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Observer

Akash Deep Singh

Faculty Advisor

Dr. Nagarathna A

Senior Assistant Professor of Law,
Chief Investigator, Advanced Centre on Cyber Law & Forensics,
National Law School of India University, Bangalore.

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PART I

NET NEUTRALITY

"How to Design an Indian Net Neutrality Law"

Chaitanya Ramachandran[1]

I. Introduction[2]

The past two years have seen net neutrality rise to prominence as a topic of public debate in India. Multiple policy development processes have been instituted within the executive and legislative branches of the government to formulate policies and regulations protecting net neutrality. The debate in India has seen all sides professing support, at least in principle, for the idea of "net neutrality", although they have generally been somewhat less forthcoming with definitions of that idea. While proponents demand robust legal protection for net neutrality, opponents have tended to focus on broadening the scope of exceptions to net neutrality. It is conceivable that, as the various policy development processes continue to unfold, a consensus will emerge amongst policymakers in favour of protecting net neutrality through law (regardless of the extent of that protection).

The Telecom Regulatory Authority of India took a small first step in this direction in February 2016 in the form of regulations prohibiting the charging of "discriminatory tariffs for data services on the basis of content".[3] While the regulations themselves studiously avoided using the term "net neutrality", they were aimed squarely at curtailing Facebook's "Free Basics" product in the aftermath of a national debate over whether this product violated net neutrality.[4] More such processes to develop some kind of legal

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[1] Chaitanya Ramachandran is a technology lawyer specializing in Internet law.

[2] Many thanks to Ayushi Agarwal, a fourth year law student at NLSIU, for providing extensive inputs as well as research assistance for this note.

[3] "Prohibition of Discriminatory Tariffs for Data Services Regulations, 2016", February 8, 2016 (available at http://www.trai.gov.in/WriteReadData/WhatsNew/Documents/Regulation_Data_Service.pdf).

[4] *See* Devjyot Ghoshal, "Why TRAI backed net neutrality—and killed Facebook's Free Basics in India", Quartz India (February 8, 2016, available at http://qz.com/612159/why-trai-backed-net-neutrality-and-killed-facebooks-free-basics-in-india/).

instrument to protect net neutrality are likely to follow. However, such processes have, to date, been conceived as *ad hoc* reactions to specific products or proposals by Internet content providers and telecom service providers. Policymakers administering such processes must be careful not to fall prey either of two temptations: (1) making a law that they intend to apply to a specific service or services, but which, in practice, affects unrelated services in an unforeseen manner (i.e. "throwing the baby out with the bathwater"); or (2) indulging the putative public opinion of the day instead of making a decision based on evidence and policy principles – public opinion can be easily misrepresented, inherently fickle, capable of manipulation, uninformed, or some combination of all of these defects.

In this note, I offer a number of important "decision points" for policymakers tasked with designing a legal instrument to protect net neutrality. My objective is not to prescribe what I see as the "correct" outcomes for these decision points; instead, it is to provide a structured, conceptual framework to underpin a future net neutrality law. A law based on informed decisions on the key points I identify here is likely to do a better job of effectively protecting the interests of all affected stakeholders, and perhaps even survive judicial scrutiny if it is challenged.

II. The Framework of Regulation

The laws[5] that presently govern telecommunications[6] and the Internet in India are obsolete to greatly varying degrees, the example *par excellence* being the Indian Telegraph Act, 1885, which is now 130 years old. Even more recent laws, namely the TRAI Act, 1997 and the IT Act, 2000, are already obsolete given how rapidly technology has progressed since they were enacted.[7] Obsolete laws provide a sub-optimal framework for policymakers to craft solutions to modern legal issues like net neutrality. They were designed to regulate behaviours that are markedly different from those that are

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[5] These include the Indian Telegraph Act, 1885; the Telecommunications Regulatory Authority of India Act, 1997; the Information Technology Act, 2000; and their respective subordinate legislation.

[6] Although the Information Technology Act, 2000 was specifically designed to regulate various aspects of content on the Internet, telecommunications laws are highly relevant to the present discussion because they are a major source of regulation of Internet access providers (ISPs). For example, the central government's act of licensing ISPs derives its authority from s.4 of the Indian Telegraph Act, 1885 (see note 30, *infra*).

[7] This also explains why, in its 2016 regulations (note 3, *supra*), TRAI carefully couched its directions in terms of prohibiting "discriminatory tariffs for data services".

currently being debated.[8] And they are based on technological assumptions that are fast losing relevance. An example is the current trend of network convergence, in which all types of telecommunications and Internet traffic are increasingly being carried over IP-based networks, as opposed to the legacy circuit-switched networks that existing laws were designed to regulate. A much wider variety of data is being carried over telecommunications networks today than was thought possible when these laws were enacted – multimedia messages, high-definition video and audio streaming, web content, and video calls, to name a few. The rapidly evolving architecture and usage of telecommunications networks today could surely have existed only in the active imaginations of science fiction writers in 1885!

Existing laws also present problems other than obsolescence. A major shortcoming of the TRAI Act is that it confers extremely limited powers on TRAI, which was originally intended to be an independent regulator.[9] On many major questions of policy, it limits TRAI's power to making non-binding recommendations to the central government,[10] which has the final say on policy formulation. Next, older laws may also sometimes influence newer laws. For example, provisions of the IT Act, 2000 and its subordinate legislation dealing with the interception of digital communications are worded very similarly to provisions of the Indian Telegraph Rules, 1951 dealing with the interception of telephone communications.[11] For these reasons, policymakers must first consider a fundamental question – is it appropriate to use

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[8] For example, the Indian Telegraph Act, 1885 prescribes penalties for offences such as "intrusion into signal-room, trespass in telegraph office or obstruction" (s.23), "injury to or interference with a telegraph line or post" (s.25A), and "telegraph officer fraudulently sending messages without payment" (s.27).

[9] The preamble to the Telecom Regulatory Authority of India Act, 1997 (the "TRAI Act, 1997) states that it is "an Act to provide for the establishment of the Telecom Regulatory Authority of India…to regulate the telecommunications services…and to protect the interests of service providers and consumers of the telecom sector…"

[10] *See* s.11 of the TRAI Act, 1997, which sets out TRAI's functions. S.11(1)(a) sets out subjects with respect to which TRAI may only make recommendations to the central government, including "need and timing for introduction of new service provider", "terms and conditions of license to a service provider", "measures to facilitate competition and promote efficiency in the operation of telecommunications services", and "technological improvements in the services provided by the service providers", among others.

[11] The IT Act, 2000 grants the central and state governments wide powers to order the interception, monitoring, or decryption of "any information generated, transmitted, received or stored in any computer resource". The procedure and safeguards relating to these powers are specified in the Information Technology (Procedure and Safeguards for Interception, Monitoring and Decryption of Information) Rules, 2009, and are very similar to Rule 419-A of the Indian Telegraph Rules, 1951. These, in turn, were formulated pursuant to guidelines laid down by the Supreme Court in *People's Union for Civil Liberties* v. *Union of India*, (1997) 1 SCC 301. *See* Chaitanya Ramachandran, "PUCL vs Union of India Revisited: Why India's Surveillance Law Must Be Redesigned for the Digital Age", NUJS Law Review (forthcoming 2015).

the existing legal framework[12] to regulate behaviours associated with new issues such as net neutrality? Or might a better approach be to craft a new, modern framework law that contemplates modern technology?

Creating a new communications law is not a novel idea in India. In the early 2000s, the NDA government drafted a communications convergence bill that would have replaced the Indian Telegraph Act, 1885 and the TRAI Act, 1997, *inter alia*, and also overhauled the existing regulatory and adjudicatory apparatus by introducing a "Communications Commission of India" and appellate tribunal.[13] The scope of this bill extended beyond telecommunications and the Internet to include broadcasting. Although the bill was never enacted into law, after a gap of more than a decade, the new NDA government has shown an intention to reintroduce an updated version of the bill.[14] Creating a new law would also present an invaluable opportunity to craft reasonably "future-proof" standards that can be used to make determinations about the permissibility of future, yet-unforeseen forms of behaviour.[15] Therefore, this may be an appropriate time to overhaul India's aging telecommunications law framework.

III. The Objective of Regulation

The next fundamental question that policymakers must consider in formulating a net neutrality law is - *why do we need such a law?* Put another way, what harms will occur in the absence of such a law, and to whom? And more fundamentally, what is the underlying principle of a net neutrality law? These questions go straight to the heart of the ongoing net neutrality debate in India.

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[12] Options for this approach include amending existing laws, creating new subordinate legislation, or altering the terms and conditions of licenses entered into by service providers under the Indian Telegraph Act, 1885.

[13] *See* "The Communications Convergence Bill", Bill no. 89 of 2001, available at http://www.dot.gov.in/sites/default/files/CCBill_of_pages_41.pdf.

[14] "NDA rehashes old convergence bill, plans super regulator for telecom, TV and internet", FirstPost (September 8, 2014, available at http://www.firstpost.com/business/corporate-business/nda-rehashes-old-convergence-bill-plans-super-regulator-for-telecom-tv-and-internet-1988939.html).

[15] An example of a law that attempts to do this is the US FCC's 2015 Open Internet Order, §136 of which sets out the "no unreasonable interference or unreasonable disadvantage standard for Internet conduct", which is intended as a standard to test future forms of conduct on a case-by-case basis, and specifically "designed to protect against harms to the open nature of the Internet". See the FCC 2015 Open Internet Order, note 35, *infra*, at §§136-7.

Broadly speaking, the debate contemplates three classes of actors – end users, ISPs, and Internet content providers. Internet access is often characterized in literature as a "two-sided market",[16] with ISPs dealing with end users on one side, and Internet content providers on the other. These are the three main stakeholders whose fates are considered in the net neutrality debate. The "classic" forms of net neutrality violation involve discrimination by ISPs. ISPs may discriminate between different content providers by blocking, throttling, or charging users extra for traffic from a specific content provider. They may do this primarily to manage network traffic, an example being Comcast's alleged throttling of traffic associated with BitTorrent.[17] Or, they may seek to disrupt perceived competition from Internet companies providing services similar to legacy telecom services like voice or text messaging; a recent example of this would be Airtel's (abortive) 2014 attempt to charge users a premium for using VoIP services like Skype.[18] These forms of discrimination by ISPs harm both content providers and end users. A content provider targeted by such discrimination may suffer crippling business losses, especially if the discriminating ISP serves a significant proportion of its prospective customer base. End users are also affected; the throttling of specific services degrades the quality of Internet access that they are paying for, and price premiums for specific services artificially raise the cost of Internet access to them. And in either case, their choice of Internet services is artificially constrained. So when ISPs discriminate, end users and content providers are the constituencies that need protection, and this is the primary goal of net neutrality proponents.

But the net neutrality debate in India has an interesting added dimension. Due to the predominance of mobile Internet access in India, telecom service providers (or "telcos") also happen to be the largest ISPs. Lobbying by Indian telcos has had a prominent influence on the ongoing net neutrality policy development processes. Rather than focusing on resisting net neutrality regulation, what telcos have been most adamant about is seeking regulatory treatment for themselves that is equivalent to that applicable to content providers. Telcos claim that many online services compete directly with their own – that Skype competes with voice calling, or that WhatsApp

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[16] *See, e.g.* N. Economides et. al., "Network Neutrality on the Internet: a two-sided market analysis", Information Economics and Policy 24 (2012) 91 (available online at http://www.stern.nyu.edu/networks/Economides_Tag_Net_Neutrality.pdf).

[17] Hart vs. Comcast (available online at http://blog.wired.com/27bstroke6/files/hart_v_comcast.pdf).

[18] Pranav Dixit, "Airtel Wants You to Pay Extra for Using Skype, Viber, more", Hindustan Times (December 25, 2014, available online at http://www.hindustantimes.com/technology-topstories/airtel-wants-you-to-pay-extra-for-using-skype-viber-more/article1-1300013.aspx).

competes with SMS. The remedy they seek is a "level playing field"[19] for themselves and Internet content providers. Telcos' industry associations have argued that this means that Internet content providers should be made subject to the same legacy telecom licensing regime that telcos themselves must comply with.[20] The rationale they present for seeking such a "level playing field" is that competition from Internet services has led to lost revenues for telcos, and that bringing content providers (or "over the top" services, to use telcos' preferred term) under the same licensing regime as telcos presents a remedy for this loss. This is why both TRAI[21] and the Department of Telecommunications' expert committee on net neutrality[22] have devoted considerable time and effort to dealing with the question of telcos' alleged revenue loss.

But policymakers need to look beyond this bald assertion and answer a more fundamental, possibly dispositive question – do telcos' claims of revenue loss due to competition from Internet content providers *constitute a net neutrality problem at all*? If not, then a net neutrality law should not be concerned with this issue at all. A better understanding of what "net neutrality" actually means should provide some insight into this question, and this is discussed in the concluding part of this section. But for the present purpose, it is sufficient to consider that a violation of net *neutrality* must involve some kind of discriminatory behaviour – behaviour that affects the equal treatment of traffic on the network. The telcos' claims of revenue loss do not imply any such behaviour. They are not claiming that traffic from Internet content providers is, by itself, degrading traffic associated with their own products.[23] What actually concerns them is what they perceive to be "unfair competition" from content providers, whom they view as "free riders" who, unlike telcos, do not need to invest in the expensive communications infrastructure that carries their services to end users. Had telcos been lobbying for the ability to block, throttle, or otherwise disadvantage traffic

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[19] *See, e.g.* "COAI Response to TRAI Consultation Paper on Regulatory Framework for Over-The-Top Services", p.3 (available at http://trai.gov.in/comments/24-April/Attachments-81/Annexure%201%20-%20COAI%20Response%20-%20TRAI%20CP%20on%20Regulatory%20Framework%20for%20OTT%20Services.pdf).

[20] *See* note 19, *supra*, p.3 and responses to questions 1, 2, 8 and 17.

[21] TRAI, "Consultation Paper on Regulatory Framework for Over-The-Top Services", Chapter 2 and Question 3. (March 27, 2015, available at http://www.trai.gov.in/WriteReaddata/ConsultationPaper/Document/OTT-CP-27032015.pdf).

[22] Department of Telecommunications, "Net Neutrality: DoT Committee Report", Chapter 9 (available online at http://www.dot.gov.in/sites/default/files/u10/Net_Neutrality_Committee_report%20%281%29.pdf).

[23] However telcos have argued that they should retain the ability to determine how much of their fixed bandwidth they allocate to different services. This is a distinct question, that of "reasonable network management", one of the most contested exceptions to net neutrality rules.

between end users and content providers, then the question would squarely have been one of net neutrality, albeit one in which the ISPs are the instigators of harm to another. But in demanding that regulators should impose a licensing framework on content providers (which would involve a license fee based on revenue sharing, which telcos hope would ultimately mitigate the revenue losses they allege), telcos are not raising a question of net neutrality, but of something else altogether – perhaps one of unfair competition or industrial regulation. Therefore, policymakers should be very circumspect about including, in a net neutrality law, provisions that seek to address such complaints from telcos. Indeed, they should be very careful about taking any action at all on such complaints in the absence of convincing evidence of harm.

This conclusion hints at the answer to a more fundamental question – what is the underlying principle of a net neutrality law? This question can be further sub-divided into two questions: what types of behaviours should such a law prevent? And whose interests is a net neutrality law supposed to protect?

The first question is more straightforward – a net neutrality law is supposed to protect the neutrality of the network! This means that it would prohibit forms of behaviour with respect to network traffic that are non-neutral. This could include blocking selected traffic, speeding up or slowing down selected traffic relative to other traffic, or making selected traffic cheaper or more expensive to access (e.g. by selectively applying caps on data transfer). These are the types of behaviour that tend to be prohibited by existing net neutrality laws around the world.[24] However, if net neutrality is a principle, then it must be expressed in a manner that goes deeper than prohibiting highly specific forms of conduct – it must create a *standard* that is capable of being applied to currently unforeseeable forms of network behaviour that may arise in the future. This is where current definitions of net neutrality tend to become either elusive, impractical, short-sighted, or some combination of all of these. Indeed, even the TRAI's 2016 order is merely a rule proscribing a highly specific form of conduct, i.e. the charging of "discriminatory tariffs for data services on the basis of content". But policymakers are beginning to recognize the need to state such a standard in clear terms. A contemporary attempt at doing this is the "standard for future conduct" laid out in the US FCC's 2015 Open Internet Order, which states that broadband providers may not "unreasonably interfere with or unreasonably disadvantage: (i) end users' ability to select, access, and use broadband Internet access service or

[24] For example, see the 2015 FCC Open Internet Order's "bright line rules" against blocking, throttling, and paid prioritization of traffic. Note 35, *infra*.

the lawful Internet content, applications, services, or devices of their choice, or (ii) edge providers' ability to make lawful content, applications, services, or devices available to end users".[25] This is an instantly enlightening passage of the 2015 Open Internet Order, as it makes clear that the two stakeholder groups that the FCC wants to protect against non-neutral network behaviour are "end user" and "edge providers". It wants to protect both Internet users' choice in accessing content, and content providers' ability to make that content available.

This example sheds light on the second question above – whose interests is a net neutrality law supposed to protect? As I mentioned previously in this section, policymakers should recognize that non-neutral network behaviours disadvantage different stakeholders, and in different ways. Consumer choice is adversely affected by non-neutral network behaviours – consumers are restricted from freely using the Internet access that they've paid for. So are businesses that depend on delivering content online; an unfair playing field can cut them off from potential consumers and drive them out of business. This possibility has been repeatedly invoked by Indian net neutrality proponents, and can be called the "how will startups survive?" question. The assumption here is that startups and other small businesses simply do not have the same resources as larger companies, so if businesses are permitted to pay ISPs for preferential treatment, smaller businesses will lose fast and hard. In fact, non-neutral behaviour can negatively affect ISPs themselves – if one ISP is able to strike an exclusive deal to deliver a popular online service to its subscribers for free or very low cost, then users will flock to that ISP, leaving other ISPs at a competitive disadvantage. Last but certainly not least, non-neutral network behaviour affects society at large, even beyond the corpus of Internet users. Imagine if ISPs are permitted, or directed, to screen certain types of content, on the basis of political or moral "objectionableness". This would immediately affect the public discourse in society and chill free speech.

What is clear, however, is that net neutrality cannot and should not be used to protect an incumbent ISP against competition. To the extent that net neutrality protects ISPs, it is only to ensure a level playing field amongst different ISPs, and therefore *encourages* competition.

These examples show that, despite its origins as an (arguably arcane) regulatory principle, net neutrality can actually be a powerful shield to many different stakeholders. It can protect Internet users' freedom of consumer choice. It can protect businesses - both content providers and ISPs – from

[25] §21, *id.* (at https://www.fcc.gov/article/fcc-15-24a).

unfair competition between and amongst themselves. And it can protect society's freedom of expression. Not all of these values will be equally cherished in every society. Therefore, policymakers must weigh these values from the perspective of their own society. What values does that society hold dear and want to defend?

IV. The Instrument of Regulation

Policymakers tasked with preserving net neutrality in law may choose from a variety of legal and regulatory instruments to achieve the purpose. Surprisingly little attention appears to have been paid to the question of what legal instrument is best suited to the purpose of protecting net neutrality in India. This is, in fact, a fundamental question to which policymakers must pay due attention if a net neutrality law is to withstand judicial scrutiny.

The option that would require the most effort is a new act of Parliament. The act may itself define protected principles of net neutrality, or alternatively include a framework provision with the details to be spelt out in subordinate legislation. If the communications convergence bill mentioned in section I is to be tabled before Parliament in the near future, adding provisions relating to net neutrality to the bill would be an expeditious way for policymakers to achieve this time-consuming and politically unpredictable goal.

Less burdensome options include subordinate legislation in the form of rules or regulations under existing laws, and an amendment to the existing terms and conditions of various telecom licenses. The significance of these options lies in the relative ease with which they may be exercised by the central government. Where the central government is competent to formulate delegated legislation, it is significantly easier for it to amend such legislation in response to changing circumstances than for Parliament to amend or repeal an act. While this flexibility makes the use of subordinate legislation a naturally attractive method to create a net neutrality law, it is subject to a notable constraint; the doctrine of excessive delegation. The position laid down by the Supreme Court is that a legislature cannot delegate its "essential legislative power", which may be understood as "the determination or choosing of the legislative policy and of formally enacting that policy into a binding rule of conduct".[26] In other words, the executive branch of the central government cannot usurp Parliament's policy-making role; in formulating subordinate legislation, it cannot itself craft a new policy. This

[26] *Delhi Laws Act, 1912, In re*, AIR 1951 SC 332 : 1951 SCR 747.

leads us to two pertinent facts. *First*, the question of whether net neutrality should be protected by law is certainly a question of policy. *Second*, no existing Indian law says anything about net neutrality. To the first fact, as the national debate on net neutrality has demonstrated, it is not simply a question of technical standards; it has at its heart fundamental questions about citizens' rights, and competition (real or perceived) between *ISPs* and content providers and *amongst* content providers. It is undoubtedly a question of policy. To the second fact above, as there is no existing law dealing with net neutrality in India, there is no "parent provision" that can support subordinate legislation on the issue. And finally, net neutrality has proven to be an emotive mass issue, and therefore a solution that is crafted by an obscure government department in the form of subordinate legislation is likely to enjoy less popular legitimacy than an act of Parliament that has been deliberated on and enacted by elected lawmakers.

One explicit reference to the appropriate instrument of net neutrality regulation is found in the report of the Department of Telecommunications' expert committee on net neutrality, which observed that "since amendment to licensing terms and conditions follow[s] a simple process, it is possible to build an enabling clause in the licence conditions through which the Government can acquire the ability to specify enforceable guidelines for prescribing the principles and rules of Net Neutrality. This can be an immediate solution to a vexed problem without recourse to the enactment of a new law in the short term…The Committee, therefore, recommends the incorporation of a clause in the license conditions of TSPs/ISPs that will require the licensee to adhere to the principles and conditions of Net Neutrality specified by guidelines issued by the licensor from time to time. The guidelines can describe the principles and conditions of Net Neutrality in detail and provide applicable criteria to test any violation of the principles of Net Neutrality."[27] The report suggests such guidelines, and also points to the aforementioned license terms and conditions as containing "the only relevant reference" to net neutrality.[28]

The "license conditions" referred to in the report are the terms and conditions of the licenses issued by the central government (acting through the

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[27] *See* DoT Committee Report, note 22, *supra* at §§13.5-13.6.

[28] "In relation to Net Neutrality, the only relevant reference is available in the scope of Internet Service license and the Internet Services authorization under Unified License which stipulates that the subscriber of Internet services shall have unrestricted access to all content available on Internet except for such content which is restricted by the Licensor or designated authority under law. This provision does not enable a mechanism for prescribing the principles and rules of Net Neutrality and define the enforcement methods." *Id.* at §13.5.

Department of Telecommunications), which are currently subject to the "Unified License" regime instituted in 2013.[29] These licenses are granted under section 4 of the Indian Telegraph Act, 1885,[30] and the exercise of licensing powers must therefore be guided by the content of that provision. The provision – which is more than a century old – confers upon the central government the power to "grant a license…to any person to establish, maintain or work a *telegraph*", a word that applies to the provision of Internet services only by virtue of a liberal interpretation of a definition drafted with incredible foresight.[31] Even noting that the report proposes this measure as a stop-gap solution at best, there are two issues with it. *First*, the definition of the word "telegraph" clearly limits its meaning to the *infrastructure* over which Internet traffic is carried, as is evident from the words "any appliance, instrument, material or apparatus…" Net neutrality regulation involves specifying standards for the carriage of *content* over ISPs' networks, and is therefore unlikely to find support in section 4. *Second*, even assuming this objection is somehow overcome, net neutrality regulation is unquestionably a matter of policy, and the delegation of essential policy-making powers to the Department of Telecommunications (or any other central government body) is unlikely to withstand constitutional scrutiny under the doctrine of excessive delegation.

It is also worth briefly examining the nature of TRAI's 2016 regulations,[32] which constitute India's first attempt at net neutrality regulation. The regulations are in the nature of tariff-setting under section 36 of the TRAI Act, 1997, in exercise of TRAI's powers to "ensure compliance of terms and conditions of license"[33] and "notify…rates at which…telecommunication services within India and outside India shall be provided under this Act."[34] It is immediately clear how constrained TRAI is by its parent statute, which contains no reference to the term "Internet"; instead of regulating behavior based on the essential nature of net neutrality (as discussed in section II), it was restricted to regulating a highly specific behavior in a manner

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[29] *See* http://www.dot.gov.in/licensing/unified-license.

[30] "**4. Exclusive privilege in respect of telegraphs, and power to grant licenses. —** (1) Within India, the Central Government shall have exclusive privilege of establishing, maintaining and working telegraphs: *Provided that* the Central Government may grant a license, on such conditions and in consideration of such payments as it thinks fit, to any person to establish, maintain or work a telegraph within any part of India…"

[31] *Id.* "Telegraph" is defined in s.3(1AA) to mean "any appliance, instrument, material or apparatus used or capable of use for transmission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, visual or other electro-magnetic emissions, radio waves or Hertzian waves, galvanic, electric or magnetic means."

[32] Note 3, *supra*.

[33] Section 11(1)(b)(i), TRAI Act, 1997.

[34] Section 11(2), TRAI Act, 1997.

that could plausibly be said to comport with one of the powers conferred to it by its parent statute. In TRAI's case, this is a structural constraint that renders the regulator incapable of doing much more than prohibiting a small subset of non-neutral behaviours as and when they arise – that is, it can only reactively treat certain symptoms, not the underlying cause of the problem. It is apparent that it may not always be appropriate to shoehorn attempts at net neutrality regulation into the limited regulatory toolkit of an existing regulator.

In sum, in choosing an appropriate legal instrument to regulate net neutrality, policymakers should be guided by two factors. The first is constitutionality; given that the question of whether to protect net neutrality is, at its heart, a question of policy, policymakers must carefully consider both the constitutional propriety of using subordinate legislation or license terms and conditions to protect net neutrality, and also carefully weigh the likelihood that the use of such means will withstand future judicial scrutiny. The second is popular legitimacy. Net neutrality has become a prominent political issue in India, for which reason the legitimacy of the means used to protect net neutrality is likely to be subject to intense public scrutiny.

