

## **Global Fellows Forum – Piercing the Technological Veil: Software Interoperability, European Law, and Fundamental Rights**

Imagine that, in a faraway fictitious land, A expresses a series of words that have no synonyms and only make sense in that particular sequence. In order to utter competing or complementary expression, B and C need to 'borrow' that exact same series of words. As it turns out, that country's intellectual property rights will determine whether or not A is able to monopolise or control all debates using that series of words. By analogy, B and C need access to A's interface information if they want to create software programs capable of interoperating with A's software. For the 'interface' is a set of electronic keys that, so far as structure is concerned, must be precisely emulated in order to secure co-operation between programs. It is argued that European software laws – software-specific regulation and competition laws taken together – grant software copyright holders de facto control over much software expression by means of the interface code. The question thus arises whether those laws comply with the right to freedom of expression.

This project does not seek to reinvent the wheel. Rather, it is believed that existing wheels – critical concepts like 'media pluralism' or 'political expression' – might take very different shapes when placed in a digital setting, given distinct technological and economic circumstances. Approaching software regulation from the viewpoint of fundamental rights forces us to acknowledge software's unique hybrid nature as a means for expression and expression in its own right. Only with this frame of mind can one properly assess the intricate interplay between generic competition law and intellectual property rights regarding software.

### **I. Normative Issue**

1. There is a recognised tension between intellectual property rights (IPR), and the right to freedom of expression. If the State grants someone a temporary monopoly on a given expression, every (competing or other) expression of this information or ideas is constrained by it during that lapse of time.
2. The law typically attempts to resolve this tension through a number of mechanisms. For example, copyright does not cover the idea, but only the particular expression of an idea. States also recognise a number of 'fair use' exceptions to copyright, whereby copyright protected materials can be used for well-defined purposes without monetary compensation (e.g. education).
3. The same tension can of course be spotted with respect to software expression. Software copyright constrains the expression of complementary or competing expression which is dependent on the expression for which the temporal monopoly has been granted.
4. This project will investigate whether the law adequately resolves the above-depicted tension in the software environment. The project focuses on software interoperability. Software acquires value to the extent that it is able to interoperate (function or exchange information) with existing software programs. Given the importance of software interoperability for enabling software expression, it is critical to consider whether the various legal tools for obtaining interoperability between competing and complementary software programs comply with the right

to freedom of expression. Does the law strike the right balance between the public and private interests related to software expression?

## **II. Context & Research Question**

5. Prominent US communications scholars have persuasively argued that communications networks can be understood by dividing them in three horizontal layers: (a) the physical layer (e.g. cable networks, radio-spectrum, computer hardware), (b) the content layer (e.g. films, music, data), and (c) the logical layer (e.g. software code).

<b><u>Content Layer</u></b> (Films, Sports, Music, Advertising, Games, etc.)
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<b><u>Logical Layer</u></b> (Software, Associated Facilities: APIs, conditional access systems, etc.)
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<b><u>Physical Layer</u></b> (Radio-spectrum, Cables, Satellites, Hardware, etc.)

6. In a digital world, the software or code layer, they argue, is gradually taking the most prominent role.<sup>1</sup> This code layer can be compared to a *switch* – who controls that switch determines which content goes where, who can watch what; in sum, who is empowered and disempowered to speak.
7. In the analogue world, EU Member States primarily seek to control access to the physical layer, as well as to the content layer. This is achieved through, for instance, (i) broadcast licencing, as well as (ii) content regulation and monitoring. However, it is submitted that in a digital environment those two layers are undoubtedly losing their critical importance. Licencing (i.e. a form of prior restraint) is increasingly suspect from a constitutional point of view. This is because scarcity is vanishing as a result of digital compression technology and increased processing power. By the same token, given abundant bandwidth content monitoring/regulation becomes ever more difficult. This illustrates the critical importance of controlling the code layer, and highlights the importance of shifting our attention to software.
8. A growing number of communicative acts take place, in one way or another, by means of digital communications paths. Yet, to date European law fails to acknowledge the critical role of software: traditional doctrine regards expression on communications networks as the exception to the rule (e.g. broadcast licencing).
9. Software is considered a stand-alone product, or a mere tool. As a result, software regulation develops through the interaction between software-specific regulation (i.e. EU Software Directive) and generic competition law (e.g. EU Microsoft

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<sup>1</sup> See, of course, Yochai Benkler, *Overcoming Agoraphobia*; Lawrence Lessig, *The Future of Ideas*.

case). Thus, classic analyses of software regulation focus on bringing about maximum efficiency in the software industry.

