## The copyright management in the digital age: the evolutionary forms of cooperation.

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### 1. Introduction: the collective licensing of copyright.

Copyright corresponds to the moral and patrimonial prerogatives recognised by law to authors of works (author's right) and to their economic partners (neighbouring rights of performers and producers). Copyright protection thus allows rightsholders to prevent others to use their works without their authorisation, e.g. by making illicit copies from records or unauthorised broadcast. Individual copyright owners (COs) thereby are granted to commercially exploit their works during a limited period. Copyright law is supposed to provide them incentives to produce new works. They can administrate their rights themselves like artists on painting market or film producers. But the costs of copyright enforcement may be prohibitive for individual agents themselves. So a second mean to enforce copyrights is collective administration. Various arrangements are to be found according the country where it takes place<sup>2</sup>.

Beyond these various forms of copyright administration, two main models of copyright administration can be opposed: on one hand, a walrassian view defends a totally decentralised coordination between autonomous entities. Tenants of this theory consider that only individual right management permits a higher social welfare through a more intense competition between COs. On the other hand, an institutional view emphasises the crucial role of intermediaries. The history of copyright therein shows that the COs are inclined to cooperate, particularly when major technological change occurs.

Collective management of copyright in essence implies cooperation. COs coordinate their efforts in order to share the costs of negotiation, enforcement and collection of rights. Collecting societies (CSs) correspond to the pooling or the mutualisation of copyrights in a repertoire and act as intermediaries

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 $<sup>^{2}</sup>$  A third solution occurs too with the compulsory licences when both individual and collective exercises of copyright are not feasible. But COs are only entitled to perceive an institutional fee corresponding to the effective uses of their works. All these alternatives finally consist in collecting the social value of the works.

between COs and users, while realising common interests of the formers. The first authors' society was born in France at the instigation of Beaumarchais in 1777 before the institution of the *droits d'auteur* during the French Revolution. Historically, the CSs were both unions and pressure groups: they have permitted to regroup isolated artists in order to reinforce their bargaining power towards their partners and to lobby on lawmakers. Each of them has specialised in a specific category of rights: for instance, the SACEM<sup>3</sup> in France manage their members' copyrights in the field of music.

The collective administration of copyright is characterised as two successive transactions: first, the collect of rights between CSs and users and second, the distribution of these sums among their members. Such an arrangement is associated with some advantages. Economies of transaction costs are made possible with the centralisation of management by a single organisation. It represents a simplification both to users and COs and a significant reduction in identification, negotiation, and enforcement costs. Moreover, the subadditivity of the cost function creates considerable economies of scale and scope: the monopoly of most of the CSs appears to be one of the main conditions for an efficient collective administration. Learning effects occur too with the repetition of the same activity of contractualisation, enforcement and management of rights. Lastly, contrary to individual COs, whenever a CS wins a case, it internalises deterrent effects on potential infringers<sup>4</sup>.

However, the drawbacks of collective management are important too. The classical critiques made against monopoly apply to the CSs. On one hand, they can benefit from their monopolistic positions by imposing excessive tariffs on users and therefore restricting production and diffusion of works. It hence causes a potential social welfare loss due to underutilization of cultural goods. On the other hand, a CS generally is in a situation of monopoly towards its members. So a CS can dictate some contractual restrictions on its members as the GEMA<sup>5</sup> decision of the European Commission have shown in 1971. In particular, this organisation was reproached to make some discrimination against foreign music publishers.

Nowadays these observations are called into question by the digital technologies and the emergence of multimedia markets. As Demsetz noted in 1967, every technological change represents a fundamental factor of evolution for the property right system. The copyright law had to be adapted

<sup>&</sup>lt;sup>3</sup> Société des auteurs, compositeurs et éditeurs de musique.

<sup>&</sup>lt;sup>4</sup> See Hollander (1984), Besen et Kirby (1992).