V. The Site of Regulation

Net neutrality laws are conventionally thought of as being enforceable against ISPs, especially "eyeball" ISPs serving end users.[35] This is explained both by the obvious control that ISPs enjoy over Internet traffic flowing to end users, and by a number of recent instances in which ISPs have interfered with Internet traffic.[36] By contrast, the net neutrality debate in India was ignited by conduct perpetrated by an Internet *content provider* – Internet.org (subsequently rebranded "Free Basics"),[37] a Facebook-led initiative to provide access to a limited basket of services for free to end users in India, in partnership with mobile operators (of which Reliance Communications is

[35] For example, the FCC's 2015 Open Internet Order contains rules that are applicable to any "person engaged in the provision of broadband Internet access service" (US Federal Communications Commission, "Report and Order on Remand, Declaratory Ruling and Order in the matter of Protecting and Promoting the Open Internet", March 12, 2015, available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-24A1.pdf); while the net neutrality provisions in Brazil's Marco Civil are targeted at the "party responsible for the transmission, switching or routing" of Internet traffic (Brazilian Law No. 12-925, April 3, 2014, Art. 9. English translation available at https://www.apc.org/en/blog/marco-civil-brazilian-internet-bill-rights-english).

[36] Aaron Sankin, "The Worst Net Neutrality Violations in History", The Daily Dot (May 21, 2014, available at http://www.dailydot.com/politics/net-neutrality-violations-history/).

[37] The name of this initiative was subsequently changed to "Free Basics".

the first).[38] Net neutrality proponents in India called for the banning or regulation of Free Basics and similar zero-rated services,[39] and the Department of Telecommunications' expert committee recommended that "collaborations between TSPs and content providers that enable such gatekeeping role to be played by any entity should be actively discouraged" (sic).[40] This indicates that sections of the general public as well as the central government believe that content providers should be regulated or even banned in order to protect net neutrality. This is a significant point of departure from net neutrality debates in other countries, because it calls for regulation of the behaviour of a content provider (as opposed to an ISP, the conventional target of net neutrality regulation), and, by implication, interference with contractual arrangements between content providers and ISPs. An excellent illustration of this is TRAI's 2016 regulations, which TRAI has drafted to regulate the behavior of "service providers"[41], prohibiting them from both (i) offering or charging "discriminatory tariffs for data services on the basis of content" and (ii) entering "into any arrangement, agreement or contract…that has the effect of discriminatory tariffs for data services being offered or charged to the consumer on the basis of content".[42] The latter clause directly regulates the contractual arrangements that ISPs may enter into with content providers, and therefore indirectly regulates the behavior of content providers.

However, policymakers must make a deliberate, considered decision about whether a net neutrality law should extend to the behavior of content providers as well. It is initially tempting to answer this question in the affirmative; for example, in the case of Free Basics, Facebook determined which apps were admitted to the platform, and could therefore be accessed by users free of charge.[43] In other words, with respect to users whose access to the Internet was limited to Free Basics, Facebook got to exclude any services that did not meet the criteria for Free Basics.[44] This is the behaviour that has been characterized as "gatekeeping" by the Department of Telecommunications committee.[45] If this behaviour can be interpreted as being equivalent to "blocking" traffic from websites not associated with Free

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38 "Internet.org by Facebook", available at https://internet.org/about.

39 "Why does #SaveTheInternet Hate Free?" (April 21, 2015, available at http://blog.savetheinternet.in/why-does-savetheinternet-hate-free/.)

40 *See* DoT Committee Report, note 22, *supra* at §12.8.

41 A term that has been defined to include telecom licensees, including the government in its capacity as a service provider. This is broad enough to cover all telecom licensees, including ISPs. *See* 2016 TRAI regulations, note 3, *supra*, regulation 2(l).

42 Regulations 3(1) and (2), 2016 TRAI regulations, note 3, *supra*.

43 Along with the change of name to "Free Basics", the business model has undergone substantial change as well. *See* https://developers.facebook.com/docs/internet-org.

44 *See* https://developers.facebook.com/docs/internet-org/platform-technical-guidelines.

45 *See* DoT Committee Report, note 22, *supra* at §12.8.

Basics, then it is tempting to think that it is non-neutral and should be remedied by a net neutrality law. However, this line of thinking is fallacious. Even assuming that all zero rating violates principles of net neutrality, it must nevertheless be distinguished from other examples of net neutrality violations, because net neutrality violations exist along a continuum of behaviours and are not all alike.

One thing that clearly distinguishes zero rating platforms from other forms of non-neutral behaviour by ISPs, such as blocking or throttling websites, is that such platforms do not in any way limit users' ability to access websites that are not zero-rated. They may, at any time, "graduate" to the "full Internet" by buying a data plan, or use non zero-rated services subject to the standard data rates offered by their ISP.[46] In other words, zero rating may be seen as a form of positive price discrimination, in which the cost of Internet access (albeit to a subset of the "full Internet") to end users is effectively subsidized by the content provider. Another crucial difference is that zero rating platforms like Free Basics are provided for free to end users. In contract law, an agreement is a contract, and therefore legally enforceable, only when it has lawful consideration.[47] Under consumer law, the definition of a "service" excludes services rendered free of charge,[48] implying that a consumer complaint cannot be made against free services. These examples point to the existence of a general legal principle that free services and paid services can be treated differently. Therefore, a fundamental question that policymakers must answer in order to address existing concerns about zero rating is whether or not zero rating services that do not prohibit usage of the "full Internet" and are provided for free should constitute a valid exception to a net neutrality law. To answer this question, policymakers will also need to consider whether positive price discrimination has an effect on end users that is equivalent to negative price discrimination or other forms of "clearly" non-neutral conduct such as blocking or throttling or traffic. The answer to this question is currently unclear, for which reason a hasty decision either way on zero rating would be ill-advised without rigorous inquiry into the questions presented above.

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[46] David Post, "Facebook, Internet.org and the Net Neutrality Bugaboo", The Washington Post (August 17, 2015, available at https://www.washingtonpost.com/news/volokh-conspiracy/wp/2015/08/17/facebook-internet-org-and-the-net-neutrality-bugaboo/).

[47] S.10, Indian Contract Act, 1872.

[48] S.2(1)(o), Consumer Protection Act, 1986: "'service' means service of any description which is made available to potential users and includes, but not limited to, the provision of facilities in connection with banking, financing insurance, transport, processing, supply of electrical or other energy, board or lodging or both, housing construction, entertainment, amusement or the purveying of news or other information, but does not include the rendering of any service free of charge or under a contract of personal service…".

At the present time, from the above analysis it appears that the case for a *net neutrality law* that regulates just ISPs is stronger than the case for a law that regulates both ISPs and content providers. However, this does not preclude regulation itself. For example, Facebook has been accused of abusing its dominant position in a manner that may have an adverse effect on competition; critics of Free Basics argue the service has anti-competitive effects, as it would be very hard for competitors to launch competing services in a country where potential customers will have to pay to access such services while Facebook is exempt.[49] However, this is squarely a question of competition law, which the Competition Commission of India is adequately equipped to deal with, and should not be conflated with net neutrality, especially if net neutrality is understood as a principle of consumer protection rather than a principle of competition law. Similarly, concerns regarding privacy and data protection are also regulated through highly specialized legal regimes, and do not belong to the realm of net neutrality.[50] So, for the purpose of regulating the ability of content providers to act as "gatekeepers", a net neutrality law may not be the ideal venue. While it is doubtless important to continue to study and analyze the harm or benefit of zero-rated services to consumers, to the extent that adequate remedies exist to address harms to competition or consumers, or where existing remedies can be strengthened to include previously unforeseen forms of behaviour that may constitute, in principle, violations of the existing laws that provide for such remedies, such harms do not necessarily need to be contemplated in a net neutrality law.

VI. The Mechanism of Regulation

The mechanism of telecom and Internet regulation in India displays considerable ambiguity and overlap between the powers of different government bodies to enforce regulations and adjudicate disputes. The Telecom Regulatory Authority of India (TRAI) is the nominally independent regulator.[51] The Department of Telecommunications (within the Ministry of Communications and Information Technology) performs the state's licensing

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[49] Susan Crawford, "Zero for Conduct", *Backchannel* (available at https://medium.com/backchannel/less-than-zero-199bcb05a868).

[50] *See, e.g.* Shruti Dhapola, "Net Neutrality Debate: Facebook's Internet.org has Privacy, Security Issues", The Indian Express (May 7, 2015, available at http://indianexpress.com/article/technology/social/net-neutrality-debate-facebooks-internet-org-faces-privacy-security-concerns/).

[51] *See* preamble to the TRAI Act, 1997: "An Act to provide for the establishment of the Telecom Regulatory Authority of India and the Telecom Disputes Settlement and Appellate Tribunal to regulate the telecommunications services, adjudicate disputes, dispose of appeals, and to protect the interests of service providers and consumers of the telecom

function, and also formulates policy. The Telecom Disputes Settlement and Appellate Tribunal (TDSAT) is a specialized dispute resolution forum. However, the division of functions between these bodies is neither precisely articulated in law, nor always consistent or predictable in practice. For example, the first major net neutrality policy-making exercise of 2015 in India was a consultation paper in which TRAI sought the public's input on 20 questions about both net neutrality and the potential regulation of online services.[52] Notably, TRAI has not been explicitly granted the power to make rules relating to the Internet by its parent statute, and the justification for TRAI's competence to issue such a paper is found in residual language that allows it to make recommendations on "any other matter relatable to telecommunications industry in general" (sic).[53] This is why TRAI's 2016 order used, as its legal basis,[54] the power to "ensure compliance of terms and conditions of licence" (sic) in the TRAI Act.[55] The Department of Telecommunications claims full authority over telecom policy-making, but even it is subject to the paramountcy of the Union Cabinet.[56] So TRAI's process was thrown into disarray when, following the public consultation but before TRAI released its recommendations, the Department of Telecommunications released its own report on Net Neutrality.[57] The Union Minister for Communications and IT sought to reconcile these two developments by retroactively positioning the Department of Telecommunications' report as an input to TRAI in response to its consultation paper.[58] And as I have previously argued, the scene was further muddied when a Parliamentary Standing Committee on IT commenced its own hearings into net neutrality.[59] Returning to the subject of TRAI, it further muddied the waters when, following its 2016 order and without having released its recommendations on the 2015 consultation that included many questions relating to net neutrality (which remain unreleased at the time of writing), it further issued a "Consultation Paper on

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sector, to promote and ensure orderly growth of the telecom sector, and for matters connected therewith or incidental thereto."

52 Note 21, *supra*.

53 Section 11(1)(a)(vii), TRAI Act, 1997.

54 *See* the preamble to the 2016 TRAI regulations, note 9, *supra*.

55 Section 11(1)(b)(i), TRAI Act, 1997.

56 PTI, "Net Neutrality Report: Government yet to take final view on Internet calls, says Telecom Min" (July 19, 2015, available at http://indianexpress.com/article/technology/tech-news-technology/net-neutrality-report-govt-yet-to-take-final-view-on-internet-calls-says-telecom-min/): "Prasad said that the report is now in public domain for comments and it will be sent to TRAI also. 'After the TRAI report, we will take a structured view. Thereafter Cabinet will take a final decision,' Prasad said."

57 *See* the Department of Telecommunications Report, note 22, *supra*.

58 *See* note 56.

59 Chaitanya Ramachandran, "Competing Processes Obfuscate Internet Policy-Making in India", CircleID (June 4, 2015, available at http://www.circleid.com/posts/20150604_competing_processes_obfuscate_internet_policy_making_in_india/).

Free Data"[60] and a "Pre-Consultation Paper on Net Neutrality".[61] So, the policymaking process for net neutrality serves as an outstanding example of the dysfunction and ad hocism that characterizes communications law and policymaking in India. The roles of different government bodies are not clearly demarcated, and this leads to a confused, chaotic, unpredictable and imprecise policymaking process.

Therefore, the emergence of net neutrality as a topic of public debate in India also presents an opportunity to revisit our archaic and dysfunctional regulatory regime for communications, as I have argued above.[62] But in addition to the opportunity to replace our aging communications laws, we are also presented with a golden opportunity to revisit the manner in which those laws are applied. At the moment, communications laws are enforced to varying degrees by TRAI (the independent regulator), the Department of Telecommunications (which forms part of the executive branch of the central government), and TDSAT (which is a specialized tribunal). The net neutrality debate has exposed a unique shortcoming of this haphazard regulatory mechanism – Indian administrative bodies like these three entities may be capable of enforcing narrowly-defined rules or regulations, but are not equipped – either in terms of expertise or legitimacy – of enforcing *standards*. That is to say, they are ill-equipped to adjudicate, on a case-by-case basis, whether a broad standard backed by a deliberate policy has been met by a given behaviour. It is increasingly becoming apparent that such standards are relevant because they are capable of simultaneously expressing the underlying spirit of a net neutrality policy *and* serving as clear and relatively future-proof litmus tests for determining whether a given behaviour is acceptable or not. A piece of delegated legislation (like rules or regulations) may serve as a simulacrum of the latter function, but cannot be future-proof because it is merely an instrument – and not a statement – of policy. The "standard for future conduct" in the FCC's 2015 Open Internet Order is a notable first attempt at laying down such a standard, and could pave the way for similar attempts by policymakers in other countries, including India.

This gives rise to the question of whether an alternative mechanism may be more suitable to implement net neutrality standards in a manner that is flexible and responsive to changing technologies and behaviours. In

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[60] TRAI, "Consultation Paper on Free Data" (May 19, 2016, available at http://www.trai.gov.in/WriteReadData/ConsultationPaper/Document/CP_07_free_data_consultation.pdf).

[61] TRAI, "Pre-Consultation Paper on Net Neutrality" (May 30, 2016, available at http://www.trai.gov.in/WriteReaddata/ConsultationPaper/Document/Net_Neutality_Preconsultation_30_may_2016.pdf).

[62] Section I, *supra*.

pondering this question, policymakers should consider the role that courts – as opposed to the executive branch or even specialized tribunals – are capable of playing in testing behaviours against standards in a flexible manner that is capable of evolving with time. It is the courts that have historically been tasked with dispensing the essential, time-honoured judicial function of interpreting and applying the law to a specific set of facts. In performing this function, courts enjoy the twin advantages of centuries of experience in this activity, and public confidence in their ability to dispense justice. It is true that courts in India are beset with many institutional problems, including a massive backlog of cases. However, the costs of using the judicial system may not necessarily outweigh the benefits. This is not to say that a purely regulatory mechanism is incapable of enforcing standards; after all, that is precisely what the FCC does in enforcing instruments like the Open Internet Order. However, it is important to remember that the FCC has much more experience than TRAI in carrying out this function,[63] and over the course of this experience has routinely dealt with cases where emerging technology has challenged established law.

VII. Conclusion

The net neutrality debate in India is a welcome development primarily because public engagement with the arcana of communications law and policy at this scale is simultaneously unprecedented and badly needed. But the infusion of popular sentiment and politics into policy making processes for a highly technical subject like net neutrality presents a significant risk to the objectivity of those processes. I am, however, optimistic that a policy arrived at upon full consideration of the key decision points outlined here can overcome this risk and result in the creation of a law that protects affected stakeholders in a sustainable and just manner.

[63] TRAI was established in 1997, whereas the FCC was established in 1934 – a difference of 63 years.

Zero-Rating, Net Neutrality and the Progressive Realisation of Human Rights

Balaji Subramaniam†

I. Introduction

The net neutrality debate today, specifically with respect to zero-rating, is invariably characterised as a clash between the noble aspiration to universalise access on one hand,[1] and a handful of "core values of the internet" on the other.[2] Such framing makes for a lively dialogue – neutrality proponents can extol the virtues of an "open internet",[3] and can argue that access universalisation is impossible, and therefore any failed attempt toward that goal is not worth the risk of permanently altering the nature of the network.[4] The most imaginative strand of reasoning in the entire discussion is the claim that some of the so-called "core design values" (such as the end-to-end nature of the network) have long ceased to be a part of the internet's architecture, and therefore cannot be placed on a pedestal for perpetual preservation.[5]

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† B.A. LL.B. (Hons.) Candidate 2018, NALSAR University of Law, Hyderabad.

1 Roslyn Layton, *IGF highlights how developing countries use zero rating programs to drive Internet adoption*, Tech Policy Daily, http://www.techpolicydaily.com/communications/igf-zero-rating-programs/ (last updated Sept. 6, 2014).

2 *See, e.g.,* the discussion surrounding Facebook's dubiously christened "Free Basics" platform. Suhrith Parthasarathy, *Access at the cost of Net neutrality?* The Hindu, Oct. 8, 2015.

3 Tim Wu, *Closing Time for the Open Internet*, The New Yorker, Jan. 15, 2014.

4 Vipul Karan Singh, *Permit zero-rating schemes for a limited period*, The Financial Express, Jul. 9, 2015.

5 Lessig and McChesney, for example, have argued that an architecture in which decisions are made solely at the nodes while the network itself is made up of "dumb pipes". *See* Lawrence Lessig and Robert McChesney, *No Tolls on the Internet*, Washington Post, Jun. 8, 2006. One response to this is that networks became smart long before the net neutrality debate heated up. *See* Joe Weinman, *Why the "stupid network" isn't our destiny after all*, Gigaom, https://gigaom.com/2012/12/15/why-the-stupid-network-isnt-our-destiny-after-all/ (last updated Dec. 15, 2012).

In its essence, current scholarship on zero-rating is oriented towards presenting the subject as a clash between competing but more or less co-equal interests.[6] Proponents of net neutrality argue that zero-rating would stifle innovation[7] and distort consumer choice to create internet oligopolies[8] – in a nutshell, that the practice is "anti-competitive, patronizing, and counter-productive".[9] Advocates of zero-rating need only point to the virtues of universal internet access – bridging the digital divide,[10] as it were. It is possible, however, to re-articulate these values in terms that could transcend such a clash of interests. The choice between complete adherence to the principles of net neutrality on the one hand, and zero-rating some contention the other, can be made easier by reframing the debate between norms that are hierarchically related. This is the utility offered by a human rights perspective to the discourse around zero-rating – it makes it possible to obviate the current debate by characterising it as a clash between unequal norms in which one has to clearly trump the other.

Over this article, I argue that it is possible to carry out such a reformulation, and that this reformulation results in the subordination of some values to greater human rights claims. In Part I, I attempt to establish that internet access is fundamentally linked to the effective delivery of several human rights. In Part II, a model that optimises the realisation of the human rights claims previously enumerated is outlined. In Part III, the circumstances under which the human rights approach would be incompatible with the zero-rating debate is examined, which is then used to further refine the model.

Before we begin, I must set out a caveat.[11] It must be emphasised that the primary thrust of this article is not that there exists a *legal* justification for zero-rating. Human rights standards derive their importance not just from

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6 The Centre for Internet and Society, Bangalore, provides us with an excellent example. *See* Geetha Hariharan, *The Hazards of a Non-neutral Internet*, THE CENTRE FOR INTERNET AND SOCIETY, http://cis-india.org/internet-governance/blog/the-week-april-18-2015-geetha-hariharan-hazards-of-non-neutral-internet (last updated Apr. 18, 2015).

7 Marcus Wohlsen, *Free mobile data plans are going to crush the start-up economy*, WIRED, http://www.wired.com/2014/08/free-mobile-data-plans-are-going-to-crush-the-startup-economy/ (last updated Jan. 8, 2014).

8 Jason Koebler, *So this is how net neutrality dies*, MOTHERBOARD, http://motherboard.vice.com/read/so-this-is-how-net-neutrality-dies (last updated Nov. 19, 2015).

9 Susan Crawford, *Zero for Conduct*, MEDIUM, https://medium.com/backchannel/less-than-zero-199bcb05a868#.es734hctb (last updated Jan. 7, 2015).

10 The term "digital divide" has been the subject of consistent criticism for its lack of emphasis on the socio-economic nature of the problem. *See* Govindan Parayil, *The Digital Divide and Increasing Returns: Contradictions of Informational Capitalism*, 21(1) INFORMATION SOCIETY 41, 48 (2005).

11 Whether this is a carefully nuanced position or a cowardly cop-out is, of course, for the reader to decide.

the fact that they are paramount legal obligations (Kelsenian *grundnorms*, if you will) but also from the fact that they are paramount policy obligations – no governmental policy can be said to be legitimate unless it operates in optimal consonance with them. The upshot of this distinction is that although governments may not be *legally required* to permit or encourage zero-rating (for reasons such as the non-state nature of most ISPs, for example), it would still be appropriate from a policy perspective for them to do so.

Re-framing the net neutrality debate in the language of human rights is vitally important, especially if one buys into the Dworkinian view of rights as "trumps".[12] Dworkin (and his intellectual predecessors, such as J.S. Mill)[13] advocated the view that rights-based justifications occupied a superior position relative to non-rights objectives such as market efficiency and ordinary public policy considerations.

In addition, more recent scholarship has argued that while rights are themselves hierarchically higher than non-rights considerations, there also exists a hierarchy *inter se* among them, much like an ace wins out over a knave despite the fact that both are trumps.[14] Given that international standards represent the most basic and universally accepted versions of human rights, it follows that even among trumps, policy decisions that can be linked to the realisation of human rights guaranteed by binding international treaties such as the ICCPR and the ICESCR must claim priority.

II. Is There a Right to Internet Access?

In order for us to justify zero-rating as a difficult way to achieve important human rights goals, we must first establish that these goals exist in the first place. Many before me have asked whether there exists a right to access the internet, and many have answered this question in several ways. Vint Cerf famously wrote an opinion piece titled "Internet access is not a human right",[15] while fellow internet pioneer Tim Berners-Lee appears to be in clear disagreement.[16]

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[12] Ronald Dworkin, *Rights as Trumps* in Jeremy Waldron, Theories of Rights (1984).

[13] In Mill's words, "If all mankind minus one were of one opinion, mankind would be no more justified in silencing that one person than he, if he had the power, would be in silencing mankind." *See* J.S. Mill, On Liberty and Other Essays 20 (S. Collini ed., 1989).

[14] Alan Gewirth, *Are there any absolute rights?* in Jeremy Waldron, Theories of Rights (1984).

[15] Vinton Cerf, *Internet access is not a human right*, The New York Times, Jan. 4, 2012.

[16] In expressing such disagreement, however, Berners-Lee does two things that are remarkably relevant to our discussion – he emphasizes the need to break down economic barriers to access on the one hand, while simultaneously expressing a commitment to net neutrality

A. Locating a Right of Access: Three Approaches

In this section, I argue that it is possible to argue that there exists a human right to access the internet, and that such a right can find its roots in three distinct strands of reasoning.

B. Internet Access as a Civil and Political Right

It is possible to argue that internet access is inseparable from the right to form informed opinions (as under Art. 19(1) of the International Covenant on Civil and Political Rights) and the freedom of expression (as under Art. 19(2) of the ICCPR and Art. 19 of the Universal Declaration of Human Rights), as also the right to associate with other human beings (as under Art. 22 of the ICCPR and Art. 20(1) of the UDHR).[17] The internet serves to democratise speech in more than one way. The internet protects speech in an unprecedented way – by cloaking the speaker in anonymity, it allows the free expression of views that would normally incur the wrath of regimes, both governmental and societal. The anonymity afforded by the network is vital to the protection of subaltern speech – arguably speech that is in greatest need of protection.[18] The link between online expression and offline democratisation is self-evident, and has been recognised by the UN's Special Rapporteur on the Freedom of Expression and Opinion.[19]

The second important feature of the internet is the virtual eradication of entry barriers to publication. By allowing everyone with access to the network to create and disseminate content at virtually no cost, the internet revolutionises the freedom to *broadcast* opinions and expression. Anonymity and ease of publishing are important because while these features possess substantial value for mainstream speech, their true attraction lies in the

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on the other. "*It's time to recognize the internet as a basic human right. That means guaranteeing affordable access for all, ensuring internet packets are delivered without commercial or political discrimination, and protecting the privacy and freedom of web users regardless of where they live.*", quoted in *World Wide Web inventor says Internet should be 'human right'*, MASHABLE, http://mashable.com/2014/12/11/tim-berners-lee-net-neutrality/#rUM8nl.nh5qa (last updated Dec. 11, 2014).

[17] Scott Edwards, *Is Internet Access a Human Right?*, AMNESTY INTERNATIONAL BLOG, http://blog.amnestyusa.org/business/is-internet-access-a-human-right/ (last updated Jan. 10, 2012).

[18] Bruce Bimber, *The Internet and Political Transformation: Populism, Community and Accelerated Pluralism*, 31(1) POLITY 133 (1998).

[19] Frank La Rue, *Report of the Special Rapporteur on the protection and promotion of the right to freedom of opinion and expression, Frank La Rue*, UNITED NATIONS HUMAN RIGHTS COUNCIL, May 16, 2011, UN Doc. A/HRC/17/27.

emancipatory potential they represent for subaltern speech.[20] The interplay between these two factors – anonymity and ease of publication – is of crucial importance. A publishing syndicate that charged a few thousand dollars to print anonymous pamphlets would be just as useless to the activist citizen as an open publisher that printed and disseminated literature for no charge, on the sole condition that the author remain identifiable. For this reason, any variant of internet access that does not provide *both* anonymity and ease of publication cannot claim to realise civil and political rights in the manner outlined in this paper.

C. Internet Access as an Economic, Social and Cultural Right

Another articulation of a right to internet access is based on the assumption that the internet is essential for its economic, social and cultural attributes. The effect of internet access on the right to education (Art. 26 of the UDHR, Art. 13 of the International Covenant on Economic, Social and Cultural Rights) has been well-documented in Europe,[21] with the European Parliament even adopting a recommendation stating that ensuring universal internet access could be equated to universalising the right to education.[22]

'Access to Knowledge' scholarship suggests that access to the internet has a transformative effect on A2K in three ways: *first*, it amplifies the reach and efficiency of traditional forms of knowledge transfer; *second*, it makes knowledge available on demand; *third*, it allows individuals to tap into the wisdom of groups, a sort of "global knowledge commons" that would otherwise never have existed.[23]

Access to the internet also allows (and in some cases is essential to) the realisation of other values framed in human rights rhetoric, such as the "right to science and culture",[24] or the right to access marketplaces.[25]

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[20] For a brilliant example of such potential being realised on the ground, *see* Claude Marks and Rob McBride, *Recovering, Amplifying and Networking the Voices of the Disappeared – Political Prisoners on Internet Media*, 30(2) Social Justice 135 (2003).