10. This project places software in context; namely at the heart of our common communications infrastructure. Inevitably, issues pertaining to the right to freedom of expression will therefore permeate the debate on software regulation, as our communications infrastructure is being digitised. The opposition between sector-specific regulation and competition law does not take place in a vacuum. Both types of law can only be understood in the context of an overarching constitutional framework. Strangely enough, while US case law and US academics have debated this issue,<sup>2</sup> no European court or author has looked into it.
11. The project focuses on software interoperability. Software interoperability is the ability of one software program to exchange information with other software programs and with hardware. The key information that is needed to enable one program to interoperate with another program is called an 'interface.'
12. This piece thus considers the constitutional status of software interoperability laws under Art.10 of the European Convention on Human Rights (ECHR) in the framework of the objective of achieving software interoperability. As we shall see, there are two intertwined ways of approaching this question:
  - ⇒ **(1) if software constitutes expression under Art.10 ECHR, what does it mean for the purposes of software interoperability to have the right to impart and receive 'information' or 'ideas' in the form of software?**
  - ⇒ **(2) if software is a means or medium for expression under Art.10 ECHR, what does it mean for the purposes of software interoperability to have a right to media pluralism in relation to the software layer of digital media?**
13. A given market player's ability to achieve interoperability primarily depends on two bodies of law: (1) the Software Directive's conditions determine on what terms one can obtain critical software interface information, and (2) a market player's unilateral refusal to disclose relevant interface information might, in some circumstances, constitute an infringement of Art.82 EC Treaty (abuse of a dominant position).

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<sup>2</sup> So far, this issue arose in two distinct types of cases, namely the constitutionality of (i) US export limitations on encryption programs and (ii) laws prohibiting copyright circumvention tools. See *inter alia* *Bernstein v. US Department of Justice*, 176 F.3d 1132 (9th Cir. 1999); *Junger v. Daley*, 209 F.3d 481 (6th Cir. 2000); *Karn v US Department of State*, 925 F. Supp. 1, 3 (D.D.C. 1996); *Universal City Studios, Inc. v. Corley*, 273 F.3d 429 (2d Cir. 2001); *Universal City Studios, Inc. v. Reimerdes*, 111 F.Supp.2d 294, (SDNY 2000). For US literature on this exact topic, see *inter alia* D.L. Burk, 'Patenting Speech.', 79 *Texas law Review* (2000) 99; L.J. Camp, S. Syme, 'Code as Embedded Speech, Machine and Service.', *Journal of Information, Law and Technology* (2001), available at <http://elj.warwick.ac.uk/jilt/01-2/camp.html>; N.A. Crain, 'Bernstein, Karn, and Junger: Constitutional Challenges to Cryptographic Regulations.', 50 *Alabama Law Review* (1999) 869; L. Tien, 'Publishing Software as a Speech Act.', 15 *Berkeley Technology Law Journal* (2000), available at [http://www.law.berkeley.edu/journals/btlj/articles/15\\_2/tien/tien.html](http://www.law.berkeley.edu/journals/btlj/articles/15_2/tien/tien.html); R.C. Fox, 'Old Law and New technology: The Problem of Computer Code and the First Amendment.', 49 *UCLA Law Review* (2002) 871.

### **III. Software-Specific Regulation in Europe: The 1991 EU Software Directive**

14. The EU Software Directive requires Member States to introduce copyright protection for writers of software programs. The Directive is the result of heated debates between *inter alia* ultra-protectionists (i.e. big software companies), and proponents of the free software foundation. While the latter believe there should be no copyright protection for software programs, the former hold the view that full copyright protection is necessary in order to foster future software production, and enable market players to recoup their investments.
15. Software is produced as follows: first the program is written using a high-level language (*source code*); then, it is compiled into strings of noughts and ones (*object code*). It is this object code which provides the direct instructions to the computer. Object code is machine readable. It is the usual format in which programs are disseminated.
16. Without access to the source code, however, it is very hard to produce interoperable programs. As a result, the extent to which copyright protects expression in the form of software determines the ability of other players to take part in the software segment.
17. The Directive proposed the following compromise:
  - (a) Copyright does not extend to the interface *specifications* (i.e. the detailed description of rules governing the program's interaction with other elements of the computer) – as opposed to the interface *implementation* (the actual object code which forms the interface).
  - (b) Third party software producers are allowed to reverse engineer (i.e. deconstruct) software programs for well-defined purposes (i.e. only for obtaining interoperable products) and a limited number of circumstances (i.e. reverse engineering must be indispensable, can only be performed by a licensee or authorised person, and must be confined to the interface).
18. In practice, however, reverse engineering is a lengthy, costly and inefficient procedure. In other words, despite the Directive's efforts copyright holders still have tremendous power over complementary and competing software expression. They decide which types of software expression will find their way to the user.
19. However, it is generally believed that market players will reach the most efficient solution for society through bilateral contracts, with respect to disclosure of critical interfaces. Software producers appear to have little interest in not disclosing interface information. And, if they do refuse to disclose the necessary information, then this is most probably an efficient solution. This is due to the economic characteristics of software, namely a combination of (i) pervasive network effects, and (ii) vertical restraints.