<sup>&</sup>lt;sup>5</sup> Gesellschaft für musikalische Aufführungs- und mechanische Vervielfältigungsrechte.

with technological change: photography, phonograph, cinema, radio and television. Most of the questions raised by the multiplication of immaterial productions are brought to a climax with the emergence of multimedia and digital networks. More precisely, the question is, whether the traditional collective devices of copyright administration are (to be) adapted to new cultural products and exploitation. So there is to determine which mode of coordination is preferable faced to multimedia: on one hand, some advocate for a "walrassian" solution, i.e. the generalisation of individual management of copyright without intermediaries by using new technologies. On the other hand, some call for a reinforcement of the collective administration and a closer cooperation between agents. In this paper, we show that digital technologies and multimedia don't mean desintermediation, but new forms of cooperation both horizontal and vertical between the agents. The set-up of new institutions in particular focuses on the importance of the capabilities and complementarities of the CSs.

#### 2. Traditional cooperations between collecting societies.

If the collective administration means cooperation between individual COs, technological and institutional changes imply another level of cooperation, i.e. between CSs themselves. As a matter of fact, they often cooperate through their function of unions and at the level of copyright administration.

## 2.1 Nature and purpose of the cooperations between collective rights organisations.

The cooperation between CSs mainly assumes the form of new structures. In France, there are to be found several historical examples related to the authors' union and to technical coordination. One of the most important organisation is the SDRM: it was established in 1935 in order to administrate the mechanical reproduction rights corresponding to the repertoires of its members, that is the major French authors' societies in the fields of music, fictions, theatre, documentary, etc. SDRM doesn't manage its own repertoire, but it signs blanket licences with record producers association IFPI (International federation of phonographic industry) and with video publishers from the GICA. It both facilitates the management of audio and video copyrights and increases the market power of its members when negotiating with users' associations, administrations or international institutions. Another joint venture is the CFC, which operates on behalf of authors' societies and publishers associations in the field of reprography rights. It controls, negotiates with, and grants contractual licenses directly to the firms and the public administrations making photocopies. It is linked with other national reproduction rights organisations through an international association.

More recently, as a result of the French copyright law in 1985 instituting neighbouring rights of artists-interprets and phonogram producers as well as private copying tax system, several forms of coordination between CSs were established. These joint ventures permit to facilitate the copyright management in the maze of the newly created rights. One of these new societies (the SPRE) administrates the copyrights of performers and producers and acts on behalf of their own societies in the field of broadcasting rights. Two others perceive the receipts of the private copying fee charged by the French state on sales of blank tapes. These societies distribute then the corresponding sums to their respective members, that is CSs of authors, performers and producers. The cooperation therefore is primarily technical and permits both to avoid duplication of costs and to allocate some of its technical or labour resources to this kind of operations and the state is in charge of negotiating licence general fees.

At the international level, two main forms of cooperation exist. First, national CSs have implemented *ex nihilo* joint organisations in order to lobby and negotiate with international instances like WTO, European Commission and WIPO. There is to be found the well-known organisation CISAC (International Confederation of Societies of authors and composers), - which coordinates currently most of the initiatives of the authors' societies in the field of digital technologies<sup>6</sup> -, the GESAC (European version of CISAC) and the BIEM (mechanical reproduction right organisations).

On the other hand, the various national CSs are linked together by reciprocal contracts of representation. These arrangements concern national CSs that manage the same repertoire. They consist for a CS in giving the right to another national CS to license its own repertoire to users. For instance, the French composers' society (SACEM) administrates and enforces the rights of the members of the German society GEMA corresponding to the uses of German protected musical works in France. This contract is reciprocal because the GEMA administrates the SACEM repertoire in Germany. The benefits of these contracts are obvious since the creation of subsidiaries in every country could increase dramatically the costs of international collective administration. Moreover, the collected sums often will be small in comparison of the costs of institutional adaptations. So the cooperation

 $<sup>^6</sup>$  In 1999, under the aegis of the CISAC, the major CSs have set up a coordinating system of their databases on line : the Common Information System (CIS).

through reciprocal contracts is due to prohibitive costs of geographical distances and institutional differences. The emergence of online commerce of works and the harmonisation of copyright laws could challenge this form of cooperation by abolishing these two distances in the future (see part 4).