[21] *See, e.g.,* Paul De Hert and Dariusz Kloza, *Internet (access) as a new fundamental right. Inflating the current rights framework?* 3 European J. of L. & Tech. 3 (2012).

[22] *European Parliament recommendation of 26 March 2009 to the Council on strengthening security and fundamental freedoms on the Internet*, European Parliament, Document ID: P6_TA (2009)0194.

[23] Lea Shaver, *Defining and Measuring A2K: A Blueprint for an Index of Access to Knowledge*, 4 I/S: J.L. &Pol'yfor Info. Soc'y 235, 247 (2008).

[24] Lea Shaver, *The Right to Science and Culture*, 2010(1) Wisc. L. Rev. 121 (2010).

[25] Nicola Lucchi, *Freedom of expression and the right of access to the Internet: A new fundamental right? in* Routledge Handbook of Media Law 157 (Monroe E. Price, et. al. eds., 2013).

D. Internet Access as a Participative Right

Another way to assert the existence of a right to internet access is by arguing that the advent of ICTs has fundamentally altered the manner in which the entire constellation of pre-existing rights can be exercised. The current rights paradigm presupposes a vast number of features that characterise the physical world, but which may not exist in the digital world. With the movement of people, societies and institutions to the digital world, the absence of these features may necessitate a radical re-articulation of the rights that already exist.

Jack Balkin makes a proto-argument on these lines in the context of the freedom of expression – he argues that new technologies such as the internet are not merely *linked* to the freedom of expression, but *redefine* it (by "changing the social conditions of speech"), necessitating the evolution of new norms to adequately guarantee the right.[26] In a world where freedom of expression is premised upon access to the medium, it is obvious that barriers to the latter would unquestionably restrict the former.

It would appear that Balkin's argument can be broadened significantly to prompt a rethinking of the very notion of *participation* in society. The right to participate in society is both instrumental to the exercise of other rights (such as freedom of speech and association), and also an *a priori* right, on its own merits. The UDHR recognises this in Art. 27(1), and the manner in which mass migration to digital societies affects pre-existing rights can be best explained through an example. We can use the metaphor of the town hall or village square – earlier human rights frameworks only articulated a right to public participation, and did not specifically provide for a right to access public spaces, because geographical freedoms (including the right of free movement) in the real world ensured that everyone could reasonably reach nearby public spaces and make themselves heard. With the advent of digital societies (or "information societies"), however, the right of free participation in society and culture becomes conditional upon the ability of individuals to *access* these public spaces. In short, digital societies require that the conditions implicit or presumed in pre-existing rights be made explicit separately. This is a line of reasoning that has close parallels to "incompletely theorised agreements" in constitutional law, where it has been used to (consciously or otherwise) "discover" new rights.[27]

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[26] Jack Balkin, *Digital Speech and Democratic Culture: A Theory of Freedom of Expression for the Information Society*, 74 N.Y.U. L. REV. 1 (2004); Jack Balkin, *How Rights Change: Freedom of Speech in the Digital Era*, 26(1) SYDNEY L. REV. 5 (2004).

[27] Cass Sunstein, *Incompletely Theorised Agreements*, 108(7) HARV. L. REV. 1733 (1995).

E. Conceptual Problems Surrounding the Access Right

The current debate on whether there exists a human right to internet access is largely centred on state interventions that curtail it.[28] This brings with it two subsidiary problems: *first*, human rights obligations are perceived to rest exclusively upon states; *second*, these obligations are seen to be merely negative duties. The former is outside the scope of this article, since we embarked on this journey on the understanding that we were looking for *policy* justifications, rather than *legal* justifications for zero-rating.[29] As for the latter, it must be said that although large parts of the human rights debate currently revolve around the right against disconnection (such as the French HADOPI legislation[30]),[31] there remains significant backing for the existence of a positive obligation to universalise internet access.[32] Further, several states have interpreted their human rights obligations as inclusive of such a duty.[33] The most striking example can be seen in the Greek constitution, which asserts that *"All persons have the right to participate in the Information Society. Facilitation of access to electronically transmitted information, as well as of the production, exchange and diffusion thereof, constitutes an obligation of the State, always in observance of the guarantees of articles 9, 9A and 19."*[34]

It is possible to argue that the standards governing human rights delivery are applicable to the universalisation of internet access even without presupposing an independent human right of access, since internet access has been recognised to be an essential component of the human rights regime as a whole.[35]

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[28] La Rue, *supra* n. 19 at ¶¶28-59.

[29] Nevertheless, there is a case to be made for human rights obligations to accrue to private actors. One way in which this can be achieved is to impose a positive obligation on States Parties to ensure that private parties are prevented from infringing these human rights, as exemplified by the UNHRC in the context of the right to privacy and the prohibition on torture. *See CCPR General Comment 31: Nature of the General Legal Obligation on States Parties to the Covenant,* United Nations Human Rights Committee, UN Doc. CCPR/C/21/Rev.1/Add.13 (2004) at ¶8.

[30] Siraj Datoo, *France drops controversial 'Hadopi law' after spending millions*, The Guardian, Jul. 9, 2013.

[31] Nicolas Suzor and Brian Fitzgerald, *The Legitimacy of Graduated Response Schemes in Copyright Law*, 34(1) UNSW L. Rev. 1 (2011).

[32] La Rue, *supra* n. 19 at ¶¶60-66.

[33] *See, e.g.,* Bobbie Johnson, *Finland makes broadband access a legal right*, The Guardian, Oct. 14, 2009; *see also* Sentence 12790 of the Constitutional Chamber of the Supreme Court of Costa Rica, Jul. 30, 2010, http://200.91.68.20/pj/scij/busqueda/jurisprudencia/jur_texto_sentencia.asp?nValor2=483874&tem1=013141&param7=0&lResultado=3&nValor1=1&strTipM=T&strLib=LIB (last accessed Nov. 22, 2015).

[34] Article 5A of the Constitution of Greece, as revised by the parliamentary resolution of April 6, 2001.

[35] David Fidler, *Cyberspace and human rights*, *in* Research Handbook on International Law and Cyberspace 94 (Nicholas Tsagourias and Russell Buchan eds., 2015).

III. Zero-rating as Progressive Realisation

A. Unpacking Progressive realisation

The principle of progressive realisation, enshrined in Art. 2(1) of the ICESCR,[36] allows states a certain amount of flexibility in their obligation to guarantee the rights contained in the Covenant when contrasted with the traditional "immediate and absolute" realisation standard.[37] Three features of the progressive realisation standard are of paramount importance to its applicability in the context of zero-rating and internet access universalisation.

First, it entails immediate and tangible progress towards rights realisation. This requirement implies that states are under an obligation to ensure that regardless of overall economic constraints, resources at any specific point in time must be optimally utilised to maximise the realisation of the right.[38]

Second, it creates a strong presumption of non-compliance where retrogressive measures are imposed. Regression can be in either of two forms – regression of results or normative regression. Regression of results occurs when state policy remains constant, but the delivery of right-realising public goods declines qualitatively or quantitatively. Normative regression simply refers to a situation in which the realisation of a right is restricted through a change that limits the application of the state policy that enabled such realisation in the first place.[39] Retrogressive measures must be justified by the state taking them[40] as being necessary in the face of exceptional circumstances.[41] Significantly, one situation that appears to permit retrogressive

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[36] Art. 2(1) states as follows: "*Each State Party to the present Covenant undertakes to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realization of the rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures.*"

[37] *CESCR General Comment 3, The nature of States parties obligations*, United Nations Human Rights Council, Dec. 14, 1990.

[38] *Principle 23*, The Limburg Principles on the Implementation of the International Covenant on Economic, Social and Cultural Rights (1987). *CESCR General Comment 13, The right to education*, United Nations Human Rights Council, UN Doc. E/C.12/1999/10 (1999).

[39] Christian Courtis (ed.), Ni un paso atras. La prohibicion de regresividad en materia de derechos sociales (2006).

[40] *Supra* n. 34 at ¶9.

[41] *CESCR General Comment 14, The Right to the Highest Attainable Standard of Health*, United Nations Human Rights Council, UN Doc. E/C.12/2000/4 (2000) at ¶34.

measures would be where such retrogression is necessary to achieve equity in the realisation of the right.[42]

Third, it places an obligation on states to institute special measures for vulnerable and disadvantaged groups.[43] While this obligation has primarily been articulated in the context of marginalised groups such as persons with disabilities,[44] it does not preclude the application of a positive duty upon states to create tailored measures that enable other disproportionately disadvantaged groups to realise their rights.[45]

Before we apply the standard to zero-rating, one final point needs to be addressed. In the previous section, I argued that the right of internet access could be articulated as a civil-political right as well as a socio-economic right. However, throughout this section, we have primarily seen progressive realisation as a standard applicable only to socio-economic rights. Does this mean that civil-political rights are not progressively realisable? This is not so. Recent scholarship has acknowledged that civil-political rights are resource-dependent[46] in the same way as socio-economic rights are,[47] and therefore subject to being progressively achieved.[48]

B. Applying the Doctrine to Zero-rating

We can now examine whether compliance with the (moral, if not legal) duty to progressively realise the right to internet access can be achieved by zero-rating content on the web. The definition of zero-rating that I use is as follows: *zero-rating is the provision of a pre-defined set of web services and applications at zero cost to the subscriber.* Neither do I interrogate the

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[42] Sandra Liebenberg, Socio-Economic Rights Adjudication under a Transformative Constitution 189 (2010).

[43] Lillian Chenwi, *Unpacking "progressive realisation", its relation to resources, minimum core and reasonableness, and some methodological considerations for assessing compliance,* 46(3) De Jure 742 (2013).

[44] *CESCR General Comment 5, Persons with Disabilities*, United Nations Human Rights Council, UN Doc. E/1995/22 (1994) at ¶9.

[45] *Govt. of the Republic of South Africa* v. *Grootboom*, 2000 ZACC 19 (Constitutional Court of South Africa).

[46] M. Magdalena Sepulveda, The Nature of the Obligations under the International Covenant on Economic, Social and Cultural Rights 311 (2003).

[47] Henry Shue, Basic Rights: Subsistence, Affluence, and US Foreign Policy 13 (1996); Mark Tushnet, Weak Courts, Strong Rights: Judicial Review and Social Welfare Rights in Comparative Constitutional Law 227 (2008).

[48] *"The fact that the full realization of most economic, social and cultural rights can only be achieved progressively,* which in fact also applies to most civil and political rights, *does not alter the nature of the legal obligation of States which requires that certain steps be taken immediately and others as soon as possible."* (emphasis supplied) *Maastricht Guidelines on Violations of Economic, Social and Cultural Rights* (1997) at ¶8.

secondary question of how zero-rating implementations are funded – they could be through ad revenue,[49] government subsidies to ISPs, private bargains in which the content provider pays the access provider,[50] or purely philanthropic initiatives with no exchange of payment whatsoever.[51] Nor do I seek to question the assumption that access providers face significant infrastructure costs that preclude them from universalising access without passing on the cost of connection to either the subscriber or the content provider.

In its essence, my claim is that in the situation that we are faced with right now, zero-rating content is a way to comply with our duty to progressively realise the right to internet access. Having understood that it is impossible to realise the right overnight to its fullest extent, we must ask ourselves if our human rights obligations are still discharged by instantly universalising access to some parts of the internet by zero-rating them.

It is here that each feature of progressive realisation earlier outlined comes into its own. The demand for tangible progress, when coupled with the obligation to maximise rights realisation, imposes upon governments the moral duty to encourage zero-rating since it represents tangible progress for marginalised groups.[52] The prohibition on regression is important for two reasons. *First*, because it ensures that access providers cannot engage in willy-nilly withdrawal of services (thus creating a regression of results), and because it ensures that governments cannot reduce budgetary allocations to full access universalisation projects (thus creating a normative regression) without adequate justification. *Second*, because it explicitly allows governments to implement ostensibly retrogressive measures (such as encouraging the proliferation of 'walled gardens') if such measures serve to enhance the 'equitable' realisation of the right. Finally, the obligation on states to

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[49] *See, e.g.,* Opera Software's Sponsored Web Pass. http://www.operasoftware.com/products/operators/sponsored-web-pass (last accessed Nov. 22, 2015).

[50] *See, e.g.,* AT&T's Sponsored Data. http://www.att.com/att/sponsoreddata/en/index.html (last accessed Nov. 22, 2015).

[51] *See, e.g.,* Wikipedia Zero, Erik Moeller, *Wikipedia Zero and Net Neutrality: Protecting the Internet as a Public Space*, WIKIMEDIA BLOG, http://blog.wikimedia.org/2014/08/01/wikipedia-zero-and-net-neutrality-protecting-the-internet/ (last updated Aug. 1, 2014).

[52] There is also an ethical argument to be made here in favour of zero-rating. The claim that zero-rating must be discouraged since it would make an insignificant difference to the lives of marginalised subscribers while simultaneously upsetting an abstractly defined "core fabric" of the internet is untenable, since it suffers from a size illusion. Abstract competing considerations such as the "core values" of the network have no *a priori* value when weighed against the tangible rights claims of individuals, and the mere fact that providing access to a small subset of the internet will make an insignificant difference does not undermine the duty to enhance the realisation (no matter how insignificantly) of human rights. *See* Jonathan Glover, *It makes no difference whether or not I do it', in* APPLIED ETHICS 125, 127 (Peter Singer ed., 1986).

implement targeted measures to enable vulnerable communities to realise their right fits in perfectly with the core mission of zero-rating initiatives.

In the worst case scenario, zero-rating would act as a sort of differential tax on internet access, with the privileged effectively paying the costs of access universalisation either directly (in the form of increased monetary costs to fund a government subsidy, or increased content costs brought about by the need for content providers to pass on the costs of zero-rating to paying consumers) or indirectly (in the form of suffering distortions to competition or innovation in the internet marketplace). I believe that such costs are justified, because a reduction in the value of the internet or an increase in the cost of connectivity for paying subscribers in order to increase access for hitherto marginalised groups is well within the scope of enhancing the 'equitable' realisation of the right to internet access.

In summary, then, compliance with the obligation of progressive realisation renders it necessary for governments to encourage zero-rated content delivery because such delivery promises to bring in tangible progress, because progressive realisation protects subscribers from abuse by providers through its prohibition on regressive measures, and because the universalisation of internet access would further the equitable realisation of human rights despite the costs incurred by paying subscribers.

IV. Avoiding the Gift of the Magi

Over the course of this exercise, however, we must be careful not to miss the forest for the trees.[53] Universalisation of internet access will be meaningless if the manner in which such it is conducted kills the very values that internet access represents. Access universalisation is a means to an end, and the end will most certainly be defeated if we build a world in which every individual has access to *an* internet[54] that does not, in any way, enable her to realise her freedom of expression, right to education, or right to participate effectively in the information society. This may not be the only point of failure for a universalisation model based on zero-rating, but it is certainly an immediate mission failure if access universalisation renders the internet devoid of

[53] The title of this section is a reference to O'Henry's short story, in which a husband and wife present each other with hair accessories and a watch chain by selling off their hair and wristwatch respectively in a touching but otherwise utterly useless display of affection. We must remember that posterity will not forgive us for making the same mistake in discharging human rights imperatives as easily as Jim and Della Dillingham forgave each other on Christmas Eve.

[54] As opposed to "*the* internet".

the very values sought to be universalised. We must therefore ask ourselves what these values are, and whether they may be seriously jeopardised by zero-rating.

With respect to the internet's role in enhancing the realisation of the freedom of expression, we have identified two essential attributes – user anonymity and the lowering of barriers to publication. Existing zero-rating platforms (such as Facebook's Internet.org)[55] have certainly come under heavy criticism for their architectural rejection of anonymity-enhancing tools such as encryption. However, there is nothing to prevent the legislation of these values into the system – zero-rating (or its viability, economic or otherwise) is not conditional upon the rejection of anonymity. Indeed, encryption has been embraced (to a limited extent) by the very ventures that were criticised for rejecting it.[56] As for barriers to publication, nothing about zero-rating puts it in conflict with allowing subscribers to amplify their voice on the internet. ISPs gain nothing from narrowing the reach of content on the internet – zero-rating is essentially a "last mile" distributive problem that has nothing to do with how far content travels within the worldwide network. While legislation could prevent anonymity from being compromised in zero-rated services, I submit that market forces will ensure that the most populous social networks are always within the reach of zero-rated content consumers. This is because ISP interests are served by giving consumers what they want, and there exists adequate competition in the market for large social networks and blogging platforms that allow for wide publication, so that any of them should be able to persuade access providers to zero-rate their services. In any event, the widespread mirroring and archiving on the internet means that content is rarely tied down to the website in which it originated, meaning that the selection of zero-rated websites by any individual access provider should exercise no influence on the reach of the content accessed or disseminated on the provider's network.

With respect to the right to education and A2K concerns, the success of the Wikipedia Zero project[57] must surely be evidence enough that if properly executed, zero-rating could prove to be the most important A2K

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[55] Shruti Dhapola, *Net Neutrality debate: Facebook's Internet.org has privacy, security issues*, THE INDIAN EXPRESS, May 7, 2015.

[56] Russell Brandom, *Facebook enables web encryption for Internet.org*, THE VERGE, http://www.theverge.com/2015/9/24/9388399/facebook-internet-dot-org-web-encryption-security (last updated Sept. 24, 2015).

[57] Paul Sawers, *Wikipedia Zero arrives in India, dropping mobile data charges for 60m Aircel subscribers*, THE NEXT WEB, http://thenextweb.com/media/2013/07/25/wikipedia-zero-arrives-in-india-dropping-mobile-data-charges-for-60m-aircel-subscribers/ (last updated Jul. 25, 2013).

tool yet developed in collecting, preserving and disseminating community knowledge.

The most interesting conflict between zero-rating and the rights sought to be guaranteed through it arises when we speak of the participative value of internet access. If access universalisation is predicated upon the establishment of 'walled gardens', then how can we ensure that these walls do not prevent the inhabitants of our information society from reaching out into 'public spaces' on the internet? Admittedly, this presents a challenge insofar as it necessitates a delineation and separation of public and private spaces online. While there exists a school of thought which holds that it is impossible to effect such a distinction,[58] there remains an argument to be made that such distinctions can be made on a case-by-case basis, through an examination of the potential for public participation that any given space on the internet offers.[59] Governmental regulation of zero-rating can make such case-by-case decisions under pre-existing adjudicatory framework.[60]

On the whole, therefore, it is possible to establish that there exists a strong argument to be made in favour of zero-rating being a way for states to comply with their progressive realisation obligations under the international human rights regime, especially given that it can be executed without fundamentally altering the values of the internet sought to be universalised.

V. Conclusion

The claim that zero-rating is intrinsically linked with the discharge of fundamental human rights obligations has the potential to drastically alter the net neutrality debate. If it is successful (and I believe that it is), then it effectively frees us from the burden of having to engage with the effect zero-rating will have on competition, or innovation, or the "nature of the internet". This is because human rights claims occupy a higher position in our legal, moral and political imagination than vague claims of market efficiency or innovation incentivization. Further, arguments that zero-rating would undermine

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[58] *See, e.g.,* Georgia Bullen, *"Public" Space, Civic Engagement and the Internet*, Medium, https://medium.com/@georgiamoon/public-space-civic-engagement-and-the-internet-39f43b1e0c31#.9g8oc344p (last updated Dec. 17, 2014).

[59] Diana Saco, Cybering Democracy: Public Space and the Internet (2002).

[60] One example of such a framework is the *ex ante* evaluation suggested by the TRAI in its report. Sneha Johari, *Zero rating should be equal for all content providers: Govt Committee on Net Neutrality*, Medianama, http://www.medianama.com/2015/07/223-zerorating-contentproviders-equal/ (last updated Jul. 20, 2015).

consumer interests by concentrating power in the hands of access providers would still be unable to compete with human rights claims.

Once we have established that there exists a right to access the internet, and that this right can best be progressively realised by the universal delivery of zero-rated content, then it follows that we must encourage zero-rating regardless of its pernicious effects on consumer choice, competition, efficiency, innovation or power, since all these competing claims are subordinate to our fundamental duty to progressively realise basic human rights.

Session I: Effect on Innovation and Competition

Moderator: Mr. Amlan Mohanty - Associate, Trilegal

Panelists:

1. Mr. Amod Malviya, CTO, Flipkart.
2. Ms. Deepali Liberhan, Manager of Public Policy, Facebook.
3. Mr. Nikhil Pahwa, Founder, MediaNama.
4. Mr. T.V. Ramachandran, Consultant, Policy and Regulatory Affairs at Vodafone and Chairman, ASSOCHAM Telecoms Council.
5. Student Speaker: Mr. Jeydev C.S., II Year B.A., LL.B. (Hons.), NLSIU.

    1. Mr. **Amlan Mohanty** began the proceedings by laying down three core principles of Net Neutrality: first, non-discrimination in relation to access to websites; second, no price differentiation; third, no difference in relation to speed. The conception of Net Neutrality, therefore, has to take into account multiple stakeholders that it has a profound effect on. Chief amongst them are the consumers, entrepreneurs and network providers.
    2. **Ms. Deepali Liberhan** began her comments with the observation that we are all interested in retaining and preserving the openness of the internet. At the heart of the issue of Net Neutrality is the principle that the gatekeeper of internet services shouldn't disadvantage users. Thus, one should be able to access the entire internet; there should be no throttling or no slowing down; and lastly, there should be no fast lane and no one should be able to provide faster access to particular websites. If these principles are not followed, it would end up disadvantaging users.
    3. Ms. Liberhan emphasized that at the same time, the gatekeepers have the job of ensuring that traffic is managed and thus, reasonable traffic management principles should be allowed. She stated that Facebook as a company is strongly committed

to these principles. Next, she spoke about universal connectivity and highlighted that about 250 to 270 million people in India connected through the Internet. However, this is a small percentage of India's 1.2 billion population. Net Neutrality is not inconsistent with universal connectivity and they should go together. All policies should strive towards ensuring all people in the world have access to affordable internet.

4. Ms. Liberhan then drew attention to the fact that 80% of the people in the world live in an area where there is mobile network, but only 30% of the people have internet access. This is because they don't have relevant content and data connectivity. She stated that Facebook doesn't pay operators for data usage. The objective behind the initiative is to increase Internet literacy in a manner that is free and so that the people can ultimately become users of the internet.

5. **Mr. Nikhil Pahwa** stressed that Net Neutrality lets entrepreneurs create new products and gives the people the opportunity to choose what they want. Entrepreneurs don't need to take permission for what they want to do. According to him, this would undergo a massive change if the TRAI recommendations were to be accepted. First, companies operating on the Internet would have to buy a license from the government to operate, and second, the Internet companies would be converted into vendors of network operators. Companies like Flipkart that have come out of nowhere and challenged existing spaces would not be able to compete in such a framework.

6. Mr. Pahwa stressed that the freedom that entrepreneurs currently have to create new products is what users are looking for. This choice gets distorted as soon as things are faster/slower or available/unavailable on the Internet; and no one wants an environment where the freedom to choose is restricted. He gave the example of mobile services wherein content providers were treated as network vendors. It ended up becoming an extremely corrupt system where rupees were taken out of people's prepaid accounts.

7. He asked whether we want the operators to be allowed to control how we access the internet just because they shelled out money to buy the spectrum or do they want neutral internet. He closed by noting that the Internet is a stable where everyone can build their businesses. Entrepreneurs can build it on a host in

the United States or in Finland and still serve Indian users and he stated that that's the Internet he wants.

8. According to **Mr. Amod Malviya,** with the entire economy shifting on to the internet, there is now too much money in the internet space. It is because of the amount of money involved that we need to be doubly careful in making structural changes to the internet since every single player gains exponentially by becoming the gatekeeper. Free services are tactics to infiltrate our devices following which they are used to make money through the data they collect from users. What such a Zero-rating platform does is to create a black hole wherein customers who want free internet get sucked in first, followed by the content providers who are attracted because of the presence of customers. Further, not only does this amount to a wholesale restructuring of the internet, it also ensures that the person controlling the platform has access to the information of all the users. This leads to concentration of power at one point, which is dangerous.

9. **Mr. T.V. Ramachandran,** however, felt that Net Neutrality is a grossly misunderstood concept. *First*, he stated that Net Neutrality as a concept has never existed. The internet was never designed to be neutral and prioritization was built into it. Further, every country has to customize and tailor it according to its own needs. India's position is abysmally low on digital ranks and there is a huge mass of people who are not connected. Thus, in the Indian context, what is needed is net penetration. *Second*, although he agreed that an open internet is of paramount importance and there should be no throttling, blocking or price escalation, he also opined that no futuristic fear should cloud out the present and if there are any unprecedented problems, using institutional mechanisms like the TRAI could always undo any damage done, or any prospective damage.

10. **Mr. Jeydev C.S.,** speaking against Net Neutrality, argued that the very nature of the Internet is such that there can be no stifling of innovation. Users forget the erstwhile dominant websites on the Internet as new and better players emerge. The economics of the Internet is such that Net Neutrality serves no one. Arguing for an abstract notion of Net Neutrality is pointless as neither does the concept really exist nor are there any real benefits of it. Although prima facie, data packets may be equal in what

they represent, they are not actually treated equally. Moreover, network capacities are not endless which means that treating all instant messengers (which are more than twenty in number) would result in congestion, outage and slow Internet. This also poses a risk of crowding out due to the presence of many small businesses that are actually inefficient and serve no purpose, but exist simply because entry to the internet is free.

11. Stressing on the supply side approach, Mr. Jeydev was of the opinion that companies should be able to take advantage of their investments. As far as innovation is concerned, Flipkart was able to provide incentives to customers to move on from their competitor, while Amazon accomplished this through their novel idea of cash on delivery. The absence of neutrality, in his opinion, wouldn't have hurt them because they had an idea with social value.

12. In a competitive commercial environment, if we don't permit the ISP to monetize services, they wouldn't want to invest anymore and this would be very problematic in the face of the systemic failure of government which led to the auctioning of the spectrum in the first place. It is important that investment in internet infrastructure be incentivized. Price discrimination, by itself, doesn't make Zero-rating anti-competitive. And in any case, institutions like the Competition Commission of India are competent enough to deal with anti-competitive behavior if the need arises.

13. However, Mr. Nikhil Pahwa contended that it is not true that Telecom operators do not have any incentive to invest in infrastructure. The CEO of Idea Cellular at a recent conference noted that these companies are in fact increasing investment as they see increasing demand. Thus, there does exist a business case for them to invest as the usage of Internet is growing at an increasing pace. Regardless of Net Neutrality, if companies do not innovate, they will soon die out.