20. Indeed, software goods/services are characterised by pervasive network effects. Network effects are present when the value of the good increases with each additional person using it. Network effects can be either direct or indirect. Examples of software programs with *direct* network effects are word processors. If one person writes a file using a particular word processor, other persons wishing to read the file need to have the same word processor. Thus, that product is valuable if and when other persons have purchased it as well. Examples of software programs with *indirect* network effects are operating systems (OS). Although customers do not exchange OSs, they will indirectly incentivise other customers to use the same OS for using/opening files which interoperate with their OS. Those products are valuable if and when other persons are purchasing them too. If other customers purchase these same products, demand for the complementary product will be higher and the supply of those complementary products will benefit each individual customer. In sum, it is in each software producer's interest to have a maximum amount of programs capable of interoperating with theirs.
21. Second, the latest economic theories on vertical restraints point to the fact that, absent substantial market power, vertical restraints are generally efficient. Some authors applied the above to the software market.<sup>3</sup> They argue that vertical restraints or the vertical integration of software might prevent so-called 'double marginalisation'<sup>4</sup> and allow for greater co-ordination, thus resulting in lower prices for end-users. In addition, it might remove the fear that other market players free ride. Third party software providers which are only present at one level of the value chain would not easily engage in the promotion of their products since there would be a fear that other third party or competing market players (at the same stage of the value chain) free ride on their investments. In contrast, vertically integrated players (or software providers imposing vertical restraints on each other) do not have this fear: thanks to the restraint they can invest in marketing the software good/service for their own interest. The point is that vertical restraints are only anti-competitive in the presence of large market shares. In such situations, agreements between players at distinct stages of the value chain might be used to foreclose competitors' entry at either level of the market, or at least to raise rivals' costs.

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<sup>3</sup> See for an economic model applying these theories to the OS market, N. Economides, '*Raising Rivals' Costs in Complementary Goods Markets: LECs Entering into Long Distance and Microsoft Bundling Internet Explorer.*', (1998), <http://raven.stern.nyu.edu/networks/>.

<sup>4</sup> Double marginalisation refers to the situation where two players which operate at different levels of the value chain enjoy a certain market power (i.e. the markets are not perfectly competitive). The price they will charge will eventually be relatively high, because both players seek to maximise profits and both choose a mark-up (margin) over their own costs. However, in putting its own price at the level where marginal cost equals marginal revenue, the firms fail to take into account the effect that their pricing has on the firm at another level of the value chain. Thus, the pricing behaviour of vertically separated entities gives rise to a negative externality. In sum, users pay too high a price and both firms are punished for this because sales are less than optimal. If both firms however enter into agreements with each other, they might prevent the double marginalisation problem.

22. In sum, it is often not possible to reverse engineer software programs with a view to obtaining interoperable programs. However, absent dominance, the specific economic characteristics of software markets (network externalities, vertical restraints) mean that market players appear to have an interest in disclosing interface information to third party software producers, and that players will reach the most efficient outcome through contract.
23. **Assumption 1:** software copyright law strikes the right balance between public and private interests in relation to software expression.

### **III. Competition Law: Refusals To Supply and the Essential Facilities Doctrine**

24. In this frame of mind, situations involving dominant software producers should be regulated by means of competition law. For Art.82 to apply, three conditions need to be fulfilled. First, there needs to be a dominant position. That dominant position needs to be abused. Finally, this should impact a substantial part of the common market. The third condition is not a problem in relation to access to bottleneck facilities. the Commission has made clear in relation to access to an airport facility that ‘it is important to stress that a port, an airport or any other facility, even if it is not itself a substantial part of the common market, may be considered as such in so far as reasonable access to the facility is indispensable for the exploitation of a transport route which is substantial.’<sup>5</sup> By analogy, bottleneck facilities in the software value chain – such as essential interfaces – may thus be held to be substantial parts (for the application of Art.82) if these are indispensable for the provision of software goods/services in a substantial part of the common market.
25. Essential facilities can be defined as facilities or infrastructure that are essential for reaching customers and/or enabling competitors to carry on their business, and which cannot be replicated by any reasonable means. Thus, in certain cases a dominant undertaking must not merely refrain from anti-competitive action but must actively promote competition by allowing potential competitors access to the facilities which it has developed.
26. As regards IPR, the general rule is that a refusal to supply cannot *in itself* constitute an abuse. In *Volvo*, the car manufacturer instituted proceedings against the defendant for infringing its registered design on replacement parts for its cars. In that case the court recognised that exclusivity was the essence or substance of the design right. It was not an abuse of a dominant position for a car manufacturer holding the registered design for body panels for its cars to refuse to license others to supply replacement panels necessary for the repair of the cars, even in return for a reasonable fee.<sup>6</sup>

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<sup>5</sup> Commission Decision of 11 June 1992, *B&I Line/Sealink Harbours & Stena Sealink (Sealink I)*, not published. See 22<sup>nd</sup> *Annual Report on Competition Policy* (1992), point 219.