### 2.2 Why don't collective rights organisations merge?

One can wonder why the CSs of a given country don't merge their repertoires. Indeed, their integration could allow them to benefit fully from scale and scope economies all the more since contents are increasingly composite. In comparison to cooperation, integration permits to benefit from a better control of information and tasks within the organisation and to lower uncertainty. To use the cost transaction terminology, hierarchy allows a significant reduction in lead-time and information delays along with a more intense, efficient use of resources and competencies. Moreover, integration eliminates opportunist behaviour from partners who try to get a discretionary power and so seize some part of the exchange surplus.

However, integration between CSs is unfeasible because of the difficulty in transferring specific assets. Among the five limits highlighted by Monetari and Ruffieux (1996), two of them are suited to collective administration.

The first one is the legal appropriability associated to the protection of assets. As a matter of fact, each CS administrates exclusive copyrights which are specific assets and thereby very difficult to transfer. Historically, the SACEM have conflicted with another CS – the SACD – in order to manage some of its repertoire in the field of theatre. The former won and after became the first CS in France. But this transfer of rights was not complete and had required a lot of time and resources in terms of judicial procedures.

The second limit to transfer of specific assets is due to the complexity of knowledge and to the heterogeneous experiences and learning among organisations. Each repertoire corresponds to one or several well-delimited markets. Using jointly these heterogeneous repertoires – e.g. valorising them into audiovisual or multimedia markets – represents some benefits. But merging them could generate organisational costs due to the mix of incompatible human and technical competencies. These costs could be significantly higher than the sale and scope economies. Indeed, a repertoire is also a specific method to distribute collected sums – according peculiar keys of distribution – and specific legal practices: competencies in the fields of pictures are not the same as for musical rights. Finally, every method is the result of a historical learning and so is transferable with difficulty.

Cooperation thus is a better, more flexible solution that creates new resources and permits CSs to maintain their monopoly in their respective repertoire while coordinating their operations in various forms. The cases of multimedia markets allow us to demonstrate it.

### 3. Cooperation in the multimedia offline.

Multimedia brings to a climax the debate between tenants and detractors of collective administration. Multimedia is not a market, but rather an aggregate of various, interconnected activities that have in common to use digital technologies. They allow digitalisation and compression of heterogeneous data: writings, sounds and pictures. So they both facilitate immediate, costless and perfect reproduction of copyright contents and have contributed towards the emergence of digital networks. Two main markets are to be distinguished: the multimedia offline (the CD-Rom market) and the multimedia offline (e.g. the electronic commerce of works).

In the first case, the cooperation is horizontal and includes only the CSs. The institutions setting up in this case are based on already existing structures and experiences. In this respect, the multimedia offline markets do not pose any specific problem because of similarities with traditional cultural industries. As a matter of fact, these cultural goods are reproduced on physical supports and generally commercialised through the same ways. This is not the case concerning multimedia online (cf. part 4).

# **3.1** The existing arrangements in Europe: the information office and the joint collective organisation.

One essential feature of the CD-Rom products lies in the mix of text, sound and pictures, making thus complementary the repertoires of the CSs. Several European experiments of one-stop-shopping are currently carried on to exploit at best these complementarities. This system consists in regrouping the acquisition of several rights simultaneously in the same place. In this way, the digital technologies facilitate the management of analogical rights with the creation of easily identifiable Internet websites like "ccc.com". Two main models of one-stop-shopping exist in Europe: on one hand, the German and Dutch model in the form of information office and on the other hand, the French society SESAM that is a quasi-integration between author's societies.