14. On the point of limited network capacity, Mr. Pahwa argued that the Internet is in fact an unprecedented space and no one has agreed on what is important on the Internet. It is a pull-based business and not an audience based service like the television. Even if congestion is experienced, it should be addressed by increasing capacity and auctioning more spectrum and not doing away with Net Neutrality. He stressed that it is important

to not determine the choices of the Internet users and alternatives to Zero-rating such as the free wifi being provided by the Delhi government should be resorted to.

15. Just because the government can't expand the pie, it shouldn't split the pie in a manner that disadvantages the consumers. The march of technology cannot be stopped in any case, and better services have to keep coming up. The opposition is only to collusive prioritization.

16. Mr. Malviya argued that we must deal with the issue of Net Neutrality in a service agnostic fashion. Prioritizing based on how the service is doing will just pollute the discussion. He stated that network capacity is nowhere close to being choked. According to him, spectrum is just the last mile to the tower; the prioritization happens in the bandwidth and fibers.

17. **Ms. Liberhan** argued that the version of Net Neutrality propounded by Mr. Malviya and Mr. Pahwa would disallow internet.org from coming into force. This would mean that the 8 million people it has brought on board would be denied access. She believes such a version of Net Neutrality is blatantly anti-poor. Mr. Jeydev C.S. responded that theoretically, network capacities are not unlimited and given that unlimited expansion is not financially viable, at any given point, there will be a crowding out of better services. Since the vast majority of services are for profit, we need to be conscious of the value being provided by them. Further, the Indian telecom sector today is the most competitive even though there are only 7-8 players. Mr. Ramachandran argued that in fact, Telecom companies are actually in a rut and have no real incentive to invest further in infrastructure. Further, the telecom capacity is limited and therefore, mobile services have deteriorated.

SESSION II: PRIVACY, FREE SPEECH AND NET NEUTRALITY

Moderator: Mr. Badrinarayanan Seetharaman, Alumnus, NLSIU and Co-Founder, Gathr.

Panelists:

1. Mr. Kiran Jonnalagadda, Founder, HasGeek.
2. Mr. Rishab Bailey, Practicing Advocate and Consultant for Society of Knowledge Commons.
3. Ms. Smarika Kumar, Researcher, Alternative Law Forum.
4. Student Speaker: Ms. Sharada Srinivasan, Graduate Student, Masters in Public Policy, NLSIU.

    1. Mr. **Badrinarayanan Seetharaman** started the discussion by pointing out the major issues that had to be dealt with in the session. The *first* was to understand what governments and companies see when they seek to regulate the internet and how the current framework of the internet functioned in terms of packet transmission. *Secondly*, one had to examine the existing regulatory frameworks and the legal concerns of freedom of speech and expression, and privacy, in light of increased surveillance and security concerns.

    2. Mr. **Kiran Jonnalagadda** started off by talking about the technical framework of data access, explaining how browsers work. He elaborated that the IP simply dealt with the source and destination of the data. By drawing an analogy between IP connections and communication via sending a postcard, he explained how a message reached its destination through distribution and re-assembling through multiple packets of data.

    3. According to him, the content of the message was supposed to be confidential, as the message itself only showed who had sent the message and who was supposed to receive it. In case the recipient did not receive a certain part of the message he could ask for it again. This is an element of the Transmission Control Protocol. However, it was part of the ISP's discretion to read the content of the message and not just the destination of the message, a process referred to as Deep Packet Inspection (DPI).

4. He explained that content is broken up in multiple packets, which means that all packets need to be checked to see the overall message. Government blocking works by checking the content of the packets, and not the header, which most ISPs are unequipped to perform. Subsequently, he demonstrated how faking of IP addresses work whereby a private address could be converted to public, when in fact it is coming from a laptop.

5. He mentioned that every connection from the campus is publicly seen as one computer. Transmission is one way; while we can encrypt our traffic, we can only do so on a public server. He added that the intermediary public server may or may not be trustworthy. He concluded by giving the example of Google Hangouts where the connection is private, but the content itself is not protected.

6. Ms. **Sharada Srinivasan** talked about Iran and other cases of DPI usage, including both in dictatorships and modern western democracies. Indian telecom industries have been asked to consolidate their independent monitoring systems for a centralized model headed by the government, along with NETRA. She lamented the broad mandate for surveillance, without a uniform privacy framework. However, she also mentioned that DPI is used to protect people from SPAM and malware attacks, and even child pornography control in Australia, as well as security for London Olympics.

7. She asked if we can regulate DPI, our privacy framework and find ways to ensure and enhance privacy. She concluded by giving the example of Netherlands where wiretapping is only allowed in certain instances and ISPs can't throttle or tap except for very specific circumstances.

8. Mr. **Rishab Bailey** started by talking about privacy laws and disparate viewpoints about surveillance and Net Neutrality. In his opinion, there is merit in examining Net Neutrality not merely from a commercial framework, but in a holistic, rights-based perspective.

9. He discussed the link between neutrality and surveillance. He stated that in the current paradigm there is no inbuilt privacy mechanism. With the increase in load on bandwidth, there is immense support for surveillance. The more private a network is, the tougher it is for ISPs to differentiate between data.

However, given the tendency of online economies to monopolize the market, the same is not possible. Hence it is necessary to draft laws with these concerns in mind.

10. There were two primary economic issues: *first*, the tendency of the online economy to monopolize, which meant that competition had to be engendered, and *second*, optimum performance, safety, security and user management techniques.

11. He discussed the combined effect of network and bandwagon effects, economies of scale and aggregation leading to an enormous concentration of web users on some webpages. Hence, even though there are many web sites on the internet, the traffic is confined only to a few websites. He gives the example of India where Google was predominantly used as a search engine. Mr. Bailey explained that this was the paradox of the internet, where even though many sites exist; the concentration of traffic is monopolized by a few.

12. He explained how Zero-rating is a distortion of the internet network. Allowing for Zero-rating allows big companies to collect user data. These function like centralized banks of user data. More importantly, he said that Government services will be forced to ride on such platforms. The privacy protection in India is bad and use of such platforms can lead to misappropriation of user data.

13. He then elaborated as to how ISPs have the ability to expand monopolies by collecting and selling user data and locking small players out. Mr. Bailey connected this to greater privacy concerns as ISPs are the only ways to connect to the net. He gave the example of Verizon, which was using startup cookies to collect information. AT&T too tracks user behavior. However, to opt out the user has to pay $50 for a $9 service.

14. He also said that ISPs can hijack search queries and redirect users to engines of their own choice. This has been done without consent or opt-outs. He further elaborated that all collection of info should be based on certain principles like transparency and choice. Even in developed countries, the knowledge about data collection is very low. The contracts which are given by the ISPs are very ambiguous. The links between ISPs and surveillance agencies, and programs such as PRISM, means that it becomes

prudent to check our usage. He went on to conclude by observing that overseeing and regulating ISPs was a must.

15. Ms. **Smarika Kumar** explained that there is a need to look at Net Neutrality from a rights-based perspective, and not just a commercial perspective. She talked about how privacy is embedded in the way users communicate on the internet. Many minorities can use the internet as a platform for expression. They are able to disclose sexualities and they don't have to bring it back to the real world. On the internet, unlike the real world, one is not tagged by their identity and hence different identities can be assumed. However, data collection tags identities. Hence, the sanctity of the private space is violated.

16. She said that the diversity of content and platforms helps privacy. She went on to explain that there are two approaches to preserve this diversity: the first being the competition approach, and the second being the idea that diversity is different from competition. Both have been used in Indian cases such as *Bennett Coleman*.

17. However, diversity has to be seen from the speaker's point of view as well. *Bennett Coleman* talks about how competition and lack of regulation would allow the speech to find its own space. This is the market's point of view, from the speaker's point of view and not from the reader's point of view. According to her, both approaches have merits and drawbacks. She linked it to Net Neutrality and privacy. She explained how preserving diversity is important to preserve privacy in different context of speech of the net. Diversity has to be looked at either from the two points of views *viz.*, the speaker, or the user.

18. She concluded by asserting that it is important to develop a critique of Net Neutrality as a concept. It is important to look at the leaders of over the top business models. Even before cartelization, big data was being collated together. Net Neutrality is not just about ISPs' abuse of power but also over the top content providers' abuse of power and preservation of diversity.

19. Mr. Seetharaman asked about passing of packets and about user to user protection, since the responsibility of privacy was passed to someone else. He then asked from a start-up perspective, specifically about how a startup could safeguard itself from monopolies.

20. Mr. Jonnalagadda answered that as a start-up, the access to market is defined by content providers. The definition of 'the edge' is outmoded, as the varying notions of private and public networks. From two edges (user-to-user), we have to evolve to dealing with questions of intermediaries – a user's HTTP node only goes to the intermediary, after which new protocols have to be employed for ensuring protection at that point, going into a repetition of the process on that end.

21. Mr. Seetharaman's next question was about the marketplace of ideas. He wondered as to who should be allowed to regulate Internet given that it is a global entity.

22. Mr. Jonnalagadda responded by stating that the Internet can be regulated within jurisdictions. The OTP and USPs are being regulated. Even if there is no extra regulation, there is national regulation. Hence, even though the Internet is global, there is regulation.

23. Mr. Bailey said that privacy protections are costlier for the companies. There is a need to regulate such practices. Ms. Srinivasan added that one way of doing this was limiting wiretapping. In India it was harder to know about privacy violations. Our ISPs needs to have monitoring network connected to central monitor data. The telecom companies are supplying info to the Government and regulatory framework is needed to limit this.

24. Mr. Pranesh Prakash asked Ms. Srinivasan if the Indian Telecom Act was sufficient to ensure privacy of the users. She replied that it is one of the ways of regulation. However, it is not the best or the most comprehensive way for the same. The Act has a very loose framework. Net Neutrality has some overlaps for preserving privacy. The laws are drafted in a manner which allows the Government to collect more user data.

25. A question was then asked regarding the strategies that a start-up could adopt to compete with the established players. Mr. Jonnalagadda replied that paying for one's own service was cheaper in cases of constant demand. However to scale up or down, it was more economical to use information provided by the big companies.

26. Mr. Shiva Santosh questioned the exact form of Net Neutrality which the government could implement. Ms. Kumar answered

that an exact form of regulation is not possible. Net Neutrality is not the form of regulation to go for. There are six principles which require protection. This protection is beyond Net Neutrality. They are: 1) Consumers are entitled to access whatever lawful internet content they want; 2) Consumers are entitled to run whatever applications and services they want, subject to the needs of law enforcement.; 3) Consumers can connect to networks whatever legal devices they want, so long as they do not harm them; 4) Consumers are entitled to competition between networks, applications, services and content providers; 5) Service providers are not allowed to discriminate between applications, services and content outside of reasonable network management; 6) Service providers must be transparent about the network management practices they use.

27. She also said that the regulations had to go beyond government; there could be social regulations as well. Ms. Srinivasan said that technology can be used to block freedom of speech as it has been done in China via the Great Firewall which also blocks certain services. Just because it can be done does not mean that it should be done, as the subjectivity of this will bring a plethora of problems.

SESSION III: INTERNATIONAL COMPARATIVES – LEGAL FRAMEWORKS IN OTHER JURISDICTIONS

Moderator: Mr. Ramanjit Singh Chima, Asia Consultant, Access Now.

Panelists:

1. Mr. Chaitanya Ramachandran, Associate, Amarchand & Mangaldas & Suresh A. Shroff & Co.
2. Ms. Vidushi Marda, Programme Officer, Centre for Internet and Society.
3. Student Speaker: Mr. Janardhan Pashupati, II Year B.A., LL.B. (Hons.), NLSIU.

    1. **Mr. Ramachandran** was the first speaker of the session. He dealt with the legal position in USA and Brazil. He began by delineating the reasons behind choosing these two jurisdictions. In his opinion, USA has a long history of regulations in this regard and the similarities of Indian administrative framework with that of USA meant that we could learn a lot from them. With respect to Brazil, he admitted that the framework there was quite different as it was a civil law country. Nonetheless, the similarity in development stages and challenges faced made it a good study.

    2. Beginning with the USA, he stated that the market characteristics in USA are quite different due to the well-developed network, which was a monopoly to begin with. Another difference between India and USA is with respect to the triple play model which sees big ISPs competing in voice, data and video, as all of them come bundled together. The regulatory framework in the USA is governed by the Communications Act of 1934 and 1996. The first regulation that dealt exclusively with Net Neutrality was the Open Internet Order ("OIO") introduced by the Federal Communications Commission in 2010. The genesis of the OIO lies in an earlier FCC policy statement where a consumer protection argument was given for having an open Internet. It identified four broad rights that need to be protected viz. allowing consumers to access lawful content of their choice, run applications of their choice, connect legal devices of their choice, and

their entitlement to competitive markets. Consequently, it can be said that the policy statement wanted to take care of application innovation on the content side and network use on the consumer side.

3. Moving on about the OIO, Mr. Ramachandran spoke about the distinction that it sought to create between wired and wireless networks and the three rules contained therein. The *first* rule is a simple fundamental rule that states that there will be no blocking. There seems to be a broad consensus over this rule. The *second* rule postulates that there will be no unreasonable discrimination subject to network management issues such as speed, price, and quality of service *et al*. The exception to this rule provides parameters to judge the reasonability of the discrimination. These include transparency, degree of end-user control, use/ application agnosticism and compliance with industry standard and practices. The *third* and the final rule mandates transparency in disclosing network management practices, in performance characteristics and in their commercial terms including fees for early termination, privacy policy etc. However, In *Verizon Communications, Inc*. v. *FCC*[1], the Court of Appeals for the D.C. Circuit partially struck down the order by holding that the clauses prohibiting blocking and unreasonable discrimination were invalid. However, as Mr. Ramachandran pointed out, the same was merely due to the fact that the FCC had failed to classify ISPs as common carriers as required by the 1934 Act and hence, the same could not apply to ISPs. At the same time, the transparency requirement was upheld.

4. Mr. Ramachandran then moved on to describe the situation in USA post the *Verizon* ruling. FCC was quick to classify ISPs as common carriers in the new rules. A group of citizenry was of the opinion that classifying ISPs as common carriers was landmark as it put them on equal footing with public utilities. However, the same was merely symbolic due to the unfavourable ruling. The new rules treated the wired and wireless networks on an equal footing. Three new rules viz. no blocking, no throttling and no paid prioritization along with enhanced transparency rules were put in place. However, in Mr. Ramachandran's opinion, the major contribution of the new policy was the standard

[1] 740 F 3d 623 (DC Cir 2014).

for future conduct initiatives. The drafters had the foresight to acknowledge the possibility of new unforeseen techniques and technologies which could render the current rules inadequate. Accordingly, it was stated that any future contingency would be judged in light of its interference and the disadvantage that it causes to consumers and content providers subject to reasonable network management measures.

5. Next he went on to show the practical relevance of the future conduct guidelines. The guidelines were used this year in judging the zero-rating scheme that was sought to be launched by several companies. FCC came to the conclusion that Zero-rating schemes will have to be judged on a case-to-case basis and it was more likely that paid schemes would fall foul of the law.

6. Moving on to Brazil, Mr. Ramachandran described how it was largely similar to the Indian market in terms of mobile penetration. The governing law in Brazil is the *marco civil da internet* which was signed into a federal law by the president last year. The same was drafted by the Ministry of Justice with inputs from CGI.br. He talked about Article 3 of the law which explicitly talks about a guarantee of network neutrality. Then he moved on to discuss Article 9 in detail. It prescribes rules similar to the USA but according to Mr. Ramachandran, but it is different in one respect. Unlike the USA, it goes back to a utopian situation and tries to judge the present situation accordingly and hence, it is a bit fundamentalist in its approach. The Article states that there should be no blocking, monitoring, filtering or analysis of the data. Further, it specifically provides that free services will have to abide by such conditions too. Again, like the USA, they also provide technical requirements and emergency as exceptions to discrimination and degradation. In Mr. Ramachandran's view, the law in Brazil is in a nascent stage and hence, we need to keep an eye on the debates and developments there in order to learn from them.

7. Coming to the learnings for India, Mr. Ramachandran stated that it is important for us to identify clear bright line rules which would serve as overarching rules for interpretation, blocking, and future conduct along with a clarification on the regulator and the manner of regulation. He also cautioned that it was important to use specific and unambiguous words to prevent

vagueness in the law. Additionally, there is a need to provide guidelines to determine reasonability. With respect to the distinction between wired and wireless networks, he was of the opinion that such a distinction should not exist and even if it does, wireless network providers should be subject to stringent regulations. Lastly, private participation in the provision of internet should not be disallowed but at the same time, adequate safeguards should be in place to protect the interests of users.

8. Ms. Vidushi Marda discussed on the topic of justified network management. Regarding the use of terminology, she distinguished between "reasonable network management" and "justified network management". Under the former, the practices of an entity are tested against the practices of other entities, for e.g. the practices of Vodafone are compared to those followed by Airtel. However, under the latter, an entity's practices are tested against standards set for the entire industry. Ms. Marda preferred the use of the latter terminology.

9. Ms. Marda admitted that Net Neutrality could not be a black and white issue, since some degree of control in the form of blocking, throttling or termination fees was inevitable and in some cases, desirable. Therefore, it must be tested whether this is a harm arising out of such practices. By way of example, she said that while blocking of the SNTP port was not considered harmful, the blocking of Port 80 was considered so. In order to determine the undesirability of network management practices, she gave three approaches.

10. The *first* approach, espoused by Mr. Christopher Yoo, argues against regulation on an ex-ante basis. The primary argument under this approach is that since regulators are unsure of the harm, they might end up regulating against the good along with the bad. This approach advocates that as long as the consequences of a particular practice are not irreversible, they must be judged on a case-by-case basis.

11. The *second* approach, put forth by Barbara Van Schewick, argues against the case-by-case approach, since there will be no guidance to the entities as to whether what they are doing is right or wrongful. She advocates that a list of purposes for which control practices are permitted should be compiled. Therefore, you can undertake discrimination only if it is application agnostic

and for furthering innovation, but you cannot discriminate on the basis of personal preferences. While she presents a much more nuanced approach to the issue of Net Neutrality, the list provided by her is not exhaustive and not very clear.

12. The *third* approach, as espoused by Mathew Principle, argues that since we do not know the undesirable outcome that is likely to arise out of such practices, we should desist from framing rules and instead, should confine ourselves to standards. This would prevent people from exploiting loopholes in rules and getting past them. A standard is identified and every action is tested against that standard.

13. From the foregoing discussion, Ms. Marda concluded that there is no one definition of Net Neutrality and none of the approaches has sufficient consensus to be considered the dominant approach. She then went on to discuss the legislation governing Net Neutrality in Slovenia, Netherlands, Brazil, United States and Chile. She concluded her presentation with certain guidelines that can be followed for justified network management, broadly modeled on Article 14 of the Indian Constitution. Ms. Marda said that as a general rule, discrimination in the Internet space should be avoided. However, where it is not possible to do so, discrimination must be based on "intelligible differentia", bearing a "rational nexus" with an aim, which should be "legitimate" such as ensuring the security, stability and technical viability of the network. She further stated that in the case of provision of specialized services like Skype, such provisions should not harm normal Internet usage and must only be available on request.

14. Mr. Janardhan Pashupati primarily dealt with the idea of Zero-rating and its treatment in multiple jurisdictions, with a special focus on Chile. Every unique country, he pointed out, has its own unique circumstances, environment, history, industry and patterns of usage, which influence the need, and the kind of regulation it adopts.

15. His central argument dealt with analysing the different price sensitivities of consumers in developing countries. Chile, he mentioned, is central to this comparison, for it shares an economic and social environment similar to that of India, and because of its recent legislations. Being one of the first proponents of Net Neutrality, Chile amended their Telecommunication Act to

prohibit ISPs from interfering, discriminating or hindering the content, applications or services, with the exceptions of situations which relate to privacy of users, protection from viruses and network security. This, in essence, creates a situation in which access to content is unhindered, and no discrimination based on source or type takes place, and any unauthorized throttling or blocking of data is prevented.

16. The intricacies of the system and its approaches are highlighted by showing the interconnected treatment of competition issues and Net Neutrality and by putting them under the regulation of the same body i.e. Subtel. The functional authority and jurisdictional sphere of Subtel, vis-à-vis the government, is described by the demarcation between legislative and the enforcement functions, which are handled by the legislature and Subtel, respectively. At the same time, the government of Brazil has restrained itself to ensure that it does not become overtly paternalistic, by allowing for controlled and consensual provision of zero-rated services.

17. The Chilean government, according to him, is being extremely cautious to not repeat past mistakes, and to avoid a situation similar to that in other sectors like media and telecom in the country; which are heavily monopolistic, with 95% of all print titles being held by two media houses, El Muricuro and Copesa, and 60% of radio stations being owned by a single Spanish group, Prisa. Chile is reeling under the remnants of a system established under a crony dictatorship, which furthered vested interests and private loot. This essentially means that the Internet is the one free media space where any Chilean can work, consume and produce without fear of persecution, heavy entry barriers and high costs, making it an optimal tool of social change in a low income country dependent upon agriculture, fishing and tourism. Subtel is also taking steps to boost fibre-optic connectivity to eliminate the asymmetries between fixed and mobile networks. Other initiatives of the government include mandatory billing per second for voice, and per-kilobyte for all data uniformly, which in effect restricts the ability of the ISP to enter into Zero-rating arrangements with content providers.

18. The result of these prescriptive legislations can be witnessed in the transformative effects on the economy and the society,

which has seen an explosive growth of 49.2% in Internet penetration, reaching a penetration of 22.8 connections per 100 inhabitants. There has also been a significant growth in mobile navigation, which represents 76.6% of 3G connections as of December 2012. These steps have allowed Chile to advance quickly, and reach a level of penetration of 50%, which is at par with that in the OECD countries, rising exponentially from the earlier figure of 37%. The mobile phone market as well, has seen a steady growth of both subscribers and traffic, whereas fixed phones have fallen in stock and traffic.

19. Unlike what was theorized earlier, Mr. Pashupati pointed that Net Neutrality laws are actually helping more people connect to a wider range of the Internet. The aim of universal access has not been abandoned. New and innovative products are and can be developed by new players in the internet markets that are better suited to cater to the needs of the consumer population in their local conditions leading to a situation of shared wealth. Therefore, creating an unequal playing field will hamper this environment of innovation. This, as per him, is a unique opportunity for India, which should learn from Chile's experience to ensure greater access to further the cause of democracy, nurture innovation to help alleviate the challenges of poverty, and guide the nascent Internet sector in India.

20. Mr. Ramachandran provided an example of an Internet provider throttling during primetime hour and thereby, adversely impacting Netflix. He asked whether such a facially application agnostic measure could in effect discriminate against a particular application. Mr. **Ramanjit Singh Cheema** added to this point, asking how one could deal with such discrimination in effect. Ms. Marda said that an unjustified discrimination in effect against a particular application could be avoided by user control prioritization and greater transparency in operations. Mr. Pranesh Prakash added that such discrimination in effect may not be undesirable as long as it is done for a legitimate purpose.

21. The panel was posed a question regarding two methods of regulation - the Chilean model of combining both competition and information technology aspects under one body and the TRAI model of having two different regulators for competition and information technology matters respectively. Mr.

Ramachandran said that as per Section 11 of the TRAI Act, the body has regulatory powers when it came to interconnection and recommendatory powers in all other matters. Therefore, it can refer a matter to the Competition Commission of India if it considers it appropriate. Mr. Ranjan Mathews raised a criticism of the Indian TRAI model, whereby TRAI only has regulatory powers while the Department of Telecom has the power to frame policies. He was concerned about the effectiveness of such policy-regulatory dichotomy.

22. Another question was concerned with whether the policy of treating similar data similarly is in consonance with application agnosticism and the general conception of Net Neutrality. Mr. Ramachandran answered that there was no inherent problem in treating different classes of content differently. In fact, he stated that the certain real time services like Skype need to be treated differently from asynchronous content like emails. It would become an issue only if it started disadvantaging certain kinds of services. Ms. Marda said that as long as the conditions of intelligible differentia, rational nexus and legitimate aim are complied with, there is no real conflict with the principles of Net Neutrality.

SESSION IV: LEGAL FRAMEWORK IN INDIA AND THE WAY FORWARD

Moderator: Ms. Nirupama Jayasimha, Associate, Trilegal.

Panelists:

1. Mr. Pranesh Prakash, Policy Director, Centre for Internet and Society.
2. Mr. Rajan S. Mathews, Director General, Cellular Operations Association of India.
3. Mr. Ramanjit Singh Chima, Asia Consultant, Access Now.
4. Mr. Ganesh Prasad, Partner, Khaitan & Co.
5. Student Speaker: Mr. Pushkal Dubey, III Year B.A., LL.B. (Hons.), NLSIU.

    1. Mr. **Rajan S. Mathews** explained that the Indian network operators are in favour of Net Neutrality. He advocated for a simple definition of Net Neutrality which is specific to Indian context and must be able to account future innovations. Additionally, he emphasised that Net Neutrality must be understood in the context of public policy and must take into account the 1 billion people who do not have broadband connections.
    2. Mr. Rajan then explained the five major networks around the world *viz.*, landline network, mobile network, cable network, satellite network and private network. In India, the principle network is the mobile network, but there are licensing requirements in this sector. At present, the average speed of connections in India is very poor and the onus to invest and improve the same has been placed upon the networks operators. Mr. Rajan said that the definition of Net Neutrality must take into account these obligations of the operators.
    3. Mr. Rajan, then shifted his focus to the OTT players. He pointed that the OTT players and network operators have a symbiotic relationship. The network operators support the principle of 'same service same rule' for the OTT services. This means that players providing the same services are to be governed by the same rules.
    4. He said that the debate on Net Neutrality in India should focus net quality and net equality. Further, the OTT companies must

also start taking responsibility for the externalities. If they do harm, they must gather costs. There is a difference in the obligations of the OTT players and the network operators. For instance, the operators have to pay 15% of their revenue (if they provide the voice over internet service) to the government and also pay a service tax of 13.5%. OTT players have no such commitments. The operators have to ensure quality service. He explained this with an example, that if Facebook goes down, they don't have an obligation to come back within an hour or 2 hours. However, the operators have to provide 99.999% up time networks and services, failing which they are penalized. He concluded by saying that if the OTT players aren't regulated, then the government can reduce the regulatory burden for operators as well

5. Mr. **Ramanjit Singh Chima** emphasized the importance of protecting Net Neutrality not only in theory, but also in practice. In our quest to make the free market function better, a regulatory framework that effectively regulates modern network management systems and ensures fidelity towards it is needed. Mr. Chima ruled out the possibility of strictly applying competition law or anti-trust law to deal with the Net Neutrality issue as it prevents any form of vertical integration. The need to view Net Neutrality as a part of a larger telecommunications idea and not just as an anti-trust idea was thus stressed upon.