<sup>6</sup> Case 238/87, *Volvo v. Veng* [1988] ECR 6211 at paras.8-9. See equally, Case 53/87, *CICRA v. Renault* [1988] ECR 6039, para.10.

27. However, the particular *exercise* of an exclusive right or IPR by the proprietor may be prohibited by Art.82 in certain cases. In *Volvo*, the ECJ stated that Art.82 may apply, for instance, if the exercise of a car manufacturer involves on the part of the dominant undertaking certain abusive conduct, such as the arbitrary refusal to supply, price fixing at an unfair level, or a decision no longer to produce spare parts for a model which is still in circulation.<sup>7</sup> Thus, additional abusive conduct was required on the part of the IPR holder for there to be an abuse in the sense of Art.82.
28. In *Magill* the ECJ expanded the above. It upheld the judgment of the CFI, and ruled that ‘exceptional circumstances’ were present, which rendered the refusal to supply the copyrighted TV information an abuse of a dominant position. In particular, the appellants’ refusal to supply copyrighted information prevented the appearance of a *new product*, a comprehensive weekly guide to TV programmes, for which there was a potential consumer demand. Moreover, this refusal could not be objectively justified, and was likely to eliminate all competition in the market for TV guides. In sum, evidence of exceptional circumstances was required, in addition to the lack of objective justification and the likelihood that competition would be eliminated on the secondary market – the list of what could qualify as an ‘exceptional circumstances’ appeared to be open-ended.
29. The CFI and ECJ clarified the law in subsequent cases. In particular, the courts appear to make the conditions for granting third party access to competitors’ facilities much more stringent. In *Ladbroke*, applicant sought to obtain the right to retransmit copyrighted pictures and sound commentaries, on the basis that otherwise it could not compete on the betting market. In particular, it argued that the refusal to supply it with the right in question constituted an abuse of a dominant position. The court rejected the claim on the basis that ‘the refusal to supply the applicant could not fall within the prohibition laid down by Art.[82] unless it concerned a product or service which was either essential for the exercise of the activity in question, in that there was no real or potential substitute; or was a new product whose introduction might be prevented, despite specific, constant and regular potential demand on the part of the consumers.’<sup>8</sup>
- In *Oscar Bronner* a large Austrian newspaper group refused to include another newspaper publisher in its national home-delivery service. The conditions laid down by the ECJ were rather stringent; namely that (i) the refusal to deal was likely to eliminate all competition in the downstream market, (ii) could not be objectively justified and (iii) the facility should be indispensable inasmuch as there is no actual or potential substitute in existence. The key elements of the third criterion are thus that access is genuinely indispensable; it is not possible practically to replicate the facility, even for an undertaking of the same size and resources as the holder of the facility.<sup>9</sup>

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<sup>7</sup> See Case 238/87, *Volvo v. Veng* [1988] ECR 6211 at paras.8-9.

<sup>8</sup> Case T-504/93, *Tiercé Ladbroke SA v. Commission* [1997] ECR II-0923, see para.131.

<sup>9</sup> Case C-7/97, *Oscar Bronner* [1998] ECR I-7791, para.44; opinion AG Jacobs, paras.65-66.

Most recently, in *IMS Health*, the Commission compelled IMS Health to grant its competitor NDC Health a licence to its so-called ‘brick structure.’ Both players provide data on regional sales of pharmaceutical products in Germany. IMS’s copyright protected brick structure for presenting those data, consisting of 1860 bricks corresponding to a designated geographic area, had become the de facto industry standard. The Court holds a very different view on essential facilities than the Commission. The ECJ found that, for the purposes of the application of the *Magill* line of case law, refusal to supply an undertaking with access to an essential facility is only anti-competitive provided that the undertaking requesting access does not intend to limit itself essentially to duplicating the goods already offered by the holder of the facility. It needs to show that it has the intention to produce *new* goods or services, for which there is a potential customer demand.<sup>10</sup> This condition from *IMS* appears to be in the same line as *Bronner*. Only in a limited range of ‘exceptional circumstances’ will access to a facility be imposed by means of competition law.

