, Philips, Red Hat, Sony and SUSE. OIN invites any company, project or developer that is working on Linux, GNU, Android or any other Linux-related software to join, so to use, free of charge, the software patents licensed under its uniformized terms and conditions. On the one hand, software patentees \((i)\) grant to OIN a royalty-free, worldwide, nonexclusive, non-transferable license for making, having made, using, importing, and distributing their patents in relation to any Linux System; \((ii)\) commit themselves to a not challenging clause, i.e. not to assert their patents against the Linux operating system, or certain Linux-related applications; \(^{68}\) also \((iii)\) obligate themselves to a viral clause that establishes that OIN patents cannot be assigned, or licensed, unless the assignment or the license are made subject to the terms of the OIN license. \(^{69}\) On the other hand,
OIN grants to each patentee and other licensee a **royalty-free**, worldwide, nonexclusive, non-transferable license to make, have made, use, import, and distribute products or services involving OIN patents, included those patents that OIN has autonomously acquired or has received as donation. As a whole, OIN works as a central administrator by creating a patent pool where patents, gathered in a repository, are both less expensive and easier to manage than proprietary ones. In addition, by requiring licensees to maintain open the patented knowledge by licensing it to the same conditions they have received it, OIN creates a mechanism capable of adding to the traditional defensive function that pools already have, another one: that of spreading patented knowledge.

VI. **Conclusions: What for Whom?**

Along the years, patents have become increasingly unsuitable to govern some innovative processes as well as some opportunistic practices. Therefore, patentees have started auto-limiting their powers to facilitate patent trade and follow-on innovation. However, this use of self-restricting patent pledges has introduced a further layer of complexity, because each patent may circulate with its own pledge(s). OP licenses have thus flourished as a tool to handle this multiform reality by ensuring sets of uniform terms and conditions for some classes of interests and needs that pivot around opened patents.

Whereas some OP licenses establish networks of uniform cross-licenses among patentees with the intent of defending them and their patents from trolls, other OP licenses amount to models - i.e. sets of uniform pledges and covenants - that patentees offer to whomever is interested in using their patents. Therefore, whereas the former OP licenses have a clear defensive function, the latter OP licenses work as non-expensive tools to make innovative processes be more engaging and collective.

Still, what lies at the heart of these two kinds of OP licenses is the **non-assertion pledge coupled with a defensive termination clause** that creates a reciprocity mechanism between the parties of the agreement. That is very interesting. Traditionally, patents are meant to give their holders the power to use infringement actions against non-authorized uses of their inventions. Hence, to give up such right becomes revolutionary. It overturns the main patent prerogative by neutralizing the sword that patentees use to protect their inventions. This should create an environment where innovation in general, and collective and follow-on innovation in particular, are easier to achieve notwithstanding patent thicket and trolls. Yet, it must be acknowledged that up to

*not impose any viral condition). The innovation added by Apple is in the users’ interface, where actually Apple does not have competitors.*
now the OP licenses that create safe environments are not exploited at most. Indeed, just in a few
these licenses do work as spring boards for future innovations by providing covenants, like grant
back and viral clauses, that cover technological improvements and follow-on innovation. This
means that the potential of the safe environments arising from the non-assertion pledges has not
been fully understood yet.

To be honest, there is something else that has not been fully understood and exploited yet. As the OSS and CC experiences suggest, standardization may have a value. However, their
functional equivalent in the patent realm, that is to say, the Non Assertion Pledge and the Model
Patent License proposed by Science Commons, have not been usefully employed yet. The reasons
for this are many, ranging from a lack of popularity to a need of sector specific terms and conditions
that, together with centralized platforms and organizations, could duplicate the successful stories of
BioS and BioBrick.