6. While advocating for an open Internet space, he noted how the internet, as an open dynamic medium, makes it easier for innovations to find an easy way through the web. The prospect of treating telecom operators as common carriers and subjecting them to regulation to prevent them from deciding what categories of a service the consumer should get on payment for a certain service was put forward as well. In this regard, the clauses that provide for unrestricted access to the Internet by the subscriber and the power of the TRAI to issue binding regulations with respect to the quality of services etc. under Section 11B of the Telecom Regulatory Authority Act, 1997 were cited.

7. Further, the Federal Communications Commission in the USA was used to illustrate the kind of independent regulatory agency that is needed to deal with the Net Neutrality issue. An immediate solution was to bring in some clarity in the DoT license framework about what activities are permissible and what

aren't, and the powers of the TRAI as an independent regulator. Lastly, the issue of OTT services was also dealt with wherein he opined that VoIP providers are not the same as network providers and should therefore be subject to different regulations. He concluded his comments while stressing on the need to regulate common carriers and accommodating the concept of an open Internet in the regulatory mechanism.

8. The next speaker, Mr. **Pushkal Dubey** was also in support of having a regulatory framework in place. He suggested that the regulatory framework must adequately take into account the interest of several stakeholders by protecting the consumers' choice, providing scope for innovation to content providers and at the same time, not creating any disincentive for the telecom service providers.

9. The issues that have surfaced with respect to data discrimination, including paid prioritization and Zero-rating of services, were discussed thereafter. He noted how paid prioritization is a consequence of congestion on the Internet. The fact that paid prioritization allows ISPs, who do not even form a part of the market; to affect competition in the market through stifling of data transmission was highlighted. Further, it disincentivizes the ISPs to take up the expansion of the market. The privacy concerns that paid prioritization raises were also brought into the realm of discussion.

10. Another important facet of the debate that he dealt with was Zero-rating of services like the Airtel Zero, wherein the content providers pay the ISPs to enable free use of their services by the subscribers. While this model seems to be beneficial to all parties in allowing ISPs to maximize profits by bringing in a larger number of applications, allowing consumers to abstain from using data and enabling greater outreach for the content providers, it doesn't explain how the content providers would get enough money to make their services available on the Zero-rating platform. It was argued that these Zero-rating services do not necessarily stifle competition due to the different ways in which consumers behave. In this regard, he brought out how the class of consumers that is presently accustomed to accessing all the data on the Internet remains unaffected through such services, as they would continue to pay for the content not available on such a platform. He then discussed how the

Zero-rating model is also beneficial for the class of consumers that use the Internet for specific purposes, by actually augmenting the already existing allocation of resources directed towards the access of such services. The major requirement of regulating any exclusivity in services brought onto the Zero-rating platform to ensure efficacy of other measures was also brought out.

11. Lastly, emphasizing the need for adopting a fair regulatory mechanism to prevent anti-competitive practices, the concept of exempting niche startups from the exorbitant fixed costs of getting listed on a Zero-rating platform and using a percentage of the revenues as a measure was suggested so as to adequately provide for and protect any innovation.

12. Mr. **Ganesh Prasad** began with pointing out that the real issue being debated here is not differential bandwidth cost, but unfettered access for all and no undue preferences to the companies. He said that it was not possible to treat all traffic on the Internet in an equal manner, as real time services cannot be delivered unless the service provider networks are configured to prioritize these packets against conventional packets for immediate delivery. He conceded that the prioritization of some packets will result in slowing down of others, but this issue can be solved if we increase data network capacity significantly. He pointed that the operators need most spectrum to use 3G and 4G. Spectrum cannot be manufactured and they have to migrate the existing 2G network used by GSM to 3G and 4G.

13. Mr. Prasad was in favour of treating all content providers' paid content equally. However, consumer demanded traffic could be given preference. If they are paying, then there is no harm is providing them what they demand. He then addressed the question of whether bandwidth charges of the content providers should be at the same rate. He said that this was not necessary. Telecom service providers should be allowed to charge different rates for different service packets similar to a vegetable vendor's volume based discount.

14. He said that he was in favour of service providers profiteering from bandwidth sale. He justified his response by giving the example of roads. One does not pay for usage of roads as it is built on taxpayers' money, but we do pay for its maintenance. There are different rates for different kinds of vehicles. However, Internet is not built with taxpayers' money and still

the government collects revenue from it, be it spectrum auction, usage charges, license fees or even the corruption money. In such a situation, it will not be wrong to allow the telecom service providers the right of reasonable profit. He reiterated that the real issue here should not be differential bandwidth costs but unfettered access and ensuring that no undue preference is given to big companies. He concluded by saying that protection of consumer interest should be the ultimate goal.

15. Mr. **Pranesh Prakash** started by reasoning out the need to regulate the telecom sector. He said that it is all about networks and if they collude, it will lead to an anti-competitive atmosphere prejudicing the consumers. The purpose of a regulator is threefold: to prevent long-term detriment to consumers, to provide universal and affordable access, and to ensure and promote access and prevent harm.

16. Net Neutrality debates are the symptoms and not the root cause. The real issue is who should pay how much in transmitting data on Internet. Internet Service Providers and Telecom Service Providers are gatekeepers as they are the exclusive route to all the consumers. There is no multiplicity of routes available. However, in the Zero-rating there are multiple routes available which we fail to see. This failure leads to our ignorance due to which we do not feel like regulating them. Therefore, the global opinion is that the gatekeepers should not discriminate against content and the regulation should address this.

17. He further clarified that regulatory models differ across the globe. The lack of Net Neutrality covers issues such as freedom of speech and expression, privacy, association etc. Harm to competition leads to decreased incentive for innovation at the content provider level. There is always a cost to start up an e-commerce venture or an enterprise on the Internet. There are concerns of innovation of the ISP models and these are to be considered as well. We need to understand and appreciate that innovation is at multiple levels. People who are against the Net Neutrality principle take this stance because it harms innovation at the networking layer.

18. He said that even a closed network has its value but Internet has its value attached due to its openness. Though it is believed that Internet is governed by the end to end principle, it is merely a design principle and does not surmise the way it functions.

The goal of Net Neutrality should be consumer welfare, which is ideal in a situation when we have better interconnection in markets, but these multilateral agreements are dispensed with by the companies due to the cost involved. This agreement helps these companies in gaining domination in the market. This was illustrated in the context of Comcast-Netflix deal, which did away with the intermediaries that played the role of forming an interconnected network. Every change in the use of 2G, 3G, and 4G usage by the consumers will affect the shape and form of the regulation. Therefore, it needs constant revision. In the end he said that fewer regulations will lead to better realization of the goal of Net Neutrality.

19. During the Q&A session, Mr. Amlan Mohanty asked whether the Cellular Operator Association of India was in favour of a law on Net Neutrality and their stand on Zero-rating. Mr. Mathews replied by stating that the rules and guidelines were already existing under which Net Neutrality could be enforced and a law on the subject had to account for political dynamics. Mr. Chima followed up by stating that the Zero-rating policy is not outside the ambit of Net Neutrality.

20. The next question was posed by Mr. Divij Joshi. He asked about the potential impact of ISPs over the government considering their status as the gatekeepers of the Internet. Mr. Mathews clarified that there are multiple gatekeepers of Internet. He further stated that there is an issue of intermediary liability and there are several guidelines which have to be complied with by the telecom operators as well as the OTT service providers.

21. Mr. Aradhya Sethia questioned the credibility of the argument, which Airtel provides about the Zero-rating policy that the content providers for Zero-rating plan have to pay more than the required amount. Mr. Mathews replied that both internet.org and Airtel Zero invited applications at zero cost. However, if they enterd into anti-competitive agreements, then the penalty is as high as 50 crores.

22. Mr. Prakash was asked a question regarding the impact of open spectrum of Net Neutrality and the kind of innovation needed. He responded that the innovation is not related to network technology but interconnection. The requirement is of information regarding who pays whom and how much. Extracting

this information has become extremely complex and the entire sphere is network economics.

23. The final question was posed by Ms. Sharada. She asked if there was an ideal policy approach that could help in implementing Net Neutrality in India. Mr. Chima responded by saying that an immediate solution lies in the DoT licensing framework and TRAI licensing framework. The long term fix lies in the legislation on communication laws. Mr. Ganesh Prasad responded by stating that it is premature to have a blanket Net Neutrality regulation. Mr. Prakash responded by questioning whether the present political climate is in favour of Net Neutrality. However, he favoured the issue of positive discrimination on the basis of various business models. The actual regulation should neither be in the form of rules nor regulations and should be reviewed every two years.

PART II

GENERAL

Free and Open Source Software and the Twin Tragedies

Ananth Padmanabhan†

Who can afford to do professional work for nothing? What hobbyist can put 3-man years into programming, finding all bugs, documenting his product and distribute for free? The fact is, no one besides us has invested a lot of money in hobby software . . . there is very little incentive to make this software available to hobbyists. Most directly, the thing you do is theft . . . Nothing would please me more than being able to hire ten programmers and deluge the hobby market with good software.

—Bill Gates' open letter in 1976 to
the Homebrew Computer Club[1]

I. Introduction

The past decade has seen the rise and rise of free and open source software (FOSS) as it has made considerable inroads into Government, healthcare, media, automotive, energy, finance, aerospace, retail and several other sectors.[2] There are studies that reveal exponential expansion of the total amount of source code as well as the total number of open source projects over a period of more than ten years.[3] FOSS is arguably preferred as server software, operating systems embedded in products ranging from mobile phones to video recording devices, and scripting language for the internet, and even Microsoft had released two substantial blocks of code under this license

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† Fellow, Carnegie India.

1 Samir Chopra & Scott D. Dexter, Decoding Liberation: The Promise of Free and Open Source Software 12 (2008).

2 *Future of Open Source Survey*, BlackduckSoftware.com, http://www.blackducksoftware.com/future-of-open-source (last visited Jan. 7, 2014).

3 Amit Deshpande & Dirk Riehle, *The Total Growth of Open Source*, *in* Open Source Development, Communities and Quality 197, 197 (Barbara Russo et al. eds., 2008).

in 2009.[4] All of this compels us to question Mr. Gates and ask whether he went terribly wrong with the grim assessment of "rational" coder behavior made way back in 1976? As a necessary corollary, what does the success of FOSS teach us, and how best can these teachings help us craft sound legal and economic policies that foster innovation in the world of technology? This paper attempts to understand the incentive structures, the hierarchical organisation, and the shared norms, all of which have certainly contributed to the growth of FOSS to where it stands today.

At the same time, this paper is no roving enquiry into the FOSS movement. There is a conceptual anchor to this study, that being the twin tragedies in property theory – the jurist's dream, the policy maker's nightmare. The first is the tragedy of the commons, and the second, its mirror image, the anti-commons. They make it important for property regimes to walk the tightrope between two extremes: i) too many beneficiaries and no effective bearers of rights, and ii) too many rights holders and diminished benefits over time. Because they find their origins in *real* property, some recalibration is required before applying them to the world of ideas and innovation. This paper does that, and then enquires whether: i) the FOSS model/s of innovation manage to successfully walk this tightrope and balance several competing interests and concerns, and ii) if it does, whether similar models can be developed by businesses to foster innovation in other realms of technology, and should be encouraged by lawmakers including by way of reform to the intellectual property laws as we have traditionally used and understood them. Academic literature that equates the FOSS model to a "commons" of ideas abound, but as discussed in Part II, a large part of such literature ignores, or deals cursorily with, why the FOSS commons has stayed clear of Hardin's tragedy.[5] This paper attempts to provide an explanation, largely highlighting the oversight of theorists who ignore nuances of the FOSS model when conveniently equating it with a plain "commons". The deeper contribution of this paper is however in the realm of the anti-commons. After recalibrating the scope of this tragedy in the intellectual property space, this paper argues in Part III that the FOSS model is a larger success when it comes to averting an anticommons tragedy than in creating a plain "commons". This success, not unexplored in much detail in the existing literature, can potentially mould the foundation for applying the open source model as a more general template while crafting policy in the intellectual property space.

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[4] JOSH LERNER & MARK SCHANKERMAN, COMINGLED CODE: OPEN SOURCE AND ECONOMIC DEVELOPMENT 1-2 (2010).

[5] Garrett Hardin, *The Tragedy of the Commons*, 162 (3859) SCIENCE 1243, (1968).

Part I of this paper surveys the FOSS movement from its early days to the present, including its fundamental philosophy and on-the-ground execution of such philosophy, its growth in size and scale, and the nuances in the ideological postures of its advocates. This part also looks into the different factors that have contributed to the growth of FOSS, such as the motivations of coders to be part of a "free" creative endeavor, the relatively flexible hierarchical structures that give considerable space for "free play", and the shared values that integrate coders completely into the movement thus nurturing new creative activity from time to time. Part II switches gears to property theory, focusing on the tragedy of the commons. After outlining the contours of this concept as initially developed in the context of real property, I proceed to gauge its possibility in the intangible property space. Then, I go on to explore reasons as to why this tragedy has not apparently occurred in the FOSS experience and whether such apparent non-occurrence should embolden us to discount the role of intellectual property rights in incentivizing innovation. I present an alternate vision of the FOSS model, one where both proprietary and FOSS models have in fact been instrumental to a considerable extent in averting a "theft economy" in the software world and thus preventing the occurrence of this tragedy. Part III proceeds to examine the "anticommons" tragedy, recalibrates it in the context of intangible intellectual property, and builds a case for my conclusion that the FOSS model has been effective in averting a serious anticommons tragedy in the software sector – an effect that has not been given its due recognition. A short conclusion follows in Part IV, where I discuss, in brief, the lessons for copyright and patent policy from this success of the FOSS movement in averting an anticommons problem.

II. The Land of the "Free"

The one revolutionary idea in FOSS which can be considered the acorn for the oak tree is the decision to provide end users with the source code. Everything else, including the flexibility in fixing bugs and cleaning up or even quickly replacing flawed versions, the motivation of several young coders to write software and contribute to the "movement", the more democratic and less rigid structures of hierarchy in open source software project, and the comfort that industries today have in using open source software, can be perceived as direct or indirect consequences of this decision. In sharp contrast, proprietary software only allows the end user a limited license to use the software, with no access to the source code. The source code is protected as a trade secret, and redistribution of the software is impermissible

under copyright law. This striking difference between FOSS and proprietary software in their approaches to the disclosure or otherwise of the source code forms the fulcrum of the study here. For this reason, the story behind the free software movement, which is also interlinked in interesting ways with the history of coding and software in general, deserves brief narration.

A. (R)evolutionary Days

The Electronic Discrete Variable Automatic Computer (EDVAC), designed and delivered for use in 1949, marked a seminal moment in the world of machines. The world had its first prominent "stored program" machine – one with which humans could interact purely through software without changing or rewiring the hardware to suit new functions and data.[6] But this was simply not enough because the world required high-level programming languages so that programs written in them could be automatically translated by compilers into machine code. There was real urgency in moving beyond "assembly languages" and batch processing. The concerns of innovation in this field and era were multifarious and diverse, and only collaborative efforts could tackle them. The Project for the Advancement of Coding Techniques (PACT), a collaborative venture involving IBM and four of its customers, worked on writing compiler software. The Society to Help Alleviate Redundant Effort (SHARE) worked in collaboration to write library routines that all of its members could use. These collaborative efforts were good for the industry too, as IBM saw increased acceptance of its equipment.[7] The Digital Equipment Corporation (DEC) expressly encouraged customers to participate in the ongoing development of its products because it simply lacked the internal resources to develop software. DEC went to the extent of furnishing customers with copies of its technical manuals. This openness and flexibility attracted universities to use its machine, the Programmed Data Processor (PDP), leading to a hacker culture built around the machine.[8] Information sharing, much needed for any effective collaboration, became the name of the game. The world of software development simply could not afford wastage of time spent reinventing the wheel due to lack of coordination.[9]

In 1969, UNIX came. UNIX, the first operating system to be written in C – a machine-independent high level programming language – tantalizingly promised a bridge between 'geeks' working on different hardware platforms.

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[6] SAMIR CHOPRA & SCOTT D. DEXTER, *supra* note 1, at 3-4.
[7] *Id.* at 6.
[8] *Id.* at 8.
[9] STEVEN LEVY, HACKERS 28-29 (2d ed. 2010).

AT&T, UNIX's "owner", could not enter computing business due to antitrust barriers, resulting in free licensing of UNIX *along with the source code*. UNIX was also the first operating system to include core internet software like the TCP/IP networking protocols. This provided substantial nourishment to the communication culture, fueled by e-mail and bulletin boards that had sprung up around the ARPANET and its backbone PDP-10 sites.[10] The hobbyists and enthusiasts who were, around the same time, experimenting with hardware to lay the foundation for personal computing, strongly believed that software must be free and open in order to spread the word about the growing power of personal computing. Thus, by 1975, three separate hacker cultures were thriving: the ITS community at MIT, the UNIX/C networked crowd, and the personal computing enthusiasts located largely on the West Coast. In these communities, the notion of software as a good that could be sold, or as property that could be stolen, was alien.[11]

But this notion was increasingly gaining purchase in the fledgling computer industry, and soon enough, the hacker space too. By the mid-1980s, a new criterion for hacker stardom had crept into the equation, in addition to elegance, innovation, and coding pyrotechnics: awesome sales figures.[12] DEC weakened the ITS community by discontinuing its PDP-10 series, and Symbolics, a spin-off company, depopulated it by hiring many of its hackers. The modern computers of this period, such as the VAX or the 68020, had their own operating systems, but one had to sign a non-disclosure agreement to procure even the executable copy, let alone the source code.[13] By 1983, the hundreds of proprietary software licenses riding on the microprocessor wave had become strong enough to satisfy courts and deter potential infringers.[14] Once the antitrust barrier against AT&T had run its course, they started licensing UNIX on proprietary terms and stopped providing access to the source code even for academic purposes.[15] Licensees of UNIX, including IBM, Sun and Microsoft, developed their versions of UNIX and licensed these versions only in object code form, resulting in "forking", i.e. the development of many incompatible versions.[16]

As Richard Stallman recounts, these and other developments that tilted the balance heavily in favor of proprietary software models, presented him

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[10] Samir Chopra & Scott D. Dexter, *supra* note 1, at 10.
[11] *Id.* at 10-11.
[12] Steven Levy, *supra* note 9, at 389.
[13] Richard M. Stallman, Free Software, Free Society 7-8 (2d ed. 2010).
[14] Sam Williams, Free as in Freedom 2.0: Richard Stallman's Crusade for Free Software 99 (2d ed. 2010).
[15] Samir Chopra & Scott D. Dexter, *supra* note 1, at 136-37.
[16] Heather J. Meeker, The Open Source Alternative: Understanding Risks and Leveraging Opportunities 5 (2008).

with a "stark moral choice" to join the "proprietary software" club, leave the field of computers, or write a program that made a free community possible *once again*.[17] It was his decision to go with the third option that led to the *re-birth* or *revival* of free software. In January 1984, he quit his job at MIT and began writing GNU software. When GNU Emacs, the text editor written by Stallman as an alternative to the proprietary Gosling Emacs, grew in popularity, other coders started getting involved with the GNU Project. This necessitated more funding, and the Free Software Foundation (FSF) was born as a consequence.[18]

Though the initial goal of the GNU project was to develop the complete GNU operating system and then release it, the voluntary nature of the code-writing activity resulted in users spending unequal amounts of time on different components of the system. The self-allocation of activity depended in large measure on the popularity of each component, and the inclination of coders to keep perfecting existing components without writing new ones. While this process made these programs much more powerful, and attracted both funds and contributors to the GNU Project, it also delayed completion of a minimal working system by several years.[19] By 1990, the only major missing component was the kernel. The GNU Hurd, which was being internally developed as the kernel, failed to live up to the mark. However, at that point, Linus Torvalds who had developed Linux – a Unix-compatible kernel – made it available as free software. This led to integrating Linux with the GNU system and giving the world its first free and complete operating system, GNU/Linux, in 1992.[20] From that point, the free software movement has indeed grown in an unprecedented manner, the important reasons for which shall be discussed in the following sub-parts.

The above narrative, though brief, becomes important to understand the political economy behind the free software movement.[21] The key fact that merits highlighting here is the comprehension that there existed a culture of information-sharing and collaboration in the early days of the software industry. "Free" was as much a norm as "proprietary" before proprietary took the lead at just the point in time when it was technically becoming more feasible to share and collaborate through an emerging internet.[22] The existence of a parallel free culture was definitely instrumental in prompting

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[17] RICHARD M. STALLMAN, *supra* note 13, at 9.
[18] *Id.* at 11, 13.
[19] *Id.* at 17.
[20] *Id.* at 19.
[21] SAMIR CHOPRA & SCOTT D. DEXTER, *supra* note 1, at 1.
[22] KARL FOGEL, PRODUCING OPEN SOURCE SOFTWARE: HOW TO RUN A SUCCESSFUL FREE SOFTWARE PROJECT 13 (2009).

developers like Stallman to resist losing the battle to proprietary, and to try and work out innovation models within a free system.[23] In other words, the battle was more about regaining free culture than creating it anew.

This distinction becomes important in Part II, when examining whether, and if so to what extent, the free software model can be considered a template for commons-based production.

B. Shared Norms and Hereditary Licenses

The GNU Project may have been the vision of a few determined coders, but the free software movement has moved on to achieve much larger and grander scale and presence today. The foundation of shared norms and values provided early on and around which all software development was intended to take effect, is an important reason for this growth. Indeed, if Stallman or Linus Torvalds were only feeling charitable, they could have dedicated GNU/Linux to the public and thus given it for "free".[24] But that was not the concept of freedom that Stallman or FSF believed in, as revealed through the recursive "copyleft" mechanism that they chose instead. Theirs was a notion of freedom influenced by the practice of working with source code and the benefits this brought about to both end-user experience and continued innovation. The Free Software Definition, in pursuance of this notion, lists as integral to any "free" software, four freedoms, namely:

(i) to *run* the program, for *any* purpose,

(ii) to *study* how the program works, and to *adapt* it to one's needs,

(iii) to *redistribute* copies, and

(iv) to *improve* the program and *release* such improvements to the public.[25] Without open access to the source code, the second and fourth freedoms cannot be meaningfully exercised. To guarantee the same user freedoms over improvements and derivative adaptations of the original code made by other users, the hereditary licensing model came in.

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[23] Richard Stallman, *The GNU Operating System and the Free Software Movement*, *in* Open Sources: Voices from the Open Source Revolution 53, 55-56 (Chris DiBona et al. eds., 1999). For more factual information on Stallman's tussles with the non-disclosure of source code in the period prior to the launch of the GNU Project, see Sam Williams, *supra* note 14, at 1-11.

[24] Tim Berners-Lee had done exactly that when he declared his protocol for the internet and its implementations to be in the public domain. *See* Christopher M. Kelty, Two Bits: The Cultural Significance of Free Software 103 (2008).

[25] Heather J. Meeker, *supra* note 16, at 21.

The idea behind hereditary licensing is simple enough, and in essence the same as Stallman's motivation for the GNU Project: do not to others what you would not like seeing done to yourself.[26] The GNU General Public License (GPL) which fully internalizes this motto is worth a quick study. The preamble to this License makes it clear that the "free" in "free software" has only to do with "freedom" and not "price". Even when copies of a program are distributed for a fee by the original licensee, the objective is to ensure that the recipients receive or can demand the source code and do enjoy all the rights that the original licensee had.[27] To guarantee this, GPL imposes a mirror-image restriction on the licensee: while the licensee has free access to the source code of the licensed work, any derivative work created by the licensee has to be distributed in source code subject to the same freedoms, limitations and restrictions as the licensed work. Because this is so, the subsequent licensee of the derivative work will in turn have to permit further licensees to enjoy identical freedoms in respect of modifications made by the subsequent licensee, thus spreading these freedoms in a "viral" fashion.[28] The fallout of these provisions is two-fold: (i) it prevents distribution of any covered work, i.e. the unmodified program or a work based on the program, on terms inconsistent with the freedoms and restrictions in GPL, and (ii) it effectively prevents combining software covered under GPL with those covered by other licenses that impose a different set of restrictions, most notably proprietary software and even software covered under other, less free, open-source licenses.[29] To overcome possible arguments of absence of contractual privity that subsequent licensees in the distribution chain may take up, the license also provides that whenever a covered work is conveyed, the recipient shall automatically receive a license from the original licensors, to run, modify and propagate that work, subject to the terms of the GPL.[30] The preamble and the terms of the license also protect against instances where the redistributors may obtain software patents, by making it clear that any such patents are to be mandatorily licensed along with the code.[31] The disclaimer of warranties in respect of the licensed work is coupled with an express permission to licensees to offer support or warranty protection for a fee, thus providing room for a business model.[32]

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[26] RICHARD STALLMAN, *supra* note 13, at 9.

[27] ANDREW M. ST. LAURENT, UNDERSTANDING OPEN SOURCE AND FREE SOFTWARE LICENSING 36-37 (2004).

[28] Sections 4 and 5 of the GPL Ver. 3, available at http://www.gnu.org/licenses/gpl.html (last visited Jan. 6, 2014).

[29] ANDREW M. ST. LAURENT, *supra* note 27, at 157.

[30] ANDREW M. ST. LAURENT, *supra* note 27, at 43; Section 10 of the GPL Ver. 3, *supra* note 28.

[31] Section 11 of the GPL Ver. 3, *supra* note 28.

[32] ANDREW M. ST. LAURENT, *supra* note 27, at 38; Section 4 of the GPL Ver. 3, *supra* note 28.