30. Conversely, the *IMS* judgment has a number of interesting consequences for software interoperability. First, the Court held that the degree of participation by users in the development of the brick structure and the outlay, particularly in terms of cost’ when users purchase studies on regional sales presented on the basis of an alternative structure were factors which needed to be taken into account when determining whether access to the standard brick structure was indispensable for the purposes of the essential facilities doctrine.<sup>11</sup> Like a number of software standards, the brick structure standard for sales data on pharmaceuticals was in fact a result of network effects. Typically, the first mover creates the standard by tuning in to the users’ wishes. Once this standard is established, it is very hard if not impossible to displace it. Indeed, users will tend to stick to the standard because more products are available for that standard. At the same time, producers will also produce for that standard because more users can be reached. By analogy, in a competition law analysis relating to access to a set of software interfaces, one might consider users’ essential role in creating the standard, and the high costs that would be incurred when trying to displace such a market-based standard.
31. Second, the Court found in *IMS* that it is determinative that two different stages of production be identified (an upstream and a downstream stage). It ruled that the national court needs to ascertain whether the brick structure constitutes, upstream, an ‘indispensable factor’ in the downstream supply of German regional sales data for pharmaceutical products.<sup>12</sup> From the wording, it appears that it is not necessary to define an actual or potential upstream *market* for the essential facilities doctrine to apply. This is important in a software environment. There was some contention as to whether it made sense to define a market for access, or to consider a set of software interfaces to one given software platform as a

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<sup>10</sup> Case C-418/01, *IMS Health* (29.04.2004), para.49.

<sup>11</sup> Case C-418/01, *IMS Health* (29.04.2004), para.30.

<sup>12</sup> Case C-418/01, *IMS Health* (29.04.2004), paras.44-46.

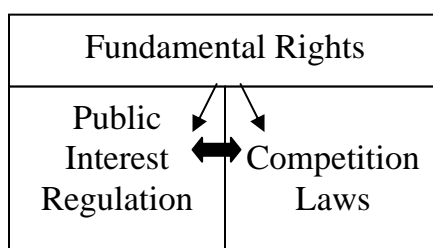


separate market. Some authors concluded that, paradoxically, even in case no trade can be observed, one may still define the market as the one for the supply of that particular facility.<sup>13</sup> After the *IMS* case, there appears to be no need to define an upstream market in interfaces or in a given set of interfaces. It is sufficient for these interfaces to be an indispensable factor in the downstream supply of software programs.

32. Since the *Magill* ruling courts have been very reluctant to impose third party access to essential facilities. However, though in part reinforcing the above trend, the *IMS* case appears to point to less stringent conditions for goods/services of which the access on the market is, like in the case of software, dependent on access to market-based standards.
33. **Assumption 2:** Art.82 provides the adequate remedy for enabling competing software expression in the presence of dominant software providers. In ‘exceptional circumstances’ market players may be forced to grant competitors access to ‘essential facilities’ under their control.

## **VI. Software Interoperability and Art.10 ECHR**

34. Of course, competition laws and public interest regulation do not operate in a vacuum, but are determined by constitutional provisions. What role can/should Art.10 ECHR play in assigning each regulatory realm distinct and pertinent tasks in relation to software interface disclosure?



35. Software regulation raises Art.10 issues in two respects. First, in *Autronic*, the European Court of Human Rights (ECtHR) recognised that ‘Art.10 applies not only to the content of information but also to the means of transmission or reception since any restriction imposed on the means necessarily interferes with the right to receive and impart information.’<sup>14</sup>
36. Second, disseminating software also constitutes an expression of information or ideas in its own right, in the sense of Art.10(1) ECHR. The Court subscribes to a very broad construction of the terms ‘information’ or ‘ideas’ by avoiding any restriction on their ambit. In *Groppera*, for instance, it did “not consider it

<sup>13</sup> See Europe Economics, ‘Market Definition in the Media Sector - Economic Issues. Report for the European Commission, DG Competition.’, November 2002, p.51.

<sup>14</sup> See *Autronic AG v. Switzerland*, Judgment of 22 May 1990 (No.178), 12 EHRR 485, para.47.

- necessary to give on this occasion a precise definition of what is meant by ‘information’ and ‘ideas’.”<sup>15</sup> In fact, Art.10 ECHR is intended to be interpreted broadly. This is logical since any restriction on Art.10(1) would undermine the balancing test to be carried out under Art.10(2).
37. The core right of Art.10 ECHR is the individual’s right to impart ‘information’ or ‘ideas’. However, Art.10(1) also confers the right to receive ‘information’ or ‘ideas’, as was confirmed by the ECtHR in *Leander*. In that case, it held that Art.10(1) ECHR ‘basically prohibits a government from restricting a person from receiving information that others wish or may be willing to impart to him.’<sup>16</sup> Thus, the right to receive ‘information’ or ‘ideas’ primarily depends on the willingness of the (legal) person imparting the information.
38. The right to impart and receive ‘information’ or ‘ideas’ goes together with a set of State duties. First, the State incurs the classic obligation not to interfere with the exercise of the rights embedded in Art.10. Second, the Court has long held that, although the essential object of many provisions of the ECHR is to protect the individual against arbitrary interferences by public authorities, there may in addition be positive obligations inherent in an effective respect of the rights concerned. The State duty to protect is based on the principle that fundamental rights must also be effectively secured against threats emanating from non-State sources. On a number of occasions, the ECtHR has found States in breach of those positive duties in relation to Art.10 ECHR.<sup>17</sup>
39. The first question relating to the right to freedom of expression is therefore as follows: if software constitutes expression under Art.10 ECHR, what does it mean for the purposes of software interoperability to have the right to impart and receive ‘information’ or ‘ideas’ in the form of software? Does the State comply with its positive duties in this regard?
40. Of course, the same problem can be approached from the other side of the equation. If software is a medium for expression (in the form of software and otherwise), does software regulation comply with the right to media pluralism? Concrete support for the proposition that States have a positive, enforceable obligation to avoid media concentrations under the terms of Art.10 ECHR may be gleaned from the view of the European Commission for Human Rights (EHRCom) in *De Geillustreerde Pers NV*. It was held that ‘States have a duty’ under Art.10 to protect against excessive press concentrations.<sup>18</sup> In *Verein Alternatives Lokalradio Bern* it held that ‘a licensing system not respecting the