The first model corresponds to an information office created by some CSs and whose function is to provide users with information about the copyright features of a given work. Is it currently protected or out of copyright? Which are its COs? Are they currently the actual assignee or do they transfer their copyright to a publisher? What are the length and the geographical scope of their rights?... The German society CMMV<sup>7</sup> is a relevant case of such an information office. It was created in November 1996 and manages a paying database delivering online information on copyrighted works. The purpose of this type of organisation is to be an easily identifiable intermediate, which turns potential users towards COs. It is a nonprofit multimedia rights clearing house. However, it does not take the place of its members in negotiating and managing copyrights. So CMMV doesn't exploit fully scale economies.

On the other hand, the French society SESAM is a more sophisticated form of cooperation between author's societies. It was established in 1996 by the main authors' societies. In addition to give information to potential users, its main purpose is to take charge of copyright administration on behalf of its members in the fields of offline and online multimedia. It administrates the granting of rights and the distribution of collected sums according to conditions and tariffs determined by its members. This organisation doesn't have its own repertoire. Rather, it joints together the multimedia capabilities of the authors' societies and thus it represents a specific form of technical coordination in order to adapt to digital environment.

SESAM is also an organisation open to any COs like publishers in order to make the collective management more efficient. On one hand, it consists in facilitating COs identification and right acquisition by users. Therefore reduced transaction costs and more complete contracts are obtained. On the other hand, it benefits from higher economies of scale and scope. However, acquiring copyright in order to produce derived works or to exploit commercially existing works is one thing, but electronic commerce of cultural goods is something else: it requires an even more enlarged cooperation that includes some users of works (cf. part 4).

SESAM benefits from the technical resources of the SACEM and the competencies of its various members. Its first task was to finalise a pricing system adapted to each type of multimedia products (ludotainment, video games,...). The prices schedule and the online calculation of amounts to be paid are freely available on the SESAM site. Then, this joint organisation relies on the learning and competencies of the SDRM (mechanical rights CS) in the field of the drawing-up of general contracts, the management of heterogeneous repertoires, the fight against piracy as well as the monitoring

<sup>&</sup>lt;sup>7</sup> Clearingstelle Multimedia der Verwertungsgesellschaften für Urheber- und Leistungsschutzrechete

of blank CD factories and retail stores. Finally, SESAM can be described as a horizontal quasi-integration. CSs there organise and valorise their resources and competencies and then negotiate the distribution of the rent created within this joint organisation. In this way, they adapt to the growth of the CD-Rom market by coordinating and operating complementarities between their specific and intangible assets. They benefit therein from the fact that multimedia offline is similar to traditional cultural industries: both activities have the same distribution and sales networks that are easily to supervise. No new competencies are to be developed.

### 3.2 Toward more competition between CSs on membership?

At the same time, CSs compete for new membership corresponding to multimedia creators, which are also potential COs. Infographists, multimedia scriptwriters and designers are difficult to locate in the tangled map of copyright. Accurate classification of multimedia products is often impossible, except video games for which the publisher is presumed to take charge of rights on behalf of creators (*work-made-for-hire*). So interference zones between criss-crossing repertoires expand and constitute places for intense competition. Three French CSs – SACD (theatre, audiovisual fiction), SGDL (writers), SCAM (audiovisual documentary) - currently compete in order to control the management of interactive scripts. Finally, being first mover now – by obtaining a dominant position on key assets – permits CSs to lock in this new field and to secure further expansion.

However, the joining of new COs could be hamper by incumbent membership and so generate insiders/outsiders effects. The opposition of the insiders can be explained by the fear of lesser individual distribution, increasing charges due to diversification, refusal to share organisational benefits, previous conflicts, etc. This situation shows that the cooperation between members is hard linked with historical compromises between them. In the case of cinema, Jeancolas et al. (1996) underline the opposition between insiders of the SACD (theatre) and outsiders (film directors). The arguments of the formers rest on the superiority of the dramatic art on popular entertainment, but above all they were afraid of the competition of the movie theatres. The same situation nowadays occurs with the opposition of French composers to the membership of techno DJs.

## 4. The new practices of copyright administration in the multimedia online.

Multimedia online represents new potential sources of remuneration for

creators and producers of existing contents and digital works. It leads to more enlarged cooperation than multimedia offline. Original forms of coordination are required there and extended to all the agents implicated in these activities.