The GPL model does not however give out the full story. In reality, there is no one hacker ideology, but many such ideologies built on differing perspectives on free software as an end in itself, and the hostility to or acceptance of commercial software and its vendors.[33] These ideologies clashed in full public view in the mid '90s, primarily due to Linus Torvalds' increasing popularity among young coders who did not find commercial software reprehensible or unethical. Many of them, including Torvalds, grew up in a world of proprietary software, and contributed to free software without perceiving any injustice in non-free software. Therefore, they were mostly concerned about the technical inferiority of any program, not its licensing model.[34] This pragmatism and openness to commercial software soon found takers in industry as well, as best revealed by the Netscape story.[35] The Netscape episode culminated in the pragmatist camp and industry supporters replacing "free" software with the more benign expression, "open source".[36]

The diverse ideologies thriving in the "open" since the mid '90s have in turn found expression in the FOSS licensing model too. The very zealous and openly anti-commercial FSF's attitude is reflected in GPL.[37] Similarly, the pragmatist philosophy is reflected in the most permissive academic licenses, such as the Berkeley Software Distribution (BSD) license,[38] and the middle-of-the-road ones such as the Apache License that permit original modifications by contributors to be distributed on proprietary terms.[39] So, there is no singular standard for an open source license, only a spectrum of permissive licenses with differing attitudes to both free and commercial software. At the same time, the Open Source Definition (OSD) instils fundamental values into the licensing model by prescribing ten essential pre-requisites that any license must comply with in order to qualify as an "open source" license.[40] These ten principles reflect an interesting balance between retaining the core values of the free/open source movement such as distribution of the source

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[33] Eric S. Raymond, The Cathedral and The Bazaar: Musings on Linux and Open Source by an Accidental Revolutionary 67-68 (2d ed. 2001).

[34] Sam Williams, *supra* note 14, at 161-62.

[35] Netscape, when faced with losing market share for its Netscape Communicator, an internet browser directly competing with Microsoft's Internet Explorer, chose to shift from a proprietary to an open source model in January 1998. However, they shunned the GPL license due to various reasons, instead crafting the Mozilla Public License that attempted to tread a pragmatist middle path that would work in a "corporate" setting. *See* LAWRENCE ROSEN, OPEN SOURCE LICENSING: SOFTWARE FREEDOM AND INTELLECTUAL PROPERTY LAW 141-42 (2004).

[36] Sam Williams, *supra* note 14, at 165-68.

[37] Eric S. Raymond, *supra* note 33, at 69.

[38] *Id.* at 70.

[39] Section 4 of the Apache License, available at http://www.apache.org/licenses/LICENSE-2.0.html (last visited Jan. 6, 2014).

[40] LAWRENCE ROSEN, *supra* note 35, at 4-6.

code and unhindered re-distribution without any discrimination, and providing room for industry to come out with derivative adaptations and modifications that can be licensed on proprietary terms if so desired.

The free/open source movements do not restrict their methods to protect and propagate core values, to licensing models. There is an equally significant, much less visible, process of initiation to the world of free/open source programming that imparts the core values and beliefs of the movements to fresh coders. This process is important to ensure continued involvement of existing coders and induction of new ones. Without this process, the act of building on to code would come to a standstill, effectively freezing any free/open source project that is not backed by the industry. Again, the shared norms will necessarily vary within projects, depending on the dominant beliefs of the coders who matter. Some may be radical in their outlook, lending that perspective to new entrants and the project as a whole. Less rigid views, focused more on the technical than the political, may prevail in other cases. Regardless, there are baseline norms, and the success of these norms in welcoming, and binding, participants to the project can eventually determine its fate. In other words, by allowing users to become co-developers or contributors, and retaining their skill sets, FOSS encourages "natural product evolution". Such "natural product evolution" takes place within the norms of a community, the norms themselves being dependent on the nature of the project at hand.[41] Communities evolve in the free software world through role transformation, as community members who change their roles – such as from peripheral to active developers, for instance – also manage to change the social dynamics and reshape the structure of the community.[42]

The evolution of a FOSS community is thus determined by two factors: (i) the social mechanism of the community that encourages and enables individual role transformation, and (ii) the existence of motivated members who aspire to play roles with larger influence.[43] The motivation for members to so aspire, despite no monopoly rights over their creative output, is discussed under sub-part D, below. To explain the former, studies have relied on Legitimate Peripheral Participation (LPP), a community learning theory.[44] The scope and character of such LPP varies depending on the nature of the project, and in some sense, is inversely proportional to the "cathedral"

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[41] Yunwe Ye et al., *The Co-Evolution of Systems & Communities in Free and Open Source Software Development*, *in* FREE/OPEN SOURCE SOFTWARE DEVELOPMENT 61 (Stefan Koch ed., 2005).

[42] *Id.* at 69.

[43] *Id.* at 70.

[44] *Id.* at 70-71.

structure of the project.[45] Exploration-oriented FOSS projects, which aim to push the frontier of software development collectively through the sharing of innovations, require a high level of quality that necessarily brings in a tight control over the periphery. Even service-oriented FOSS projects give lesser leeway for community evolution through peripheral participation, interested as they are in providing stable, reliable and robust services without much disruption. On the other hand, utility-oriented FOSS projects that attempt to develop functional solutions to existing problems follow a more decentralized model. Such projects provide better opportunities to peripheral developers to spread their efforts into the whole system and establish themselves as active developers or core members in the larger community.[46] Social ties such as friendship, which influence opinions and outlook in the real world, can also play an important role in the FOSS world to ensure coordinated activity, pursuit of core values, and attainment of technical results that meet a certain quality.[47] Similarly, conflicts that happen on internet relay chats and mailing lists over use of non-free tools and acceptance of newcomers into the fray do contribute to building a community of practice and strengthening teamwork.[48] Finally, sustained collaborative development of code, coupled with involvement in hacker conferences and discussions and decisions around free software licenses and project policy, reinforces ethics and belief in core values over a period of time.[49] As a result, over the course of participating in an open source project, coders develop a more vigorous and overt ethical stance toward the uniqueness of their project and the importance of free software than when first joining.[50]

C. Hierarchies and Creative Openness

The propagation of core values through licensing models and other means, as discussed above, is certainly integral to the success of the free/open source

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[45] *See* Eric S. Raymond, *supra* note 33, at 27-28, 31.

[46] Yunwe Ye et al., *supra* note 41, at 73-75.

[47] Thomas Basset, *Coordination and Social Structures in an Open Source Project: VideoLAN, in* Free/Open Source Software Development, *supra* note 35, at 125, 129-30, 139-42. Contrary view has been expressed in this more recent study, Chaim Fershtman & Neil Gandal, *Direct and Indirect Knowledge Spillovers: The Social Network of Open-Source Projects*, 42 The RAND J. of Econ. 70, 88 (2011). This study concludes that there is no evidence of any correlation between contributor closeness centrality and project success, though such evidence exists in the case of project closeness centrality.

[48] Margaret S. Elliott & Walt Scacchi, *Free Software Development: Cooperation and Conflict in a Virtual Organizational Culture, in* Free/Open Source Software Development, *supra* note 35, at 152, 160, 162-66.

[49] E. Gabriella Coleman & Benjamin Hill, *The Social Production of Ethics in Debian and Free Software Communities: Anthropological Lessons for Vocational Ethics, in* Free/Open Source Software Development, *supra* note 35, at 273, 274.

[50] *Id.* at 279.

movement, but equally significant are the structures necessary to oversee what is, at first glance, a frenzied playground of coding activity. The bazaar model where "given more eyeballs, all bugs are shallow" – a less formal expression of Linus's Law: *Given a large enough beta-tester and co-developer base, almost every problem will be characterized quickly and the fix obvious to someone*[51] – is yet workable only when there is some form of control over the changes made by contributors to the code development process. Otherwise, Brooks's Law would have taken over, and adding more programmers to a late project would only have made it later.[52] Though the conceptual integrity of a program, in the cathedral vision of development, can only be preserved by a hierarchy with a system master architect at the very top and sub-architects below,[53] open source projects have more flexible hierarchies. This is needed to an extent to attract all those "eyeballs" in the first place. Pre-assigned division of work is likely to be perceived as repressive and thereby demotivate interested participants as well as hinder getting the best out of each person's abilities from among a scattered resource pool.[54] For this reason, coordination in free software privileges adaptability over planning, and relies on hierarchy only to resolve any tension between individual curiosity and collective coordination.[55] Such tension, if unchecked, can result in failure of the project, or its "forking" or splintering into variants.[56]

Studies of different open source projects reveal the use of central source code repositories that make use of some form of a Concurrent Versions System (CVS) to keep track of the changes made to a set of files, and to allow several developers to collaborate. Version control is principally about change management: identifying each discrete change made to the project's files, annotating with metadata including the date and author of each change, and providing this information to developers who seek it.[57] These repositories guarantee that each file change – called a commit or a "check in" – creates a new file version, thus keeping previous versions accessible as well.[58]

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[51] ERIC S. RAYMOND, *supra* note 33, at 30.

[52] FREDERICK P. BROOKS, THE MYTHICAL MAN-MONTH: ESSAYS ON SOFTWARE ENGINEERING 25 (2d ed. 1995). Interestingly, even this 20th Anniversary edition of this pioneering work makes no reference to free or open source models of software development.

[53] *Id.* at 257.

[54] JOHAN SODERBERG, HACKING CAPITALISM: THE FREE AND OPEN SOURCE SOFTWARE MOVEMENT 156-57 (2008).

[55] CHRISTOPHER M. KELTY, *supra* note 24, at 211.

[56] Josh Lerner & Jean Tirole, *Economic Perspectives on Open Source*, *in* PERSPECTIVES ON FREE AND OPEN SOURCE SOFTWARE 47, 53 (Joseph Feller et al. eds., 2005).

[57] KARL FOGEL, *supra* note 22, at 48; Audris Mockus et al., *Two Case Studies of Open Source Software Development: Apache and Mozilla*, *in* PERSPECTIVES ON FREE AND OPEN SOURCE SOFTWARE, *supra* note 56, at 163, 167.

[58] Jesper Holck & Niels Jorgensen, *Do Not Check in on Red: Control Meets Anarchy in Two Open Source Projects*, *in* FREE/OPEN SOURCE SOFTWARE DEVELOPMENT, *supra* note 35,

Because debugging is a vital process required for a program to transition to a programming product or a component in a programming system,[59] the technical infrastructure also necessarily includes a bug-tracking system. These centralized defect-tracking systems register information reports on bugs provided by any developer, and facilitate the committal of changes to the repository to address specific bugs.[60] Difficulties in the effective sharing of information form the rationale for Brooks's Law, which frowns upon the involvement of too many coders in a software development process. The Law especially relies on the sequential nature of debugging, which requires additional time to be spent on communication between the different coders.[61] To mitigate this concern, open source systems, in addition to the centralized bug-tracking system, make use of mailing lists, newsgroups and real-time chat systems, to channel the flow of communication and to bring everyone on to the same page without much delay.[62]

While all developers are allowed to download files from the repositories and work on them, only "committers", a chosen group of developers with special privileges, are allowed to commit changes to files in the repositories. Developers have to usually demonstrate their competence through high-quality contributions for a certain period, before they are considered for committer status. This decision may also require affirmance from more senior committers and supervisors. Even after being conferred committer status, certain open source projects provide mentorship avenues to newly anointed committers.[63] Open source projects such as GNOME, where different corporate partners pay their own employees to participate in code development, maintain a rigid distinction between volunteers who can contribute to different modules, and "contributors" who can actually commit these changes to the repository. In such cases, volunteers have to submit their patches for review and committal by these "contributors", who alone have access to the CVS.[64]

However, there are open source projects that follow more relaxed rules when it comes to committing changes to the repository, relying on more of an honor system. Here, developers are permitted to commit changes anywhere in the system but requested to confine their changes to certain specifically

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at 1, 5-7.

[59] Frederick P. Brooks, *supra* note 52, at 4-6.

[60] Jesper Holck & Niels Jorgensen, *supra* note 58, at 7-8; Audris Mockus et al., *supra* note 57, at 168.

[61] Frederick P. Brooks, *supra* note 52, at 16-19.

[62] Jesper Holck & Niels Jorgensen, *supra* note 58, at 9-10.

[63] *Id.* at 13-14.

[64] Daniel M. German, *Software Engineering Practices in the GNOME Project*, *in* Perspectives on Free and Open Source Software, *supra* note 55, at 211, 214-15.

assigned portions. There are advantages to this relaxed approach too, such as saving on administrative overheads entailed in granting wider privileges when coders expand their skill sets, and more importantly, encouraging an atmosphere of trust and mutual respect.[65] Some open source projects also have 'super-reviewers' who review most code before it is committed,[66] and module owners who need to approve the committing of code into the particular module whose development is within their supervision.[67] In some cases, there will be different middle level managers to supervise important tasks: patch managers who make sure that every patch is followed up through to some stable state,[68] translation managers who supervise the translation of the software's documentation or the software interface itself into languages comfortable for developers from different nationalities,[69] documentation managers who ensure that the software documentation is kept organized, up-to-date, and consistent with itself,[70] issue managers who familiarize themselves with the bug tracking system and manage the tackling of duplicate, incomplete, poorly described and unaddressed issues / bug reports,[71] and Frequently Asked Questions (FAQ) managers who maintain the overall quality of FAQ and write new FAQ entries based on concerns raised in the mailing lists and other communicative media.[72]

Most successful open source projects will have significant number of people involved with the code-writing process, necessitating the presence of a top-level management to avoid "forking", to take important decisions such as the timing of new version releases, and quite simply to ensure the operational health and survivability of a project.[73] The concept of a benevolent dictator is not alien to the open source model. These individuals command respect among peers through good coding skills coupled with charm and an engaging persona that set them up for natural leadership. Their influence

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[65] KARL FOGEL, *supra* note 22, at 56; *See also* Audris Mockus et al., *supra* note 57, at 171-72. A recent study indicates that the involvement of peripheral developers becomes significant once the project matures, though contributions by a core group would be more dominant in the initial stages of code-writing. By adopting a rigid hierarchy, open source projects would expose themselves to the risk of losing out on this involvement. *See* Pankaj Setia et al., *How Peripheral Developers Contribute to Open-Source Software Development*, 23 INFORMATION SYS. RESEARCH 144, 155 (2012).

[66] Audris Mockus et al., *supra* note 57, at 191-2.

[67] Jesper Holck & Niels Jorgensen, *supra* note 58, at 13-14; Daniel M. German, *supra* note 64, at 215; *See also* Alessandro Narduzzo & Alessandro Rossi, *The Role of Modularity in Free/Open Source Software Development, in* FREE/OPEN SOURCE SOFTWARE DEVELOPMENT, *supra* note 35, at 84.

[68] KARL FOGEL, *supra* note 22, at 148.

[69] *Id.* at 149.

[70] *Id.* at 150.

[71] *Id.* at 151; Audris Mockus et al., *supra* note 57, at 173.

[72] *Id.* at 152.

[73] *Id.* at 67.

is generally felt only as a kind of casting vote when the normal processes of discussion and deliberation fail to throw up a conclusive verdict.[74] As projects get older, they tend to move away from the benevolent dictatorship model and toward more openly democratic systems.[75] Many significant open source projects are headed by groups or core teams comparable to the board of directors in traditional organizations.[76] These groups are either nominated or democratically elected.[77]

There are complexities with the release of new versions of free / open source software that do not exist in the case of proprietary software. They arise because development is an ongoing process in open source. Not all developers may be satisfied with the existing "version", or be inclined to "stabilize" their creative efforts.[78] This is also a positive feature when viewed from a technical standpoint as the attempt to achieve perfection is not rendered immobile at any particular stage due to the release of a version. At the same time, users do not need to wait endlessly for the end product to achieve perfection to the satisfaction of all developers.[79] Open source projects manage to achieve this by following a trunk and branches model, where the trunk is the code that keeps evolving and the branches are the release versions.[80] This is easier said than done though because considerable amount of planning and decision-making goes into the timelines for release of the alpha, beta and final versions of any particular "branch".[81] Moreover, it is necessary to decide on, and communicate in a tactful manner, restrictions on changes to the development branch in a phased manner, to achieve the final release version without confusion or compromise of the overall development momentum.[82] To realize these needs, open source projects resort to a system of positive and express voting in favor of last-minute changes, or rely on a release owner who is responsible for approving or rejecting changes and bug fixes.[83] Release managers keep a track of the changes that are under consideration, already approved, or important and yet unnoticed, and prompt other developers to take timely action.[84] Companies that distribute open source products for revenue also necessarily require a team that

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[74] *Id.* at 68.
[75] *Id.* at 69.
[76] Daniel M. German, *supra* note 64, at 219.
[77] Jesper Holck & Niels Jorgensen, *supra* note 58, at 12.
[78] Niels Jorgensen, *Incremental and Decentralized Integration in FreeBSD*, *in* PERSPECTIVES ON FREE AND OPEN SOURCE SOFTWARE, *supra* note 56, at 227, 241-42.
[79] KARL FOGEL, *supra* note 22, at 118.
[80] Niels Jorgensen, *supra* note 77, at 242.
[81] Jesper Holck & Niels Jorgensen, *supra* note 58, at 15-17.
[82] KARL FOGEL, *supra* note 22, at 123, 125.
[83] *Id.* at 125-26.
[84] *Id.* at 127. Audris Mockus et al., *supra* note 57, at 175.

carries out economic calculations to decide on the extent of efforts that a new distribution calls for.[85]

D. Motivations, Extrinsic and Intrinsic

The success of any free / open source project, and the FOSS movement as a whole, is closely tied with the motivations of coders who are willing to devote time to a "free" endeavor. A generalized explanation offered for this phenomenon is that innovators innovate, regardless of monopolies, because the return to them from deploying new ideas is high. Free markets have never historically *guaranteed* a market to any merchant, yet innovation continues.[86] While this view may hold good in certain cases, and open source model could well be one such, not all capital investment in developing new ideas and executing them can survive absent special legal protection. Otherwise, any one purchaser could easily destroy the monopoly by reproducing the information at little or no cost.[87] Moreover, most of code-writing in open source projects is incremental, with no real opportunity for many of the individual contributors to monetize the code. They incur an opportunity cost of time, foregoing monetary compensation that could otherwise be earned by working for a commercial firm or a university.[88] However, these costs can be offset by the pleasure that coders get out of the aesthetics of writing beautiful code,[89] ego gratification from peer recognition, or even tangible benefits such as future or better job prospects, and shares in open-source based companies.[90] The complex interplay of these competing considerations of costs and benefits deserves closer scrutiny and deeper understanding, especially for the purposes of the analysis that follows in Part III of this paper.

Broadly, the motivation to involve in an open source project can be either intrinsic, such as the joy arising from partaking in the intellectual challenges

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[85] Jesus M. Gonzalez-Barahona et al., *Analyzing the Anatomy of GNU/Linux Distributions: Methodology and Case Studies, in* FREE/OPEN SOURCE SOFTWARE DEVELOPMENT, *supra* note 35, at 27, 31.

[86] LAWRENCE LESSIG, THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD 71 (2001).

[87] Kenneth J. Arrow, *Economic Welfare and Allocation of Resources for Invention, in* THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS 609, 615 (1962); JOSH LERNER & MARK SCHANKERMAN, *supra* note 4, at 25.

[88] Josh Lerner & Jean Tirole, *The Economics of Technology Sharing: Open Source and Beyond* 7 (Nat'l Bureau of Econ. Research, Working Paper No. 10956, 2004).

[89] SAMIR CHOPRA & SCOTT D. DEXTER, *supra* note 1, at 71.

[90] Josh Lerner & Jean Tirole, *supra* note 88, at 8.

of code-writing, or extrinsic, such as better jobs and career advancement.[91] Intrinsic motivation can again be separated into two components, subject to the obvious disclaimer that these components are not mutually exclusive and can inhere alongside each other in the same individual. For that matter, even intrinsic and extrinsic motivations can act in tandem to motivate a coder. These dual components of intrinsic motivation are enjoyment-based intrinsic motivation, and obligation/community-based intrinsic motivation.[92] To understand intrinsic motivation of the first kind, appreciation of the aesthetics of code-writing is essential. In this regard, parallels can be seen between descriptions of FOSS development that emphasize its spontaneous, unorganized or even chaotic qualities, and traditions in art criticism that praise the spontaneity of the creation.[93] By participating in the FOSS development process, coders place their work up for criticism by an audience of peers spread all across the world, in much the same way as artists expose the output of their creative endeavor.[94] While users are ultimately concerned only about the functionality of code, programmers have a notion of its beauty. Much as an artist extracts form from objects of experience and imposes that on canvas, the programmer imposes the form of an abstract algorithm in, and on, a particular programming language.[95] Similarly, the literary character of code introduces the possibility of a neat and clean style of writing it, thus adding a new layer or dimension of beauty. Unsurprisingly, the work of a veteran would be distinguishable from that of a novice.[96] Apart from the aesthetic quality of the output, the creative "flow" in the process of writing code and the inner joy in accomplishing a task involving intellectual challenge contribute to enjoyment-based intrinsic motivation.[97] Obligation/community-based intrinsic motivation is not different from the shared norms and values that form the foundation of the free/open source movement,[98] which have already been discussed in sub-part B above.

The most obvious extrinsic motivation is closely tied with the technical merits of the open source model, which have achieved high levels of public awareness in the past decade. Along with this success has come significant corporate presence and participation in this model, and the earmarking, by technology bellwethers, of specific portions in their budget for open

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[91] Karim R. Lakhani & Robert G. Wolf, *Why Hackers Do What They Do: Understanding Motivation and Effort in Free/Open Source Software Projects, in* PERSPECTIVES ON FREE AND OPEN SOURCE SOFTWARE, *supra* note 56, at 3.

[92] *Id.* at 4.

[93] SAMIR CHOPRA & SCOTT D. DEXTER, *supra* note 1, at 74.

[94] *Id.*

[95] *Id.* at 77.

[96] *Id.* at 78.

[97] Karim R. Lakhani & Robert G. Wolf, *supra* note 91, at 4-5.

[98] *Id.* at 5-6.

source contribution.[99] The reasons for enhanced corporate presence include improvement of employee skills through peer-driven training; possibility of utilizing some of the tools used for developing the open source code to address in-house technical concerns; gathering "competitive intelligence" about a competing open source project; gaining superior knowledge and understanding of the code as part of a business model that provides goods and services complementary to the open source product; and even better public relations.[100] Because of these reasons, firms that specialize in customized software and software that can be bundled with hardware are more likely to receive corporate funding than those with a focus on packaged open source software and support services.[101] Again, the flexibility offered by the open source license to create copyrightable derivative versions and modifications has an impact on funding prospects. Projects operating under BSD open source licenses are more than twice as likely to receive corporate funding as those operating under the more restrictive GPL or other licenses.[102] Apart from firm sponsorship which is a strong extrinsic motivation, coders also contribute because of delayed benefits such as career advancement and improvement of programming skills in course of time.[103] Another important signaling incentive is the ego gratification through peer recognition, which is more likely to materialize in the open source model than in the commercial software model of development.[104]

There are studies and theories which attribute greater significance to extrinsic[105] as well as intrinsic[106] motivations, and it is difficult, if not

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[99] JOSH LERNER & MARK SCHANKERMAN, *supra* note 4, at 48-50, 91-92. Some of the varied ways in which corporates contribute to open source development are by (i) formally or informally encouraging employees to spend some time contributing to open source projects, (ii) directly providing complementary services and products that are not supplied efficiently by the open source community, and (iii) permitting open source projects to make use of their proprietary code to achieve better technical results.

[100] *Id.* at 49-51, 91; KARL FOGEL, *supra* note 22, at 76; LAWRENCE LESSIG, *supra* note 86, at 69-70.

[101] *Id.* at 93.

[102] *Id.*

[103] Karim R. Lakhani & Robert G. Wolf, *supra* note 91, at 7.

[104] Josh Lerner & Jean Tirole, *Some Simple Economics of Open Source*, 50 J. OF IND. ECON. 197, 216 (2002). The primary reason for better prospects of peer recognition is due to the technical architecture of an open source project, where everyone can see for themselves and evaluate the contribution made by each developer. Because the programmer is acting independent of directions from the top, unlike in the case of a proprietary model, there is better performance attribution too.

[105] *Id.* at 217-220; Alexander Hars & Shaosong Ou, *Working for Free? Motivations for Participating in Open-Source Projects*, 6 INT'L. J. ECON. COMM. 25, 34-35.

[106] YOCHAI BENKLER, THE WEALTH OF NETWORKS 60, 100 (2006); Karim R. Lakhani & Robert G. Wolf, *supra* note 91, at 7; Chong Ju Choi et al., *Global Ethics of Collective Internet Governance: Intrinsic Motivation and Open Source Software*, 90 J. Bus. Ethics 523, 524 (2009).

impossible, to conclude on this issue. Most studies rely on surveys conducted among developers, and have severe limitations, including the absence of consciousness of motives, or their deliberate or unintended suppression, on the part of developers.[107] A recent study, keeping these limitations in mind, attempts to study developer motivations by analyzing the actual contributions of developer groups rather than their stated intent.[108] The central finding of this study is that developers stand enticed by notable project features such as the openness of the license, project size, and corporate sponsorship. This is consistent with economic theory that suggests higher long-term incentives under conditions of greater visibility of performance to the relevant audience, higher impact of individual effort on the final outcome, and grander information about one's talents that the performance is structured to give out.[109] Empirical patterns from this study also reveal a greater role for intrinsic factors and reputational factors, and lesser role for other extrinsic factors such as the expectation of reciprocal contributions from users, in motivating contribution from volunteers.[110] The only reasonable position to take, based on these studies and theories, is that the motivations for coders are as varied and diverse[111] as it was for a Richard Stallman, on the one hand, and a Linus Torvalds, on the other,[112] to come together to develop GNU/Linux. At the same time, open source projects have to carefully balance intrinsic and extrinsic motivations, particularly when there is corporate involvement. Corporate sponsors may naturally expect, and assert, more influence and say in the development process, and this in turn can give rise to an apprehension of control, especially in the minds of peripheral developers. This is a recipe for disaster, as it can lead to splintering of the developer community and the "out-group" developers switching their attention to projects that are perceived as more meritocratic and less susceptible to monetary influences.[113] Peripheral developers have key roles to play both in product

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[107] Rishab Aiyer Ghosh, *Understanding Free Software Developers: Findings from the FLOSS Study*, *in* PERSPECTIVES ON FREE AND OPEN SOURCE SOFTWARE, *supra* note 56, at 23, 39.