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<sup>15</sup> *Groppera Radio & Others v. Switzerland*, Judgment of 28 March 1990 (No.173), 12 EHRR 321, at para.55.

<sup>16</sup> *Leander v. Sweden*, Judgment of 26 March 1987, 9 EHRR 433, at para.74.

<sup>17</sup> *Özgür Gündem v. Turkey*, Judgment of 16 March 2000, at paras.43-46; *Fuentes Bobo v. Spain*, Judgment of 29 February 2000.

<sup>18</sup> App. No 5178/71, *De Geillustreerde Pers NV v. Netherlands*, 8D & R5.

requirements of pluralism, tolerance and broadmindedness, without which there is no democratic society' would infringe Art.10(1).<sup>19</sup>

41. The ECtHR, for its part, referred for the first time to the right to media pluralism was in *Lentia*. That case questioned the legitimacy, in the light of Art.10 ECHR, of Austria's public service broadcasting monopoly. It was held that the State was the ultimate guarantor of media pluralism, and the ECtHR observed that this principle was especially important in relation to audiovisual media, whose programmes are often broadcast very widely.<sup>20</sup> In *Tierfabriken*, for instance, the Court applied this principle to broadcast advertising. It recognised that the existence of powerful financial groups in the advertising sector may curtail the freedom of expression of broadcasters. This was because it was likely to undermine the 'fundamental role' of Art.10.<sup>21</sup> Thus, one of the recognised ways to achieve media pluralism consists in preventing too large financial groups from controlling the advertising sector. States have a general duty to prevent undue concentration of economic power in the media sector.
42. Software goods/services, by their very nature, tend towards concentration. Indeed, as explained above, this is because software goods/services are characterised by the existence of pervasive network effects.
43. This brings us to a fundamental problem in regulating digital media. On the one hand, software goods/services inherently tend to concentration. Some economists argue that dominance in software markets is not as big a problem since even entrenched market players would just as quickly be displaced if a superior alternative came along. Thus, they argue, we need not be as wary of large market power as in classic markets – in fact, seeking this short-lived dominance is the main incentive for innovating in those markets.<sup>22</sup> On the other hand, large market shares are *in themselves* likely to be in contradiction with the right to media pluralism. Media pluralism is about precluding the mere potential to overly influence society – no evidence of abuse of that potential or dominant position is needed (as would, in contrast, be necessary in competition law). This is logical since there are no parameters for measuring lack of media pluralism, and abuses are increasingly in the form of subtle influences on opinion-formation rather than obvious and open propaganda. In other words, if it is true that the economic characteristics of software goods/services mean that market players are competing *for* the market, how can this be consistent with the very essence of media pluralism; that is, the democratic ideal of having a minimum number of players compete *in* the market? In other words, if all media companies (or intermediaries) and all users in a digital environment are dependent on, or using, a software

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<sup>19</sup> App. No 10746/84, *Verein Alternatives Lokalradio Bern v. Switzerland*, 49D & R126.

<sup>20</sup> *Lentia v. Austria*, Judgment of 24 November 1993, para.32; *Tele 1 Privatfernsehgesellschaft mbH v. Austria*, Judgment of 21 September 2000.

<sup>21</sup> *Verein gegen Tierfabriken v. Switzerland*, Judgment of 28 June 2001, Application No. 24699/94, para.73; referring to *Lentia*, supra, para.38.

<sup>22</sup> See for instance, D. Evans, R. Schmalensee in *Did Microsoft Harm Consumers? Two Opposing Views* (AEI Brookings Joint Center on Regulation).

