Mélanie Dulong de Rosnay (melanie.dulong@cnrs.fr) is an associate research professor (permanent researcher) at the French National Centre for Scientific Research (CNRS). She heads the Information and Commons Governance research group of the Institute for Communication Sciences (CNRS / Paris-Sorbonne / UPMC). She is a visiting Fellow at the London School of Economics and Political Science Department of Media and Communications (2013-1759-2 nt

## INTRODUCTION: PEER TO PARTY. OCCUPY THE LAW.

Cyberspace renewed legal thinking (Lessig, 1999a&b, Elkin-Koren and Salzberger, 2004). More specifically, peer-to-peer is a disrupting technology (Oram, 2001) for copyright law and cultural industries (Litman; 2001; Vaidhyanathan, 2005), and for law enforcement in general. Peer-to-peer transformative power can also be applied to knowledge (commons-based peer production, Benkler, 2006), to society (Bauwens, 2005; Glorioso et al., 2010), and to the law, as I demonstrated in my 2014 working paper in this series (Dulong de Rosnay, 2014, published as Dulong de Rosnay, 2015), which this working paper proposes to expand in a more systematic manner. A challenge to neoliberalism, peer-to-peer can also be used for mere convenience (Cammaerts, 2011). Many applications have developed alternative communication paths around these protocols:

> In recent years, governments around the world have turned off the internet or restricted internet access in moments of political unrest and during large-scale protests. But, what do you do if you are reporting on an event and can no longer communicate with others, send information back to editors, use twitter to follow live updates, or access Google Maps to navigate your way through city spaces? How do you transmit information when the internet is not accessible? Hong Kong Protests Propel FireChat Phone-to-Phone App

Peer-to-peer fragmentation is particularly disruptive for the law because the legal reasoning is used to operable on subjects which are characterized by and uniquely attached to some spatio-temporal existence. At the core of our argument, this ontological difference between the nature of distributed technology and positivist legal thinking is also reflected in the gap between on the one hand capitalism, relying on identified entities (firms, workers) and, on the other hand, commons-based peer production, organized around non-fixed and uneven contributions. And, to link both ontological differences: law is traditionally much more protective of the interest of capital (Capra and Mattei, 2015), with its identified owners, than of the commons, with a crowd of distributed peers, and future generations which may contribute and benefit from it. The contribution of this paper is first to apply peer-to-peer the theory of law, and also suggests its transformative potential to reduce inequalities caused by the extreme concentration of capital and political power.

As a technology to be regulated (another mode of interaction between peer-to-peer and the law), peer-to-peer challenges the law, which usually applies to individuals, both in its reasoning and in its enforcement, at first copyright, considered as intellectual 'property'[2], and intermediary liability, two central legal institutions selected in this paper (section 2 and 3). Peer-to-peer is a reshaping element for the law (Lessig, 1999a&b; Elkin-Koren and Salzberger, 2004; Elkin-Koren, 2006; Murray, 2006; Brown and Marsden, 2013), a force able to transform other sources of power (Mansell, 2012), which can be applied to fragment legal categories, and distribute property (section 2) and responsibility (section 3). The rhizomatic distribution of actions among actors, as operated in peer-to-peer architectures which can be observed in distributed storage (Musiani, 2014) and community wireless mesh networks (Dulong de Rosnay, 2015

Academically, this paper stretches and applies the concept transversally, as a transformative element, and observes how the law reacts to it. The use of only pure peer-to-peer architectures at all communications levels (connectivity, encryption, applications, content, etc.) cannot necessarily be observed in “natural habitat” conditions. Some degrees of centralization can be observed at some level most of the time. However, for the purpose of the demonstration, I apply distributed architecture as an ideal type, mimicking experimental laboratory conditions for natural sciences, in the same way economists may rely on a supposed invisible hand of the market for some demonstrations.

'Occupy the law' proposes to sit on legal categories with the intention of changing the system outside of a traditional political 'party' by *hacking* the law, where hacking is understood as a social and cultural practice of resistance (Lin, 2004; Kelty, 2008; Berry, 2008; Barron, 2013; Coleman, 2013; Powell, 2016). A number of blogs are using the expression 'Occupy the law' to convey a contestation and an alternative nature. I intend to use the expression 'Occupy the law' in the same way as Wielsch (quoted in Steinbeis, 2012), explaining the transformative

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guilty. Law enforcement is accustomed to allocate tort to individual persons designated as

anthropologist and political theorist, student of Mauss, analyzed individualistic and holistic modern societies, the latter designates “an ideology which gives more value to the social totality as a whole and neglects or subordinates the individual as an independent given” (Dumont, 1983: 304). According to him, the Political as a fact and a category does not emerge from interactions between individuals, but rather from a collective will of the society as a

it has been the case for collectives in networked social movements (Smiley, 2011; Bailey and Mattei 2013; Toret and Calleja, 2014) and for non-human agents (Teubner, 2006; Sartor, 2009). Therefore, the main theoretical obstacle for a legal grabbing of peer-to-peer is caused even more by the absence of an individual agent than by the distribution or fragmentation of the action. Individual liability and shared liability have been seen in the law, unlike to distributed liability.

Predictive social sciences, at the crossing of social movements and complex system science, are proving empirically social influence and reinforcement, "interdependence between individuals", and "enabling the emergence of new types of self-organised collective behaviour", following early cybernetists (Chavalarias, 2016). Detecting future possible crime blindly (Mohler, et al., 2011) and acting upon it, as it will be studied in the third section on

Regulators can try to outlaw peer-to-peer technologies, slow their development, or impair their implementation or use, which will lead to a chilling effect on innovative, legitimate usages.