### 4.1 The current practices calling into question.

The e-commerce of protected works gives arguments both to those who anticipate the break-up of copyright legislation and those in favour of more protection thanks to new technical potential. The arguments of the latter are twofold: on one hand, the dematerialization of cultural goods and their distribution on networks make easier and cheaper any illicit reproduction and use, and on the other hand, by benefiting these new technologies COs may enforce more efficiently their prerogatives. Electronic Copyright Management System (ECMS) designates all these new technical devices.

First, one can notice the inefficiency of traditional methods of copyright enforcement on the networks. Lawsuits as a warning or simple monitoring by sworn agents have little or no deterrent effect on the networks users faced with quasi-public goods. Moreover, analogical supervisions generate high costs because of the number of websites and the hacking practices. So digital technologies make possible free riding and opportunistic behaviours like software online piracy. However, the digital technologies allow not only a better protection against those illicit practices but also an online copyright management. To achieve these purposes, a lot of new technologies exist such as watermarking, overprinting, digital encryption and registration, electronic payment and surveillance, etc. They generally consist in visible or invisible insertion of writings and graphics in a digital work. The watermarking in the case of overprinting is visible, contrary to the steganography that qualifies a technique of marking (hidden marking) aiming to conceal copyright information within the digital copy.

Further, some conclude that direct and competitive negotiations are made possible between users and COs thanks to these new possibilities. According to this vision – both shared by lawyers and economists –, the new networks are synonymous with a total desintermediation between the agents and so increase social welfare in contrast with the current situation, which implies intermediaries. As Hugenholtz noted (1995, p.4), "The emerging digital networked environment is creating exciting new possibilities of solving the complexities of licensing a multitude of rights. Perhaps, the built-in intelligence of the superhighway will enable individual right holders to grant and administer licenses to users directly, without any intervening mechanism. Works disseminated over the superhighway might carry identifying "tags",

inviting prospective users to automatically contact right owners, or "permission headers", with pre-determined licensing conditions (...). Such a system of "self-administration of rights" might eventually replace collective or cooperative licensing. If so, the digital network would bring back to right holders what they (nearly) lost in the age of mass copying: the power to transact directly with information users." According to this scheme, prices decrease, competitive negotiations between COs and users occur and thus no cooperation is required. Our point of view is somewhat different.

The emergence of digital networks strengthens the tendencies not only toward cooperation but also toward more competition between CSs. Indeed, the harmonisation of national legislations and the cutting out of the costs of geographical distances represent the conditions of increasing competition. For instance, the reciprocal contract of representation could be challenged. The German CS would be therefore able to compete with the French one on the European markets without any additional costs of infrastructure. Managers of the GEMA have already evoked this prospect: "In the multimedia age, the European authors will still be able to choose which of the existing collecting societies in the member states of the EU they would like to join. In this way they can benefit from the differences that certainly exist in the services and costs charged (...)" (Kreile and Becker, 1996, p.17) Indeed, GEMA can offer lower tariffs to the members of the SACEM. On the other hand, CSs must cooperate to manage their complementarities and this cooperation takes a vertical dimension.

Organisations have to set up new management system using very expensive digital technologies, but they possess few competencies. Alliances then are required with another agents located downstream of multimedia industries in order to appropriate these lacking competencies as well as to obtain a dominant position in the field of membership. The nature of cooperation is essentially pre-competitive and so it takes place before the markets are formed. For the moment being, the partners seek to exploit at best complementary resources and capabilities they control individually and together. Studying existing ECMS permits to illustrate this point and simultaneously to question the desintermediation approach. More precisely, we show that cooperation is present and required through these new systems.