- platform produced or controlled by one and the same company (especially software at the user end – OS, browser, applications – which are nearest to the user’s eyeball and eardrum), is this not just as worrisome from the point of view of media pluralism?
44. Of course, the most important part of Art.10 is its second paragraph which qualifies Art.10(1) ECHR, and provides the criteria for determining whether a State measure, or the lack of State measures, which has the effect of constraining the imparting/receiving of information or ideas, complies with the right to freedom of expression. In relation to software, this boils down to two essential questions that will need to be resolved: (i) is the above-described legal framework a measure taken for the ‘protection of the rights of others’ in the sense of Art.10 ECHR; and (ii) is the current regulatory framework ‘necessary in a democratic society’ (i.e. proportionate)?
45. Two further points can be made in relation to the proportionality test. First, the ECtHR appears to be moving toward an ever more strict application of the proportionality test as regards Art.10 ECHR. This is logical given the key role attributed to the right to freedom of expression in democratic societies. In practice, the court will assess whether the ‘least restrictive means’ has been employed by States. An important consideration in this regard is the chilling effects doctrine, which may upset the public/private balance. State measures may have the effect of deterring not only the applicant concerned but also any citizen placed in a similar circumstance from exercising their Art.10 rights.<sup>23</sup>
46. But a chilling effect can also result from the State’s *lack* of measures. In *Plattform ‘Ärzte für das Leben’*. It was held that ‘[t]he participants must, however, be able to hold the demonstration without having to fear that they will be subjected to physical violence by their opponents; such a fear would be liable to deter associations or other groups supporting common ideas or interests from openly expressing their opinions on highly controversial issues affecting the community. In a democracy the right to counter-demonstrate cannot extend to inhibiting the exercise of the right to demonstrate.’<sup>24</sup> Put differently, expression occurs in competition with other expression. If a dominant voice is left with the ability (or potential) to inhibit or silence the expression of dissenting ‘information’ or ‘ideas’, this may have adverse effects on the general interest. The expression of ‘information’ or ‘ideas’ in the form of software is particularly prone to under-representation of competing modes of expression. Software programs have the effect of silencing or inhibiting competing programs. Through the existence of pervasive network effects, software markets are particularly prone to ‘inhibiting’ or ‘silencing’ competing expressions of ‘information’ or ‘ideas’ in software.

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<sup>23</sup> See, inter alia, *Glaserapp v. Germany*, para.111.; *Bladet Tromsø v. Norway*, para.64; *Lingens v. Austria*, para.44 and 47.

<sup>24</sup> *Plattform ‘Ärzte für das Leben’ v. Austria*, Judgment of 21 June 1988, Series A no. 139, p. 12, para.32.

47. Second, the proportionality test will generally be even more rigid in case of political expression. an interesting consequence under the ECHR of holding the imparting of ‘information’ or ‘ideas’ to constitute political (or at least public interest) expression is that the State’s margin of appreciation to restrict that particular expression is much narrower if it still exists at all. The *Bernstein* and *Reimerdes* lines of case law in the US, for example, were heavily political. In the former, it was about the right of citizens to interact in complete privacy, through the wide availability of encryption technology. In the latter, it was a clear political dissent, claiming the right we all have to learn how technology works.
48. Today the form of software itself sometimes implies a political stance. Diametrically opposed to mainstream commercial software providers stands the ‘open source’ movement. This group of software developers, linked through the Internet and working by thousands on a large series of software projects, is disseminating software products which operate on the General Public Licence (GPL) model. GPL denotes the fact that everyone is free to copy, disseminate and change the said software, provided that he/she will not proprietise it. These actions are made possible through the dissemination of the ‘object’ code together with the ‘source’ code of the software. Software, whether open or closed, is more than just bits and bytes. It determines which programs can be run, it empowers some speakers and can exclude others, and helps to determine a specific society’s culture. The power to construct and control channels of communication through law is a most serious *political* question in the digital era. On one side the school of thought that believes information as the basic building block of knowledge should (and wants to) be free. On the other side stands the idea that in a market economy, value added to raw information has been and inevitably will be commodified and sold in the market. In sum, it is suggested that the State’s margin of appreciation in the context of Art.10 ECHR will sometimes be very narrow when regulating software, since the debate can clearly be political in nature.

## **VII. Further Questions for Reflection:**

### **1) Right to Freedom of Expression**

- What is the relation between the right to receive ‘information’ or ‘ideas’, the positive duty of States to protect individuals’ fundamental rights against threats emanating from non-State sources, and the right to media pluralism?
- The above simply assumes that Art.10 ECHR is applied as in the ECHR legal order. What are the implications of the current developments in the EU. The Charter, for instance, has no reference to broadcast licencing. Art.11 thereof now merely provides that ‘[t]he freedom and pluralism of the media shall be respected.’
- What types of rights does the phrase in the protection of the ‘rights of others’ cover? Only constitutionally guaranteed rights? If so, does this include the right to property? And what about intellectual property?