Vivendi Universal, a concentrated rightsholder, proposed in 2006 during the transposition in France of the European Union Copyright Directive to outlaw peer-to-peer file-sharing software, by introducing criminal liability for authors of software which could be used for copyright infringement purposes. These proposed amendments were invalidated as unconstitutional[4] since peer-to-peer

Before the movement of land enclosure, natural resources were considered as common property, with a bundle of rights (access, exploitation, management, governance, exclusion, alienation) distributed according to different uses by the community: harvest, gleaning, pasture, grazing (De Moor, 2011). In her analysis of the bundle of rights and collective or shared property, Ostrom distinguishes the rights of access to the common resource, removal (wood in a forest), management (of the rights to remove), exclusion (decide who will have access rights) and alienation (right to sell or transfer the other rights).

Intangible, non-rival goods are also subjected to non-exclusive segmented property. As a second example, copyright organizes a limited monopoly of exploitation (itself fragmented among the rights of reproduction, making available and transformation) while maintaining a series of limitations or exceptions: in time, with the public domain granting the use of rights to everybody, and according to different activities, some remaining free for all (depending of jurisdictions: parody, citation, fair use, education, text and data mining, p (p) -59 (a) (t (a) (d)-5 ( (p 1 (

The French Minister for digital affairs proposed in 2015 to protect the public domain from individual appropriation practices which would lead to remove collective rights to the public (for instance, digitization of public domain works re-introducing exclusive rights) by allowing associations to sue on behalf of the public domain and stop the exclusive appropriation. The proposal was not accepted.

This second example illustrates the problem arising from the absence of damage to an actual person (the author's rights expired and there are no right holders to sue), as opposed to potential persons in the public which could suffer from the enclosure of the work and be prevented to exercise rights which no longer belong to the right holders. The Chilean solution

They have the option to allocate fragments of rights under copyright under different conditions, granting to all some access (*usus*) rights. Licensors correspond, in the terminology of Ostrom, to providers who can impose conditions to authors, contributing editors and consumer-users and manage accordingly the various rights under the copyright bundle. They may reserve the *fructus* arm

collective property, in which peers are not identified, as described in the first section of this article.

Collective groups of unidentified peers are addressed in environmental law legal hacks to property. Many States enable to purchase the right to build or limit possible usages (a fragment of rights) on a land only to preserve it for future generations. Voluntary servitudes, community land trust, conservation covenants or easements are among the various legal instruments available in civil and common law. Voluntary servitudes are designed to protect the environment, when a landowner transfers a fragment of her rights to the state or a non-profit intermediary for purposes of biological conservation.

Environmental law created many hacks to the right of private property (Fernández, 2004; Owley, 2014). This transfer of property to achieve higher objectives leads to an allocation of much more rights than the *fructus* right to build to unidentified collective group of peers which are not legal persons since they do not exist (an interesting example for unstable peer-to-peer distributed storage and mesh network lack of legal personhood), and it prevents *abusus* (which copyleft, copyfarleft and reciprocity copyright licenses have not achieved yet).

Also related to the protection of environmental as a commons, a legal hack under development

exercised. In that sense, both the legal hacks of the copyleft license and the environmental servitudes are transfer of rights with the expectation of the resource to grow and be used and fructified, but not abused (or enclosed), by future persons with whom it would be impossible to contract directly at the time of the intention of the initial right-

from a techno-legal point of view; individual peers can disappear without endangering the viability of the system. They only carry a social responsibility as part of a collective (or as a node), because it is their collaboration which guarantees that the system will effectively function.

Crowdsourced surveillance, justice and police can take place in services and communities which present a certain degree of centralisation: Diaspora, the semi-distributed social network, may for instance contact nodes or administrators hosting ISIS propaganda. But if crime cannot be seen or allocated to a person due to encryption and fragmentation, it is unlikely that a collective sense of responsibility will develop. Besides, collaborative policing without checks and balances could lead to the exclusion or the discrimination of users based on their IP address or for other illegitimate, disproportionate reasons.

The analogy of pollution monitoring for Wikipedia does not apply to distributed storage or connection, in the absence of identified legal person or centralized technical architecture which would allow to detect an infringement. There is no procedure to deal with an infringement in a distributed service such as Wuala or a community mesh network. Community monitoring and self-regulation to ensure the legality of the content circulating

What legal hacks may distribute liability in the same way than copyleft dedication and environmental entitlements as 'advanced donations' for property? Could collective mechanisms of trust and reputation permit on the one hand to avoid to damage? On the other hand, could insurance or *mutualization* allow us to share the risk in case of damage without the chilling effect of allocating liability to some or all peers, or a group of them? Would they be applicable and enforceable to unidentified, evolving group of distributed peers?

A precedent implementation of distributed trust actually fragmenting the risks, the legal liability and the social responsibilities within a group of peers, can be found offline. An example of online peer-to-peer platform for an offline regulated activity is the development of peer-to-peer insurance policies for cars. With Guevara in Brighton, UK, peers pay a pool contribution to cover claims, and an insurance fee in case of additional claims. Savings will lower the renewal insurance fee. Groups of friends can be constituted to adapt the insurance fee. Pooling among a group means the risk is distributed among members: the peers' financial contri

But even if the distribution phenomenon seems technically challenging, the concept of collectiveness and collective action is not, and has been addressed by the law. Furthermore, applying a peer-to-peer design to legal institutions has the potential of making them more apt for the commons.

There is no need to be a person in order to be recognized in political philosophy or network science as having agency: this has been the case for collectives in networked social movements and for non-human agents. Therefore, the main theoretical obstacle to a legal understanding of peer-to-peer is even more a matter of the absence of an individual agent

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