First, an ECMS is a technical system of copyright management in multimedia online activities including various technologies (overprinting, watermarking, encryption, digital monitoring and enforcement, e-payment...) and permitting e-commerce of works and transfer of rights. According to the ACN (1998), such a system would be ideal if it fulfils the following objectives: "(...)

provide copyright-protected material to users upon request; provide a means for remuneration (or a facility to grant or refuse licence) to flow to the owner; track usage of material (...) without interfering with the privacy of the user; prevent unlawful appropriation of the copyright material by people who are outside the system; prevent unlawful use of the copyright material by users who obtain the material legitimately in the first instance; ensure the integrity of the intellectual property; allow for a reasonable flow of information between owners to users (...) in the public interest (...); and allow for the effective operation of fair dealing within the ECMS."

So an ECMS fulfils two main functions that require a close cooperation between the protagonists (CSs, owners of right portfolios (majors), producers of contents and multimedia firms). On one hand, ECMS and Internet allow the setting up of *one-stop-shoppings*, that is centralising system of the identification and negotiation of copyrights and to which users turn in order to acquire rights for traditional or multimedia uses. "It would function as an intermediary between the commercial parties, users and rightsholders (...)." (Hulsink, p.5) Contrary to CSs, clearing houses don't hold any exclusive rights: they just facilitate acquisition of rights. One the other hand, ECMS permit the emergence of e-commerce of works through the institution of norms. This implies that protagonists agree the features and the prerogatives of their joint organisation. The study of one experiment of ECMS – the demonstrator IMPRIMATUR – illustrates these different points by pointing out how e-commerce of works requires the establishment of intermediaries. In particular, it permits to show what role the CSs are likely to assume.

### 4.2 A concrete application: the demonstrator IMPRIMATUR.

The automation of copyright management on digital networks and the ecommerce of works use the same technologies. Thereupon, a large number of experiments are carrying out in USA and European countries. Recently, the French society SESAM and other major European CSs cooperate in a common project – Verdi (Very Extensive Rights Data Information) – within the European framework Info2000. Verdi consists in setting up a European information and granting online system in order to facilitate acquisition of rights by multimedia producers. These various projects are the fruit of cooperation between CSs, publishers, collective users like libraries and online operators because they generally require appropriation and developing of costly electronic devices. Individual COs thus would not be able to bear the costs of and to control these tools on their own.

One of the most operational, polyvalent ECMS currently is IMPRIMATUR

(Intellectual Multimedia Property Rights Model and Terminology for Universal Reference). It took place within the European project ESPRIT that handles some experiments on new technologies applied to the management of copyright. The ALCS<sup>8</sup> has coordinated the project from 1995 to 1998. It was established in order to estimate the impacts of online methods of buying and selling protected works as well as the online management of copyrights. It is based on the cooperation of all the already mentioned agents that are indispensable for the project to be operational. A strict consensus is a *sine qua non* condition in order to permit digital exploitation of works.

The basic scenario is the following: a supplier (publisher, producer,...) makes its catalogue of digitised works available to an online distribution company. This one stores the contents in a database and proposes a promotional list to potential online consumers. They can consult freely the list, even listen some extracts and then choose to buy online copies through electronic payment. The online distributor allows any COs of the stored contents to monitor its sales figures after receiving its negotiated share. From this basic model, the agents must add the functions of ECMS, that is on one hand to insert a system of authentication and security of the transactions and on the other hand, to identify, to monitor and to grant licences.

As regards transaction security and authentication, partners must be able to identify with each other before any exchange. This measure must be coupled with confidentiality about agents and contents. The SSL technical device is used in order to fulfil these objectives: its features both cover data encryption and authentication of users and sellers through public key certificates. This protocol will be improved by implementing identity cards reader. On the other hand, in order to identify, police and grant licences, the assignment of an ISWC (International Standard Work Code) on each work is a service provided by a single organisation. Furthermore, this supplier of codes manages a database that lists and indexes copyright and COs. If the IMPRIMATUR project doesn't permit to prevent copyright infringements, it facilitates their detection through digital encryption and watermarks of transmitted works. An ISWC therefore is incorporated when the work is digitised and before its supplier makes it available to online distributor. This one in his turn integrates specific codes to each copy he sells. This system thus allows traceability of works through the use of specific decoders.