[108] Sharon Belenzon & Mark Schankerman, *Motivation and Sorting in Open Source Software Innovation*, (unpublished manuscript, Nov 2012), available online at https://faculty.fuqua.duke.edu/~sb135/bio/Belenzon%20Schankerman%20OSS%20July%202012.pdf (last visited Jan. 10, 2014).

[109] Josh Lerner & Jean Tirole, *supra* note 88, at 8.

[110] Sharon Belenzon & Mark Schankerman, *supra* note 108, at 32-33.

[111] FADI P. DEEK & JAMES A.M. MCHUGH, OPEN SOURCE: TECHNOLOGY AND POLICY 164-66 (2007); RON GOLDMAN & RICHARD P. GABRIEL, INNOVATION HAPPENS ELSEWHERE: OPEN SOURCE AS A BUSINESS STRATEGY 72 (2005).

[112] DAVID M. BERRY, COPY, RIP, BURN: THE POLITICS OF COPYLEFT AND OPEN SOURCE 116 (2008). Torvalds came to know of the free software movement because he was part of the student audience addressed by Stallman in Finland. He later recalled that although the political and ethical call to arms did not really inspire him, he saw the underlying technical logic: no programmer can write error-free code all by himself.

[113] KARL FOGEL, *supra* note 22, at 75.

diffusion through awareness, and enhancement of product quality mainly in the mature stages of code development.[114] It would be unwise to jeopardize this contribution by sending out the visual of a monolithic corporate presence,[115] by swamping the field with too many extrinsic incentives that end up "crowding-out" initially dominant intrinsic motivations,[116] or by festering coordination failures that studies have shown to exist between corporate and voluntary developers.[117]

III. The FOSS Model – A Commons Sans the Tragedy?

A. The Tragedy of the Commons

The aim in Part I was to provide a landscape of the FOSS model(s), and some of the structural and philosophical reasons for their viable and stable growth. The sharing of source code, all important in most FOSS licenses, has certainly given coders a common pool of creative ideas and expression from which they stand to benefit. It is tempting therefore to visualize FOSS as a "commons"[118] – a virtual community of like-minded individuals who band together to create and share common public goods deemed important to the community.[119] In the specific context of FOSS, they are highly skilled individuals who have remarkable technical ability, are often young, keen to impress with their problem-solving approach, drawing directly on notions of meritocracy, and generally, believers in the project of science and rationality.[120] But apart from this, their division across the lines of "free" vs. "open source" models is not split into binary but set along a continuum of beliefs including one of absolute indifference to the differing ideologies.[121]

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[114] Pankaj Setia et al., *supra* note 65, at 157-59.

[115] Karl Fogel, *supra* note 22, at 78.

[116] Stephan Meier, *A Survey of Economic Theories and Field Evidence on Pro-Social Behavior, in* Economics and Psychology: A Promising New Cross-Disciplinary Field 51, 67-68 (Bruno S. Frey & Alois Stutzer eds., 2007).

[117] Jan Eilhard & Yann Meniere, *A Look Inside the Forge: Developer Productivity and Spillovers in Open Source Projects* 1, 24 (Working Paper, 2009), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract id=1316772.

[118] Lawrence Lessig, Code and Other Laws of Cyberspace 104-08 (1999); Lawrence Lessig, *supra* note 86, at 55-72.

[119] Charlotte Hess & Elinor Ostrom, *Ideas, Artifacts, and Facilities: Information as a Common-Pool Resource*, 66-SPG Law & Contemp. Probs. 111, 120-121 (2003); Allen K. Yu, *Enhancing Legal Aid Access Through An Open Source Commons Model*, 20 Harv. J.L. & Tech. 373, 374-75, 378-79 (2007).

[120] David M. Berry, *supra* note 112, at 138.

[121] *Id.* at 141-42.

The extension of this imagination of a "commons" is a world of "commons-based" peer production that relies on human cooperation rather than candies or the cane to replenish the commons.[122] In an approach that seriously questions the "rational-actor" model, FOSS is used as an example of selfless cooperation even where there are strong commercial benefits to acting in a self-interested direction. In other words, coders are contributing time and effort for free because it enhances their sense of identity and community and because the activity itself is fun. And even more surprisingly, they continue to voluntarily contribute despite other contributors getting paid, without feeling crowded-out.[123] The policy prescriptions that follow from this belief in human capacity and motivation for selfless action (or at least action less guided by extrinsic than by intrinsic factors) – well exemplified by the FOSS success story – varies according to the nature and strength of such belief, and the conditions under which the believers consider this "unusual" human behaviour to take wings. Thus, they cover the entire gamut ranging from using licenses as a tool to influence a recursive public to continue doing the "right" thing,[124] reducing copyright term for software to a five year period that is renewable by another five years, with mandatory access to the source code once the term expires,[125] granting tax benefits to donors of intellectual property who add to the creative commons,[126] ensuring that both technological protection measures and private contracting do not exceed the reach of copyright law itself,[127] permitting reproduction for noncommercial purposes and recasting copyright as an exclusive right of commercial exploitation,[128] suitably redesigning laws to reflect the shift from a pure incentive-based approach to one guided equally by intrinsic motivations,[129] and at the very least, refraining from policy measures such as expansionism of intellectual property rights, which foreclose the possibility of a commons built on intrinsic motivation.[130]

But it is precisely when scouting sound policy prescriptions that we are also compelled to look to the tragedy of the commons as a cautionary tale. The case for such a tragedy was convincingly put forth for the first time

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[122] Yochai Benkler, The Penguin and the Leviathan: How Cooperation Triumphs over Self-Interest 1 (2011).
[123] *Id.* at 169, 178-80.
[124] Christopher M. Kelty, *supra* note 24, at 299-300.
[125] Lawrence Lessig, *supra* note 86, at 253.
[126] *Id.* at 254.
[127] *Id.* at 256-57.
[128] Jessica Litman, Digital Copyright 180 (2001).
[129] Yochai Benkler, *supra* note 122, at 241.
[130] James Boyle, *The Second Enclosure Movement And The Construction Of The Public Domain*, 66-SPG Law & Contemp. Probs. 33, 48-49 (2003).

in 1968,[131] in an article dealing with population explosion whose zone of intellectual influence has expanded well beyond this seemingly narrow, yet important, concern. The imagery used was a pasture open to all, which for years did not face excessive utilization because the herdsmen and cattle reliant on it never went above the carrying capacity of the land due to high mortality rates. At a certain point in time, population stabilizes. Now, those free to exploit the pasture numerically exceed its carrying capacity, giving rise to the tragedy. Every herdsman, being a rational actor, looks to expand his herd because the benefits of such expansion are individualized but the costs are collectively borne by all herdsmen who use the pasture. In the absence of any restrictions that place the cost of using the pasture at the doorstep of the herdsman who expands his herd, all of them hurtle to ruin.[132] This scenario, where use of the pasture is rivalrous in the sense of one man's exploitation exhausting another's capacity to put the same resource to use, has been sought to be distinguished from the world of intangible property where use of ideas is non-rivalrous because the originator of the idea is still free to use it along with every other person who receives the idea.[133] However, in the intangible property space, overuse is not the tragedy we worry about. The concern is with a different kind of collective action problem: the problem of incentives to create the resource in the first place.[134] Without an ability to exclude others from using products of the intellect, the creator of the idea would be unable to charge for the creation. To avoid this problem of inadequate incentives to create, the law steps in and creates a limited monopoly called an intellectual property right.[135]

B. Open Source and the Imaginary Tragedy?

To counter this, the open source model is used as a beacon of innovation in the absence of monopoly incentives. The argument goes that there are diverse rewards, broadly fitting within three categories, namely, monetary, intrinsic hedonic, and social-psychological, that motivate people to act in a certain way.[136] The open source model specifically teaches us that under certain conditions, the intrinsic hedonic and socio-psychological motivations make up for the absence of monopoly incentives to still result in individual action that positively enhances these set of motivations over action that is

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[131] Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243, 1244 (1968).
[132] *Id.*
[133] LAWRENCE LESSIG, *supra* note 86, at 22.
[134] James Boyle, *supra* note 130, at 41-42.
[135] *Id.* at 42.
[136] Yochai Benkler, *Coase's Penguin, Or, Linux And The Nature Of The Firm*, 112 YALE L.J. 369, 426-27 (2002).

simply monetarily incentivized.[137] The sustaining conditions are as important as the concept of peer-production. The modularity of the project, being its ability to be split up into independent modules that can separately be pursued by interested participants, is important to tap into non-monetary incentives. Similarly, the higher the granularity of the project in question, being its ability to be split into smaller sizes, the more likely people are to involve themselves in working on those independent modules.[138] Independent of the minimum granularity of a project, heterogeneity in the size of the modules may add to its efficiency by allowing contributors with diverse levels of motivation to collaborate by contributing modules of different sizes, whose production therefore requires different levels of motivation.[139] But it is the final set of conditions, relating to the integration of contributions by people scattered all over, where the commons tragedy comes up as a real threat to the continuance of the project.

Before addressing the nuances of peer-based production that averts this possible tragedy at the integration stage, it is important to understand the sense in which "commons" is used because it is indeed a distinct one from the pasture visualized by Hardin.[140] Hardin's pasture is an unregulated one, with untrammeled rights of grazing to every herdsman and his herd. The information commons imagined by proponents of the open source model is more on the lines of a shared resource pool, with norms and attributes of the sharing community facilitating some kind of collective action.[141] These norms evolve, adapting to changes in technology and communities.[142] In this framework, the exclusionary right in respect of property only provides one side of the story, because access, contribution, extraction, removal, management/participation and alienation are all equally important metrics in gauging the value stakeholders derive from the digital knowledge commons.[143] In other words, Hardin's pasture involved a binary between exclusion and use, while the digital commons introduces the important variable of effective governance mechanisms, including social norms and customs, to regulate

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[137] *Id.* at 429.

[138] *Id.* at 435. Conversely, "if the finest-grained contributions are relatively large and would require large investment of time and effort, the universe of potential contributors decreases."

[139] *Id.* at 436.

[140] Garrett Hardin, *supra* note 131.

[141] Elinor Ostrom & Charlotte Hess, *A Framework for Analyzing the Knowledge Commons, in* Understanding Knowledge as a Commons: From Theory to Practice 41, 48-50 (Charlotte Hess & Elinor Ostrom eds., 2007).

[142] *Id.* at

[143] *Id.* at 52-53.

use and contribution.[144] This distinction has been extended to argue that even private property regimes and private corporations, rightly understood, are only a "managed commons", and that a movement toward private property is a movement from a 'commons' in a physical resource to a 'commons' in the social structure of individualized resource management.[145]

Using this framework of a shared resource pool, the open source model is put forth as a success story in integrating the contributions of those who form a part of the "commons". This success is largely due to the internet, which makes it fairly easy to permit contributions from a large pool of contributors. Apart from increasing the number of eyeballs, this also leads to reducing the effects of free riding because the absolute number of contributors responding to some mix of motivations remains sufficiently large.[146] There is simultaneous acknowledgement though of factors that could upset this delicate balance and cause higher defections, leading to ruin of the peer-production model. Unilateral appropriation, either through commercialization of the common efforts of all for private benefit or even by superimposition of individual values over that of the community, can dangerously cause a wedge in the community.[147] Mechanisms such as the GPL are tailored precisely to address this concern.[148]

C. Curbing Flights of Fancy – A Realistic Assessment of Open Source

Taking a sharing regime as the starting point, some discourse has emerged which critically, and to my mind rightly, examines the illusion of the "commons".[149] The reasoning goes that the success of any sharing regime would ultimately hinge on informal reciprocity norms that sustain contribution over withdrawal despite the absence of legal norms. Therefore, rationally, the cooperation gamble can only be viable when the innovators are repeat players with sufficiently low discount rate, and a reputation-based enforcement technology exists that sufficiently rewards compliance with, and penalizes violations of, the governing reciprocity norms.[150] However, for

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[144] Yochai Benkler, *supra* note 136, at 437; Carol Rose, *The Comedy of the Commons: Custom, Commerce and Inherently Public Property*, 53 U. CHI. L. REV. 711, 742-44 (1986).

[145] Carol Rose, *supra* note 144, at 746-47; Charlotte Hess & Elinor Ostrom, *Ideas, Artifacts, And Facilities: Information As A Common-Pool Resource*, 66-SPG LAW & CONTEMP. PROBS. 111, 123 (2003).

[146] Yochai Benkler, *supra* note 136, at 438.

[147] *Id.* at 439-40.

[148] *Id.* at 441.

[149] Jonathan M. Barnett, *The Illusion of the Commons*, 25 BERKELEY TECH. L.J. 1751 (2010).

[150] *Id.* at 1764-65, 1769.

the cooperation to be a lasting and stable proposition, rather than merely a viable one, the following features become important: (i) a small group size of participants, (ii) low capital investment, (iii) low economic value to the innovative output, and (iv) roughly equivalent innovative endowments, i.e. the capacities and talents of innovators.[151] Of these, the low capital investment required to write code is perhaps more important than the others factors, when applying this framework to the open source model. This factor clearly places the open source model on a footing separate from industries such as pharma or telecommunications where the capital investment is higher. There is some evidence that suggests failure of the open source paradigm in the biotech industry to incentivize innovation, which is consistent with this thesis.[152] It is also a significant factor to the relative stability of the FOSS model that contribution to the open source pool is by coders who are of relatively equivalent talents and capacities. There is also some empirical basis to the claim that smaller, close-knit projects have been more successful than the ones that claim to tap from the global pool of coders.[153] In any event, as seen in Part I above, there is significant attempt at cohesion of coder groups through dissemination of core values.

But the more fundamental criticism of claims regarding the avoidance of a tragic commons can be made simply by revisiting the evolution of FOSS, discussed in Part I, sub-part A. This requires us to explore Hardin's commons a little more deeply. Hardin does not start off with a tragic commons. The pasture is initially one that can accommodate competing uses. It is at a certain point, when the factors leading to population decline are brought within control, that the pasture feels the pressure of overuse and ultimately comes to ruin. In every system, even the most well designed one, there could be a certain element of free riding. This metamorphoses into a tragedy when the burden of that free riding cannot be borne by the resource any more. Viewed this way, the nascent world of software programmers could be equated with Hardin's pasture in its early years. The limited commercial significance of software and the spirit of scientific enquiry that guided research in this field prior to the '80s could accommodate a system of open and unfettered appropriation of the source code. By the early '80s, software was becoming increasingly popular as the technology of the future. The possibility of using software to power machines for personal use and to solve diverse problems confronting several unconnected industries started

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[151] *Id.* at 1770.

[152] Lisa Mandrusiak, *Balancing Open Source Paradigms And Traditional Intellectual Property Models To Optimize Innovation*, 63 Me. L. Rev. 303, 323-24 (2010).

[153] Martin Fink, The Business and Economics of Linux and Open Source 138-57 (2003).

lending it huge commercial significance. This could well have been the trigger point when free riding on the code written by others could potentially set in motion the chain of events leading to ultimate ruin for all. It is difficult, however, to conclusively establish this because unlike Hardin's pasture, intellectual property rights for software protection already existed though by an extension of "literary works" protection in copyright law. Proprietary software could well have averted the tragedy of the commons in two significant ways: one, by denying free riders the ease of copying that they enjoyed earlier and thus incentivizing programmers who took software out of the confines of academic research labs and scaled it up to business models of the future, and two, equally important here, providing a host of intrinsic motivations to early day free software coders to develop an alternate model. The second point can be established by resort to a simple thought experiment. Let us imagine that software protection was equivalent to Hardin's pasture, and that ideas were unprotected. Even if source code were to be kept confidential, free riders could easily replicate the end product, i.e. the machine code, and thus hurtle everyone into eventual ruin. There would be nothing unique about Stallman's clarion call to fellow coders to write free software in this already free world. What made Stallman's call special to those who contributed is the possibility of creating an alternate world, one where software was free to be redistributed, adapted, modified and self-taught. A "user community" of project participants in a non-institutional setting, a phenomenon uncommon in other areas such as biotechnology or the automobile industry,[154] was formed as a response mechanism to a private property norm. The existing private property regime did something more as well. It presented Stallman and FSF with a neat mechanism called GPL to propagate their core beliefs and create a community by inversing the exclusionary right. If not for private property in software, Stallman would have been unable to do so, and the private appropriation of his code by free riders would have destroyed the free software community.

The above analysis was only to serve the limited purpose of showing how the FOSS movement, far from being a notable exception to the tragedy of the commons, is the product of a system of private property that possibly saved the day for innovation in software. This does not in any manner preclude the possibility of using open source models of innovation in appropriate ventures, under appropriate business conditions.[155] That is a separate debate,

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[154] Lisa Mandrusiak, *supra* note 152, at 323.

[155] For more on open source innovation in other fields, *see* ALPHEUS BINGHAM & DWAYNE SPRADLIN, THE OPEN INNOVATION MARKETPLACE: CREATING VALUE IN THE CHALLENGE DRIVEN ENTERPRISE (2011); OPEN INNOVATION: RESEARCHING A NEW PARADIGM (Henry Chesborough et al. eds., 2006); JAAP BLOEM , MENNO VAN DOORN & ERIK VAN OMMEREN, OPEN FOR BUSINESS: OPEN SOURCE INSPIRED INNOVATION (2007).

not within the scope of this paper. It is wrong, however, to assert that the open source model reveals why the tragedy of the commons is not a real threat. In fact, if there is one thing we can take away from the evolution of this model, it is the important role played by private property in the creation of this model in the different ways shown above.

IV. Averting Anticommons: An Invaluable Contribution of the Foss Model

A. The Tragedy of the Anticommons

The inability of the open source model to give much policy insight into avoiding a tragedy of the commons type situation does not take away its relevance to policy making in a different context and to avoid a different kind of problem. This problem – termed the "tragedy of the anticommons" due to the inverse character of its formulation in relation to the "tragedy of the commons" – was conceptualized by Michael Heller pursuant to his study of property underuse in post-Soviet era Russia.[156] Observing the empty Moscow storefronts and the bustling street kiosks, Heller theorized that the problem was with multiple ownership or exclusionary rights in respect of the same scarce resource, resulting in lack of consensus on optimal use of the resource and a consequential blocking of use by any of the "owners."[157] Thus, while the commons tragedy resulted in overuse, the anticommons tragedy led to underuse. As a policy prescription to avoid this phenomenon, Heller proposed that it was not sufficient to create private property rights but also important to focus on placing the entire bundle of rights in one owner.[158] If necessary, governments ought to redefine and reallocate property rights to meet this end, including by way of abolishing or expropriating previously granted rights.[159] This is because once an anticommons is formed, institutions and interests coalesce around them, giving rise to deviant strategic behavior by these beneficiaries to retain the *status quo*.[160] The transaction costs for freeing up vexatious anticommons could in fact be much higher than those incurred to resolve a commons tragedy.[161]

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[156] Michael A. Heller, *The Tragedy Of The Anticommons: Property In The Transition From Marx To Markets*, 111 Harv. L. Rev. 621 (1998).
[157] *Id.* at 639, 668-69.
[158] *Id.* at 640.
[159] *Id.* at 641.
[160] *Id.* at 659.
[161] Francesco Parisi et al., *Duality In Property: Commons And Anticommons*, 25 Int'l Rev. L. & Econ. 578, 585-86 (2005).

Subsequently, Heller has applied this notion of anticommons to the study of inefficient underuse of intellectual property rights.[162] He has also recast the anticommons tragedy on a larger canvas, using it to elucidate the problem of gridlock in free markets.[163] A major conceptual critique, perhaps due to Heller's fuzzy articulation of the anticommons in an intangible property space, has been that every piece of intellectual property is a different resource.[164] Therefore, the problem is not one of underuse of any particular resource but a general problem with effective property governance of different resources. The conceptual solution to this problem may well lie in larger collective action rather than effective bundling, and anticommons may, to this extent, obscure the real problem.[165] A large part of this critique stems from failure on Heller's part to accurately rearticulate the anticommons problem, at a conceptual level, in the intangible property space. Revisiting the commons tragedy in the intangible space would be helpful to resolve this conundrum. As we already saw, the commons tragedy in this space pertained to the specific problem of under-innovation to create future intellectual commodities. If we inverse this, the anticommons problem in the intangible property space would be all about over-incentivisation due to exclusionary rights over certain types of incremental and basic innovations. This would finally lead to a gridlock situation where the room for future innovation is severely curtailed by exclusionary rights that cover important building blocks for further research and growth. As a necessary corollary, success in overcoming the tragedy lies not in bundling these rights over incremental innovations but refusing to grant such wide-ranging exclusionary right incentives in the first place.

Some of the instances from intellectual property rights, which Heller uses to demonstrate the unhappy gridlock effect, make sense once we rearticulate the problem in this conceptual direction of over-incentivisation and blocking of optimal property use. For instance, the opening up of upstream biomedical research to *excessive or uncoordinated* creation of *private property* results in over-incentivisation,[166] and inability to conduct downstream

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[162] Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 SCIENCE 698 (1998).

[163] MICHAEL HELLER, THE GRIDLOCK ECONOMY 2 (2008).

[164] David Lametti, *The Concept of the Anticommons: Useful, or Ubiquitous and Unnecessary?*, *in* CONCEPTS OF PROPERTY IN INTELLECTUAL PROPERTY LAW 232, 243 (Helena Howe ed., 2013).

[165] *Id.* at 244.

[166] Michael A. Heller & Rebecca S. Eisenberg, *supra* note 162, at 698 ("A researcher who may have felt entitled to coauthorship or a citation in an earlier era may now feel entitled to be a coinventor on a patent or to receive a royalty under a material transfer agreement. The result has been a spiral of overlapping patent claims in the hands of different owners, reaching ever further upstream in the course of biomedical research.")

medical innovation after a certain point in time.[167] This point specifically occurs when the transaction costs become high enough to dissuade future researchers from licensing with the multiple patent owners who have already occupied the field, or the patent applicants whose patents are pending.[168] There is no *inevitable* underuse of any particular patent in this situation but there is still a *strong possibility* that the existing patents block each other out,[169] apart from *certainly* hampering future innovation. Apart from lending conceptual strength to the clearly unfair instances of gridlock pointed out by Heller, rearticulating the anticommons problem also compels us to acknowledge that not every such instance is truly within the conceptual contours of this problem. For instance, the licensing problem that Google Book Search has run into is not a "gridlock" because of the blocking effect of anticommons. It is simply a gridlock caused by the overarching reach of this project across a wide range of copyrighted material.[170] Solutions such as collective licensing for radio stations do not again resolve an anticommons problem,[171] because no one songwriter is anyways blocking another from licensing out to a radio station, and no radio station is looking to create a new song. This can be contrasted with the truly anticommons gridlock faced by the documentary on Martin Luther King, Jr., where existing copyrighted works on the same subject effectively blocked the dissemination of a new one.[172]

Regardless, Heller's identification of causative factors leading to an anticommons tragedy in the intellectual property space is accurate. He identifies two of them: i) the creation of concurrent fragments of property rights over connected innovations in the same field of scientific research, and ii) reach-through license agreements that vest rights in the owner of a patented invention used in upstream stages of research, over subsequent downstream discoveries that rely upon such invention.[173] The second factor flows from the first in most cases because had the concurrent fragments not been created in the first place, the subsequent researcher would not have had to submit himself to a reach-through license in order to use the fragment as part of his research. Both these factors combine to create multiple interests over

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[167] *Id.* at 699.
[168] Michael Heller, *supra* note 163, at 50-54.
[169] The airplane manufacturing gridlock, where different patent holders threatened to sue each other for working their individual patents and thus blocked the manufacture of warplanes, is a case in point. Eventually, the U.S. Government had to intervene through legislation, create a 'compulsory patent pool', and free manufacturers from the threat of crippling patent litigation. *See Id.*, at 30-31.
[170] *Id.* at 29-30.
[171] *Id.* at 72, 196.
[172] *Id.* at 9-11.
[173] Michael A. Heller & Rebecca S. Eisenberg, *supra* note 162, at 699.

connected ideas that can motivate further research and innovation, thereby hiking up transaction costs for those who need to make use of all these ideas as part of their research and causing potential holdout problems.[174]

B. The FOSS Model and the Anticommons Story

A possible solution to an anticommons gridlock, emerging from the above identification of causative factors, is private action.[175] Idealistic as this may sound at first glance, such action has been forthcoming in certain situations from actors responding to this problem purely out of rational self-interest. Property-preempting investments (PPIs), where private firms spend significant sums of money to create assets that preempt intellectual property rights for strategic reasons, are gaining in popularity in industries such as biotechnology and software.[176] PPIs work on the premise that once information enters the public domain, it cannot be privatized.[177] Biotechnology and software are two areas where PPIs have been deployed with fair degree of success in turning property over to the public domain. In particular, efforts such as the Merck Gene Index, a public database of gene sequences corresponding to expressed human genes, created with the contribution of several million dollars from Merck, and the Single Nucleotide Polymorphism (SNP) consortium to place SNPs, valuable as 'disease markers', in public domain through the conjoint efforts of private firms and nonprofit research organizations, have thwarted potential anticommons effect in the biotech field.[178] The involvement of private firms, including IBM, in FOSS development, has also been explained as an attempt to preclude property rights entanglements on a key "input". Because Linux comes without the threat of leverage and dominance that are always present with a proprietary operating system, both IBM and its customers can control their own fate and rely on the GPL to commit to future or customized versions of Linux without the looming threat of high transaction costs.[179]

This is definitely a significant impact of the FOSS model in facilitating a private solution to the anticommons problem. But an even larger contribution of this model in this direction has gone unrecognized. The model itself, and not just private investments in the model, has been instrumental in averting anticommons tragedy. In Part II, while teasing out the distinction

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[174] *Id.* at 700.
[175] MICHAEL HELLER, *supra* note 163, at 70-71.
[176] Robert P. Merges, *A New Dynamism in the Public Domain*, 71 U. CHI. L. REV. 183, 185 (2004).
[177] *Id.* at 186.
[178] *Id.* at 188-190.
[179] *Id.* at 192-93.

between Hardin's pasture and the FOSS world, an important distinguishing factor was seen to be the origins of FOSS in a world of proprietary software. In other words, the prior existence of legal protection over this "field" made it different in its content and character from Hardin's pasture. However, there is a conceptual prism using which such "commons", carved out from a larger proprietary field, can be better understood. This is the notion of a "constructed commons" that can be used to solve innovation problems.[180] In this regard, eight clusters have been identified to investigate any particular constructed cultural commons, with the eventual goal of relating particular characteristics to the results produced by certain types of sharing arrangements.[181] These are: i) the relevant history and narrative of the commons;[182] ii) the entitlement structures and resource provisions that define its contents;[183] iii) the institutional setting and the social practices, disciplines and norms that the commons inhabits;[184] iv) the formal legal structures put in place to facilitate collective action via the commons;[185] v) governance mechanisms such as membership criteria, resource contribution and appropriation standards, decision-making rules, provisions for resolving conflicts over membership and resources, and sanctions for violations, that guide the operation of the commons;[186] vi) the interface between internal governance mechanisms (cluster no. v) on the one hand and external mechanisms (cluster nos. ii, iii and iv) on the other;[187] vii) specific solutions to innovation problems that the commons can be associated with;[188] and viii) the costs and risks associated with the commons.[189] The relevance of these clusters is not confined to delineating the contours of any "constructed commons". It extends to helping us distinguish between a "constructed commons" in the true sense of that expression, and other PPIs including "defensive publications" that render a patent application "anticipated" or at least "obvious", and thus disentitled to patent protection.[190]

Heller recognizes the role of such voluntary arrangements in overcoming gridlock, and even mentions open source as one such mechanism along with

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[180] Brett M. Frischmann et al., *The University As Constructed Cultural Commons*, 30 Wash. U. J.L. & Pol'y 365, 266 (2009).
[181] *Id.* at 374.
[182] *Id.* at 374-75.
[183] *Id.* at 375.
[184] *Id.*
[185] *Id.* at 375-76.
[186] *Id.* at 376.
[187] *Id.*
[188] *Id.*
[189] *Id.* at 377.
[190] *See* Gideon Parchomovsky, *Publish or Perish,* 98 Mich. L. Rev. 926 (2000); Douglas Lichtman et al., *Strategic Disclosure in the Patent System*, 53 Vand. L. Rev. 2175 (2000).

his more explored one of patent pools.[191] To truly appreciate the contribution of FOSS in this direction though, a simple thought experiment, similar to the one carried on in Part II while demonstrating proprietary software's contribution in averting a commons tragedy, would suffice. As seen from the evolution and practice of programming, most code writing builds on existing code and is in that sense, derivative. Now imagine a world where Stallman had chosen not to exercise his "good conscience", not to write his legendary forum posting on 27th September, 1988 appealing to the community of coders,[192] and instead, signed the non-disclosure and software license agreements that were gradually taking over as the industry norm. Apart from its direct practical consequences such as a paid-for Android or more expensive server software, this world would have led to a race to create multiple proprietary versions of code, each of which could potentially block the other out over time. The rationale for this effect can be traced to the peculiar character of copyright protection, where the maker of the original also enjoys monopoly in respect of derivative works that adapt or modify the original. Therefore, those who create the derivative of an already licensed derivative work have to go back and take licenses from both the original coder and the owner of the first derivative work. Indeed, this would not have immediately become a concern because initial developers of derivative code could well take licenses from the original coder. Problems in licensing, including hike in transaction costs and deleterious blocking effects, would surface only once a certain threshold was crossed. This threshold would depend on the number of derivative versions in the field and the splintering of rights in such versions in the hands of different actors. Soon, the frenzied innovation activity in the evolutionary days of software would have dried up or become prohibitively expensive. It would not be a stretch of imagination to contend that Stallman's decision to keep the source code open, and more important for the purposes of the anticommons tragedy, to nullify private property in derivative versions of his code using the GPL mechanism, came in at exactly this juncture.