- Both software copyright law and competition law appear to be tainted by mainly efficiency considerations. The implicit guiding principle of both laws appears to be to have the most efficient possible software industry. Can and should software be considered a stand-alone product, or should we place software in context, at the heart of our digital communications infrastructure? Should software not be considered foundational to other sectors of society as well, as opposed to merely one sector of industry among others? Can efficiency considerations (in the sense of the phrase ‘to protect (...) the rights of others’ be allowed to trump the right to freedom of expression?
- Which is the leading proportionality test in relation to Art.10 ECHR? Which proportionality test should be used in relation to software expression?
- Which other ways are there to ensure software interoperability? Standardisation of critical interfaces (cf. MHP standard in digital television), imposing early disclosure of critical interfaces, ...
- Unlike in US First Amendment law, there is no such thing as ‘protected’ and ‘unprotected’ expression. Art.10(1) has a very wide ambit. The balancing test and the particular scrutiny in the light of the right to freedom of expression take place under Art.10 paragraph 2. However, is there a *de facto* distinction between cases involving mere expression, and cases about action/conduct? If so, should the imparting of expression in the form of software be characterised as action/conduct, or expression?
- What is the underlying reason in the EU context for granting software copyright? Some have argued that the key reason relates to efficiency; namely: the State grants certain players IPR over their software in order to foster software creation? If so, should efficiency considerations be allowed to trump the right to freedom of expression?
- The ECtHR referred to the normative underpinning of Art.10 ECHR on a number of occasions. It held that the right to freedom of expression is fundamental for the well-functioning of a democratic society, and equally for individual self-fulfillment. The question arises whether any of those two rationales prevails? Are these rationales really different? Benkler, for instance, has claimed that the autonomy (or self-fulfillment) rationale equally advocates for as much decentralisation as possible, and as many different viewpoints and types of expression. Indeed, human beings are not truly autonomous, if they have only limited number of options within which to make their life choices. Is this convincing?

## 2) Competition law:

- What is the relation between the law relating to ‘refusals to supply competitors’ and the ‘essential facilities doctrine’?
- Do we need two markets for the essential facilities doctrine to apply? In the US, for instance, this does not appear to be necessary (See, for instance, *Aspen Skiing*). In *IMS*, the court appears to reach the same conclusion in para.46 when it uses the phrase ‘indispensable factor’.
- What amounts to an ‘exceptional circumstance’ justifying an imposition of access obligations on the holder of the essential facility? Should the list of such

‘exceptional circumstances’ be open-ended, or should third party market players’ access be confined to situations in which refusal to supply access hinders the creation/marketing of a ‘new’ product?

- What is the significance of the recent Commission Decision in the EU’s *Microsoft Case* in this debate, especially as regards the issues related to workgroup server interoperability?
- Is competition law the right legal tool for ensuring non-discriminatory access to software platforms? The right to non-discrimination has of course two sides. Can competition law fully account for the State’s obligation to treat unlike circumstances in a different manner? Does the State comply with the right to non-discrimination if market players ask the same access fee from a commercial and a non-commercial market player?
- Are competition law authorities equipped to determine which should be the remedy (i.e. pricing) in case of compulsory licencing or forced access to an essential facility? Given the possible absence of trade in the facility to which access is required there may not even be any guidance; and consequently the competition authority might have to fashion a remedy from scratch. This implies that this authority has to enter into complicated computations on the value of access and how it should be priced. One might argue that caution is advisable because internal company processes do not necessarily correspond to what would happen on the marketplace. This is logical since the possibility of internalizing marketplace arrangements is the paramount reason for creating firms in the first place.<sup>25</sup>

### 3) Software-specific Regulation:

- What is the relation between software-specific regulation and generic competition law? The IBM case points to the fact that competition law effects software-specific regulation – the Software Directive is a direct result of the IBM undertaking on software interoperability. Does competition law take software-specific regulation into account? If so, how?
- What is the relation between the Software Directive and the EU Copyright Directive on the issue of interoperability? In a software environment, market players may prevent other parties from reverse engineering their products through the use of anti-circumvention tools similar to the ones used for protecting copyright content (DRM). Anti-circumvention tools have been used, for instance, for preventing interoperability of third party printer cartridges (Lexmark case). The use of anti-circumvention tools is reaffirmed in the EU Copyright Directive. The latter Directive makes it illegal for anyone to tinker with devices or software mechanisms designed to protect IPR-protected goods/services. The EU Directive appears to be diametrically opposed to the Software Directive which allows reverse engineering for the purpose of obtaining interoperable software products.
- What is the significance of the fact that granting a competitor access to interface information means that potential competition may be created at both sides around

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<sup>25</sup> See P. Larouche, *Competition Law and Regulation in European Telecommunications*. (Oxford, Hart Publishing, 2000), pp.203-211. See, of course, the seminal article on this: Ronald H. Coase, ‘The Nature of the Firm.’, 4 *Economica* 386 (1937).

the interface? Unlike classic vertical value chains, software products are more akin LEGO blocks – i.e. modular. Granting an application provider access to the interface thus means that this application provider competes in the applications segment. But, by the same token, that application provider might be able to compete on the OS market as well; that is, access to the APIs might enable him to make his OS interoperable with the incumbent's set of applications. If this is true, is still right to hold that foreclosure only produces inefficient end-results in the presence of market power?