The task of monitoring actual uses of works should be carrying out by an independent agent. As Koblin and Kockelkorn (1997, p.4) noted, "[i]n a fully

<sup>&</sup>lt;sup>8</sup> Authors' licensing and collecting society, UK

fledged system, an independent Monitoring Service will mainly be concerned with large-scale supervision of financial and licensing transactions." According to us, this function could be taking charge by CSs. As a matter of fact, they benefit from organisational capabilities and a large experience on monitoring, certification, price negotiation and both judicial and private settlement between COs and users.

Lastly, the granting of licences *in fine* must fulfil two main purposes. First, it must be able to allow the suppliers and the online distributors to obtain copyrights from each individual COs for the transmitted works. Secondly, it has to permit COs and supplier to obtain licences whenever they produce multimedia works using original woks. For instance, an online designer can obtain granting of rights via this system when he needs to incorporate protected contents such as musical samples or drawings into his website. Right now, the licensing temporarily is based on blanket contracts, through which online distributor is authorised to sell an unlimited number of copies.

The IMPRIMATUR project is thus one of the first operational ECMS. The resulting demonstrator articulates various components that permit both copyright management and e-commerce: identification number, encryption, electronic licensing and payment, copyright databases, and certification procedures. This prototype is all the more dynamic since its structure is based on independent module and then is adjustable to technological innovations. Each component is replaceable by more effective ones and additional ones are transplantable like monitoring and metering systems. This various results suppose close cooperation as the example of the Californian online music distributor Liquid Audio and the British CSs shows it (cf. appendix). This case emphasises too the persisting role of the CSs in a digital world.

### 4.3 The persisting role of collective right organisations.

Another lesson of the study of the principles of demonstrators like IMPRIMATUR is that the emerging e-commerce of cultural goods does not lead necessarily to a total desintermediation between agents. Among the new online institutions, CSs would play a major role in shaping the copyright system: "[i]n the multimedia environment, the collecting societies expect to play a leading role because of their familiarity and expertise in the field of copyright, the information on rightsholders, and their exclusive position visà-vis granting access to the repertoire of a CS, and their authority in authorise licences to users and producers." (Hulsink, 1996, p.7) Nevertheless, various alternative organisational forms can complete the various roles allotted to cooperation: authors' societies better run in France whereas action of unions often is preferred in Anglo-Saxon countries. So should cooperation take the sole form of trade union or the complex form of CSs (including the former)?

The first function of CSs historically and institutionally is to act as unions which lobby on behalf of their members toward national and international institutions (cultural administrations, WIPO, European Commission). In addition, their role as unions is to negotiate remuneration and to take legal action against copyright infringers. So CSs employ competent jurists in the fields of copyright and contractual laws. But what distinguishes these societies from others unions is their second function, that is the collective management of copyright. However, some maintain that new technologies challenge this additional function. According to them, it is henceforth possible to conceive an efficient arrangement in the form of labour division between CSs and their members. The former would enforce their member's rights whereas the latter would set their licence fees and conditions of use individually by benefiting from an electronic system of control and payment of actual uses of their works. In other words, the CSs would keep an administrative role of copyright enforcement and maintenance of databases of information about COs, their works and the various rights flows.

Such a system has been imagined first in the model of Besen et al. (1992). The competitive licensing system attempts to reconcile the advantages of competition with those of cooperation. Its main purpose then is to obtain competitive negotiations between COs and users while keeping advantages of collective administration in terms of economies of scale and scope. Indeed, the subadditivity of the costs of collective management leads individual agents to cooperate. But the model of competitive licensing aims to substitute individual licenses and competition between COs for blanket licence issued currently by CSs and monopolistic tariffs while maintaining collective administration. As a matter of fact, these organisations are supposed to be efficient in the tasks of the enforcement and so have to focus on them. Although the blanket licence results in monopoly pricing and therefore extracting all the surplus of the users, the competitive licensing would permit to curtail the royalties per work because of more competition between COs and direct negotiations with users. "Each user would be free to determine the number of songs for which he or she obtained licenses, and the aggregate fee paid by a licensee would depend both on the number of works used and the fees set by copyright holders." (p.408) Moreover, this model assumes the existence of a single organisation in order to minimise transaction costs. Finally, every member shares equally the costs of their organisation and then negotiated prices include their share plus marginal cost of production of their works. As for direct competition between CSs, the monopolistic rent is partly

transferred to users: the competition between COs brings their price down to the level of administrative costs and marginal costs of production.

However, if allocative efficiency is reached, it is not the case for productive efficiency because of the largely higher costs of management due to the competitive licensing. Indeed, the number of transactions and checking is higher in this case than in a blanket (once-for-all) contract. So the higher the administration costs, the larger the individual contribution and the lower the remuneration of each member. Beyond the break-even point, there is no incentive to membership and producers are not enough for the competition to be practicable. It thereby mitigates output restrictions prevailing under the blanket licence system. However, according to Besen et al. (p.409), "(...) these potential benefits must be balanced against the predictably higher administrative costs under competitive licensing."

According to us, this drawback in terms of prohibitive costs could be eliminated in the digital context. Indeed, ECMS projects like IMPRIMATUR allows to bring down significantly costs of negotiation and enforcement. Once a COs has fixed his conditions and tariffs into a general database, the user can either pay or try to negotiate with him. However, the need for systematic negotiation is eliminated along with the recourse to compulsory licence or uniform tariffs of blanket licence. The CSs both focus on administration tasks and on their functions of certification and monitoring. They can exploit size economies and benefit as unions from the confidence of their members. Lastly, they can play additional roles such as valuation and settlement between COs. They could become specific intermediaries.

### 5. Conclusion.

New technologies of information and communication allow finally more competition in the negotiations between COs and users of works. But they don't either eliminate cooperation, nor the need for it between the different stakeholders, or reduce the importance of copyright collectives. Antitrust authorities should take into account these observations every time they make judgements about agreements between the various COs.

## Appendix: A concrete application of IMPRIMATUR: the cooperation between PRS/MCPS and Liquid Audio.

The IMPRIMATUR prototype aims to facilitate emergence of e-commerce of works. The setting up of this system thus implies horizontal and vertical cooperations. They are undertaken in order to share resources and capabilities

and to test the operationality of the project. A concrete application is the alliance between British CSs MCPS and PRS (Performing right society) and the US online music distributor Liquid Audio. This firm has finalised an integrated system of promotion/marketing/music sale on the Internet.

More specifically, this cooperation takes place upstream from an emergent activity: online distribution of digital music. It consists in grafting an ECMS on the product conceived by Liquid Audio. This one thus becomes in compliance with copyright law. As K. Hill (1998, p.1) notes, "[s]pecifically, the trial will involve the development of a prototype Web interface to provide users of Liquid Audio's systems, and other online music distribution companies, an integrated solution for managing copyright clearance for musical works (...) It will identify current rights ownership from its extensive database of sound recordings and musical works to process licence applications and, later, calculate the royalties due following the submission of associated usage data collected by companies such as Liquid Audio." The carrying out of such an automated system facilitates the emergence of the e-commerce of works by accelerating licences from COs to users. After the system has confirmed whether COs allows their representative to grant rights, licences are automatically granted (or refused) by e-mail to consumers.

Thanks to the modularity of the prototype IMPRIMATUR, the CSs take advantage of any innovation by Liquid Audio in the fields of anti-piracy or digital encryption. These forms of cooperation represent opportunities of learning for the contributing parties in the digital markets. As a matter of fact, "[i]t is a prototype development from which it is anticipated that the contributing parties will learn more about the infrastructure requirements for licensing in the online environment, such as the scalability of systems required to match the volume of transactions." (K. Hill, p.2). Finally, this experiment permits PRS and MCPS to prove that reproduction and distribution rights can be exercised on line at the same time and Liquid Audio to offer a law-abiding commercial system.

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