Unfortunately, while conceptualizing "open source", it has been categorized as a "constructed cultural commons", which arose as a solution to collective action, coordination, or transactions cost problems that existed *apart from* intellectual property rights.[193] This is in contrast to other pooling arrangements such as the SNP consortium, discussed above, and the publicly available databases of genomic sequences that are part of the Human

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[191] MICHAEL HELLER, *supra* note 163, at 196-97.
[192] RICHARD M. STALLMAN, *supra* note 13, at 26-27.
[193] Brett M. Frischmann et al., *Constructing Commons In The Cultural Environment*, 95 CORNELL L. REV. 657, 691 (2010).

Genome Project. These have been categorized as "constructed cultural commons", which arose as a solution to collective action, coordination, or transactions cost problems that existed *because of* intellectual property rights.[194] The above bracketing of "open source" within the former category is incorrect, and it fits as much into the second category as patent pools. Analysis of the FOSS model using the eight clusters for investigating a "constructed commons", mentioned above, makes this amply clear. To do so, let us revisit Part I of this paper.

First, as shown in sub-part A of Part I, the evolution of FOSS (cluster no. i) was a response to the proprietary norms in intellectual property law generally, and copyright law and trade secrecy protection in particular (cluster no. vii). The major resource for this "constructed commons" (cluster no. ii) was the "source code" that would otherwise be kept secret, or rendered unusable, because of trade secret and copyright protection respectively. The core values of the FOSS movement, discussed in sub-part B of Part II, were built around a strong anti-intellectual property rights discourse, and the institutional setting of this community (cluster no. iii) can be contrasted with that of the proprietary software industry. The GPL licensing mechanism, discussed in the same sub-part, was craftily designed to propagate a commons of "free software" that would otherwise be monopolized by resort to copyright law and trade secret protection. This also explains the choice of copyleft (cluster no. iv) over mere dedication to the public domain. Unlike patent law, where such dedication could have preempted the patentability and monopolization of an incremental idea by a subsequent innovator, the low threshold of 'originality' required for copyright protection of derivative works in copyright law would have possibly resulted in monopolization of incremental derivative works built on works already in the public domain.[195] Apart from this, the institutional structures for internal governance (cluster no. v), discussed in sub-part C of Part I, show how different open source projects have encouraged decentralized innovation while at the same time, brought in mechanisms to control "forking" and uncoordinated innovation (cluster no. vi). When viewed in tandem with the different extrinsic and intrinsic motivations for participation in open source projects, it is clear that the focus has always been on creating an innovation model that serves as an alternate paradigm to the "incentive structures" of closed models of innovation built on intellectual property rights (again, cluster no. vii). A major risk

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[194] *Id.* at 692.

[195] For more clarity on the low threshold of originality required for independent copyright protection for derivative works, *see Schrock* v. *Learning Curve Int'l Inc*, 586 F 3d 513 (7th Cir 2009); *L.Batlin & Son, Inc.* v. *Snyder*, 536 F 2d 486 (2d Cir 1976); *Durham Industries, Inc.* v. *Tomy Corpn.*, 630 F 2d 905 (2d Cir 1980).

associated with the commons (cluster no. viii) is also caused by intellectual property rights: the possibility of a private appropriation, rendered stronger in the case of more flexible licenses such as Apache and BSD, as shown in sub-part B of Part I. For all the above reasons, the FOSS model is indeed a "constructed commons" created in response to problems caused by intellectual property rights. And it is one that has, with fair bit of success, averted an anticommons problem in the intellectual property space.

V. Concluding Remarks And Lessons for Intellectual Property Policy

The two substantive arguments made in this paper can be summarized as follows: (1) the FOSS model cannot be used to convincingly put forth a case against the occurrence of a tragic commons in a world without private property; and (2) the FOSS model can, however, be considered a successfully constructed cultural commons that has gone a long way toward preventing an anticommons problem in the software industry. The policy measures suggested below are suitably tailored to fit within what would naturally follow from these arguments. These measures are only guidelines for the direction that statutory reform may take, and not an exact articulation of the proposed reform.

The FOSS model shows that the time is ripe for the United States to expand its system of moral rights protection beyond visual artistry to other fields of creativity and innovation, such that creators are incentivized through attribution. Reputational benefit has been a strong motivation for coders to participate in FOSS development. Most FOSS licenses guarantee, through effective notice mechanism, the dissemination of author information. Even otherwise, the CVS mechanism and other technical infrastructure facilitating FOSS collaboration ensure that the coders who offer programming solutions to complex problems are duly credited for their contribution. This is not quite the case with proprietary software. By legislating for a strong moral rights protection akin to what exists in Europe or even India, the United States would be formally recognizing an intrinsic motivation that can go a long way in attracting creative contribution to collaborative efforts in various fields of innovation. This would also act as an appropriate trade-off in settings that involve incremental innovation, as compared with the alternate option of incentives through property rules.[196] The latter kind

[196] *See* Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral,* 85 Harv L Rev 1089 (1972).

of incentives can result in economic inefficiency,[197] as well as difficulties in redistribution of entitlements[198] at a certain point when problems, such as the anticommons problem for instance, freeze up innovation and necessitate such redistribution.

This takes us directly to the issue of property incentives for derivative works in copyright law and incremental innovations in patent law. Models such as FOSS and patent pools teach us the perils extant in property rules that protect incremental innovations. Therefore, a suitable combination of liability rules or effective compulsory licensing mechanisms, along with the tightening of standards to attract property protection for incremental innovations, is essential to avoid a gridlock. First, copyright law must be changed to reflect the position that derivative works are entitled to copyright protection only if they meet a heightened standard of originality. Similarly, patent protection should be denied to new forms of known substances or inventions unless they meet certain well-defined and enhanced levels of efficacy. Second, even in such cases, copyright law must necessarily make a distinction between pure works of art and fiction, and academic works or computer software that are useful for purposes of further modification. In the case of the latter, there is a compelling State interest in avoiding a gridlock, and the only way in which this interest can be promoted is by either replacing property protection against derivative works with liability rules against misappropriation, or by retaining property protection but putting in place effective mechanisms for compulsory licensing of the works. Similarly, patent protection for general purpose technologies[199] and upstream research tools that can be used to create further products downstream should be coupled with an effective compulsory licensing mechanism for such inventions so that a gridlock in future innovation is avoided. Finally, trade secret protection must be denied in any situation where the innovator asserts copyright protection in respect of academic works or computer software. The innovator must thus be forced to make the trade-off between the benefits of non-disclosure and disclosure, in a manner akin to patent protection. Only this can ensure the avoidance of a gridlock that can otherwise be caused by resorting to trade secrecy and non-disclosure agreements.

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[197] *Id.* at 1106-07.

[198] *Id.* at 1110.

[199] *See* Boyan Jovanovic & Peter L. Rousseau, *General Purpose Technologies, in* Handbook of Economic Growth Vol. IB 1182, 1184 (Philippe Aghion & Steven N. Durlauf eds., 2005).

Inside the Machine: Constitutionality of India's Surveillance Apparatus

Bedavyasa Mohanty†

I. Introduction

On June 6, 2013, The Guardian published a leaked top secret order of the American Foreign Intelligence Surveillance Court (*hereinafter* "FISA Court").[1] The secret court order mandated the production of call details of all Verizon subscribers to the National Security Agency (*hereinafter* "NSA"). This marked the beginning of what has been called the 'biggest intelligence leak in the history of the world'. Few other revelations in the recent past have caused an unprecedented global outrage like that which followed Edward Snowden's leak of NSA's classified documents. The practice of a State monitoring its citizens' activities has been in existence for centuries.[2] Yet, laws governing surveillance and interception of communications have never been subjected to as much debate within the civil society as they have been in the last decade. This upsurge can in part be attributed to an increasing ease in modern communication and, resultantly, a resurgence of what Mill called the "marketplace of ideas"[3] on the internet.[4] In part, however, the growing dialogue is attributable to disenchantment with increasingly oppressive State practices.[5] With rapid growth in technology, there has been an expansion in

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† Junior Fellow, Cyber Initiative, Observer Research Foundation

1 In Re Application of the Federal Bureau of investigation for an order requiring the production of tangible things from Verizon Business Network Services Inc. on behalf of MCI Communication Services, Inc. D/B/A Verizon Business Services, BR 13-80, Foreign Intelligence and Surveillance Court, *available at* https://epic.org/privacy/nsa/Section-215-Order-to-Verizon.pdf

2 *See generally,* L.N. Rangarajan, Kautilya: The Arthashastra 522-524 (1992).

3 John S. Mill, On Liberty (1859).

4 *See generally* Law Reform Commission (Ireland), Report on Privacy: Surveillance and Interception of Communications (1998) *available at* http://www.lawreform.ie/_fileupload/Reports/rPrivacy.htm.

5 Glenn Greenwald, No Place to Hide: Edward Snowden, the NSA and the Surveillance State 6 (2014).

the State's capabilities for supervision over the activities of its citizens. There has, however, not been a complementary augmentation in the safeguards for citizens' rights. Unauthorised interception of communication is indicative of a blatant disregard for the right to privacy available to every person. This becomes doubly relevant in the Indian context where the contours of the law of privacy are still being defined.

The right to privacy, having found no specific protection under any legislation has had to evolve through decades of contradictory pronouncements by Indian courts.[6] However, with every additional buttress for the protection of the right to privacy, there has been the introduction of a rule or law to restrict its application. The Indian government has been putting into operation newer tools for restricting freedoms while the laws governing their application remain archaic and draconian. In a manner reminiscent of the Foucaldian Panopticon,[7] the citizen is made aware of the existence of these tools while the extent of their reach into one's personal life remains shrouded in mystery.

This paper seeks to analyse the nuances of some of these laws and tools that enable the State to keep a constant watch over its citizens' activities. It also attempts to test the validity of the State's surveillance powers against the principles of liberty and justice enshrined in the Indian Constitution. In doing so, the author aims to challenge the archaic foundations of Indian surveillance laws while drawing attention to areas that are in need of re-examination or, in some cases, complete overhaul. Part II of the paper is a brief exposition of the various laws and rules currently in effect that enable the State to intercept communications. This part aims to highlight the systemic shortcomings that are common to all legislations pertaining to surveillance. Part III traces the development of these laws across modern history in an attempt to unearth and examine the bases of the power of interception. This exercise aims to bring to light the severe lack of legislative discourse that surveillance laws have been subjected to in India. It also seeks to highlight the dire necessity of immediate legislative re-examination of these laws. Part IV attempts to explore the incongruity between the powers of interception of communications and the fundamental freedoms assured in the Constitution.

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[6] For the development of the right to privacy in India, *see generally Kharak Singh* v. *State of U.P.*, AIR 1963 SC 1295; *R.M. Malkani* v. *State of Maharashtra*, (1973) 1 SCC 471 : AIR 1973 SC 157; *Gobind* v. *State of M.P.*, (1975) 2 SCC 148 : AIR 1975 SC 1378; *R. Rajagopal* v. *State of T.N.*, (1994) 6 SCC 632 : AIR 1995 SC 264; *People's Union for Civil Liberties* v. *Union of India*, (1997) 1 SCC 301 : AIR 1997 SC 568; *Naz Foundation* v. *Govt. of NCT of Delhi*, 2009 SCC OnLine Del 1762 : (2009) 160 DLT 277; *Selvi* v. *State of Karnataka*, (2010) 7 SCC 263.

[7] Michel Foucalt, Discipline and Punish: The Birth of the Prison 201 (1975).

It contends that surveillance in its current form may not constitute a reasonable restriction envisaged under Article 19(2) of the Constitution. Part V examines the unfeasibility in implementation of these laws and explores their shortcomings that inhibit the actualisation of constitutional goals. Part VI looks at similar laws and rules in force in other developing and developed nations. These include countries that have traditionally been proactive in delineating the contours of privacy laws and countries that have followed a comparable timeline in democratic development since their independence in the 20th Century. This part highlights surveillance practices followed in these countries that can feasibly be adapted to an Indian context to make our laws more progressive. The scope of this paper is limited to the examination of the substantive principles allowing the State to intercept communications and it does not attempt an in-depth analysis of the rules of procedure governing the same. This is due to the fact that procedural aspects of surveillance laws have attained relative clarity after the judgment in People's Union for Civil Liberties v. Union of India.[8]

II. Legislations governing surveillance

Any attempt at evaluating the surveillance regime in India must begin with an assessment of laws that empower the State to intercept communications. Communication in the modern context predominantly relates to messages transmitted via the telecommunication networks.[9] All licensing agreements entered into between the State and internet/telecommunications service providers contain provisions which enable the State to intercept users' communications.[10] However, the fountainhead from which the State derives its powers of interception is the triumvirate of the Indian Telegraph Act, 1885, the Indian Post Office Act, 1898 and the Information Technology Act, 2000. These legislations along with various rules drafted thereunder serve as the enabling statutes for State surveillance. This part details the provisions that authorise interception of communications and discusses the factors common to all three laws.

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8 *People's Union for Civil Liberties* v. *Union of India*, (1997) 1 SCC 301 : AIR 1997 SC 568.

9 Teodor Serbanescu, Personal Communication *available at* https://www.wpi.edu/Pubs/E-project/Available/E-project-090311-151245/unrestricted/Personal_Communication_IQP.pdf (Last visited on Aug. 18, 2016).

10 *See* Clause 41.1, Unified Access Service License, Department of Telecommunication, Ministry of Information and Broadcasting, *available at* http://www.dot.gov.in/sites/default/files/Unified%20Licence.pdf (Last visited on Aug. 18, 2016); Clause 39.12 Unified Licence, Department of Telecommunication, Ministry of Information and Broadcasting, *available at* http://www.dot.gov.in/sites/default/files/Unified%20Licence.pdf (Last visited on Aug. 18, 2016).

A. Indian Telegraph Act, 1885

For the surveillance of telephone networks, the Indian Telegraph Act, 1885 (*hereinafter* "the Act") serves as the primary enabling statute. The term "telegraph" as defined under §3(1AA) of the Act is broad and expansive. It includes "any appliance, instrument, material or apparatus used or capable of use for transmission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, visual or other electromagnetic emissions, radio waves or Hertzian waves, galvanic, electric or magnetic means."[11] This is a "broad and future-proof definition"[12] which brings all communication devices into the ambit of the Act.

§5 of the Act authorises the State to intercept and detain telegraphs and telegraphic communication. It also lays down conditions under which the power of interception can be exercised. §5(2) which enables interception of telegraphic articles can only be used on the occurrence of a "public emergency" or in the interest of "public safety". Further, it must also be established that the interception is necessary or expedient in the interests of sovereignty and integrity of India, the security of the State, friendly relations with foreign States or public order or for preventing incitement to the commission of an offence. The power under §5 has been vested with an administrative official authorised by the Central or State Government.

B. Rule 419A, Indian Telegraph Rules, 1951

Rule 419A of the Indian Telegraph Rules lays down detailed procedure for intercepting communications. Under sub-rule (1) an order for lawful interception must normally be passed by the Secretary to the Government of India in the Ministry of Home Affairs in the case of Government of India and by the Secretary to the State Government in-charge of the Home Department in the case of a State Government. Under exigent circumstances though, the power of interception may also be used by an officer not below the rank of a joint secretary who has been authorised by the government. Rule 419A clarifies that an order of interception may only be passed where other methods of obtaining the information have been tried and have failed. The Rule stipulates that any order permitting tapping of communication would lapse (unless renewed) in two months. In no case would tapping be permissible beyond 180 days. The Rule further requires all records of tapping to

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[11] Indian Telegraph Act, 1885, §3 (1AA).

[12] Software Freedom Law Centre, India's Surveillance State(2014), *available at* http://sflc.in/wp-content/uploads/2014/09/SFLC-FINAL-SURVEILLANCE-REPORT.pdf (Last visited on Aug. 18, 2016).

be destroyed after a period of two months from the lapse of the period of interception.

C. Indian Post Office Act, 1898

§26 of the Indian Post Office Act is analogous to §5 of the Indian Telegraph Act and governs the interception of postal communication. Not unlike the Telegraph Act, the power of interception of postal articles is also vested with an executive authority authorised by the government to do so. Most modern communication takes place over the internet and telecommunication networks. Due to this reason, interception provisions under the Post Office Act have been rendered all but irrelevant in the 21st Century. However in the hundred sixteen years of its existence the Act has been the subject of many controversial claims of being used for political subversion.[13]

D. Information Technology Act, 2000

Drafted in the year 2000, the Information Technology Act is the first legislation that governs and regulates information transmitted via computer networks. §69 of the Act is also modelled extensively along the lines of §5(2) of the Telegraph Act. §69, however, does away with the requirements of the existence of a public emergency and interest of public safety. Instead it adds defence of India and investigation of any offence as additional grounds under which communication may be intercepted. Further, §69 also imposes an obligation on private entities, like internet service providers to render assistance to intercepting authorities failing which, they may be punished with imprisonment up to seven years.

E. Information Technology (Procedure and Safeguards for Interception, Monitoring and Decryption of Information) Rules, 2009

The Information Technology (Procedure and Safeguards for Interception, Monitoring and Decryption of Information) Rules are similar to the Rule 419A of the Indian Telegraph Rules. The only major distinction between the two sets of rules is that while Rule 419A allows interception of communication relating to a person or a class of persons, the IT Rules additionally allow

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[13] Prabhu Chawla, *Postal censorship: Storm in the letterbox*, India Today, Aug. 31, 1981, *available at* http://indiatoday.intoday.in/story/delhi-police-intercept-read-and-re-post-mails-of-264-persons/1/402130.html (an examination of the list of persons whose communications were intercepted reveals that the majority of them were people who were considered political opponents of Mrs. Indira Gandhi) (Last visited on Aug. 18, 2016).

interception of communication relating to a subject matter. The relevance of this departure is discussed in the subsequent sections of this paper.

III. Historical Antecedent of §5(2)

Surveillance for gathering and controlling information has long been a prevalent practice among Indian statesmen. The Arthashastra speaks of the ruler surreptitiously gathering intelligence for stifling dissent and identifying rebels.[14] Other historic texts evidence the practice of installing ambassadors and hermits for gathering intelligence from foreign lands and communal places respectively.[15] The Mughals are credited with being among the first to institutionalise this system. They favoured gathering political intelligence through a comprehensive network of post offices called *dakchaukis* that were manned by a State official.[16] These early attempts at an institutionalised system of intelligence gathering, however, were not meant to create a police State. The primary motivation for intercepting communications in pre-colonial India was to detect "moral transgressions among their officers and the oppression of the weak by the powerful."[17] The rulers also used this information to obtain practical insights into the financial conditions of their taxpayers.[18] In essence, surveillance systems in ancient and modern India were used not for prevention and detection of crime. They were meant to ensure better administration and better allocation of resources.

Evidence suggests that the practice of information gathering through interception of communication carried over to Colonial India as well.[19] However, the British interest in observing and controlling the flow of information within India was different from the rulers that came before them. The *raison d'être* behind surveillance under the Crown was limited largely to protection of military intelligence and dissemination of British propaganda.[20] This was accomplished by the deputation of two army officials as the Chief Telegraph Censor and the Chief Postal Censor under the Director

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[14] Wendy Doniger & Brian K. Smith, The Laws of Manu 225-226(1991).

[15] Kamandaki, The Nitisara (Rajendra L. Mitra ed., 1982).

[16] M.Z. Siddiqi, *The Intelligence Services under the Mughals*,*in* Medieval India: A Miscellany 253, 260 (1972).

[17] C.A. Bayly, Empire and Information : Intelligence Gathering and Social Communication in India, 1780-1870 10 (1997).

[18] *Id*.at 13.

[19] *See* Sir William Muir , Records of the Intelligence Department of the government of the North-West provinces of India during the Mutiny of 1857(1902).

[20] *Id*.

of Military Operations and Intelligence.[21] It is during this time that earliest versions of the laws governing surveillance were first drafted. In one form or another, these laws have managed to survive into present day and continue to guide the State in exercising control over its citizens' speech.

Modern forms of surveillance trace their origins to §5 of the Indian Telegraph Act, 1885. It was the first legislation that sought to lay down the conditions for conducting surveillance and intercepting communications. While the substantive conditions precedent for intercepting communications remained the same, the Act in its original form lacked any safeguards against misuse of the provisions. §5(1) of the Act authorised the Governor General in Council or an officer authorised by him to take temporary possession of or intercept and detain any telegraphic communication on the occurrence of a public emergency or in the interest of public safety.[22] Unlike the present Telegraph Act, however, there was no requirement for recording written reasons for intercepting the communication. Moreover, §5(2) of the Act clarified that if there was any doubt about the existence of a public emergency or a threat to public safety a "certificate signed by the Secretary to the Government of India or to the Local Government would be conclusive proof upon that point."[23] This provision barred judicial review of an action taken by a delegated administrative official of the government under the Act.

The next legislation that sought to further expand the powers of the State for intercepting communications was the Indian Post Office Act of 1898. Drafted thirteen years after the enactment of the Telegraph Act, it borrowed heavily from the language of §5. The Post Office Act under §26(1), however, included one additional safeguard that an order for interception had to be made in writing. The Select Committee instituted to examine the *vires* of the Post Office Bill had differing opinions regarding the powers granted to the government under the Bill.[24] Shri P. Ananda Charlu, a member of the Select Committee, noted his dissent highlighting the arbitrariness of the power granted to the government under the Bill. Charlu, in particular, pointed out that the bill lacked a provision mandating that an individual be notified if his/her communication was intercepted but no charges pressed.

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[21] Constitution of Central Board of Information: Thorne's report on war-time control of press, broadcasting, films and publicity(1939) *in* Sanjoy Bhattacharya, *British Military Information Management Techniques and the South Asian Soldier: Eastern India during the Second World War*, 34 (2) MODERN ASIAN STUDIES 483-510 (2000).

[22] §5(1), Unamended Indian Telegraph Act, 1885 adopted by the Governor General in Council on July 22, 1885 *available at* http://lawmin.nic.in/legislative/textofcentralacts/1885.pdf (Last visited on Aug. 18, 2016).

[23] *Id.* at §5(2).

[24] Gazette of India, March 12, 1898, part V, *in* Law Commission Report No. 38 on the Indian Post Office Act.

He noted that disclosures regarding interception may act as a deterrent to future offenders. Consequently, he went on to suggest that the lack thereof tilted the balance heavily in favour of the government and against the public. He also cautioned that the lack of safeguards would render the Bill open to misuse by a corrupt government in the future.[25] Shri Bisambar Nath, another Indian member of the Council, also noted his apprehensions by suggesting that without due clarity regarding the conditions for existence of a public emergency, the power prescribed by the Bill was arbitrary.[26] The Bill was, nevertheless, passed without any amendments or the addition of any safeguards.

The Telegraph Act and the Post Office Act (*hereinafter* "the Acts") continued to remain in operation even after the country gained independence. During this time there was little to no recorded discourse on the lack of safeguards under the Acts except a Press Laws Enquiry Committee in 1947. The Committee only recommended that §§26 and 5 of the respective Acts should be amended so that actions and orders of subordinate officers are reported to and reviewed by responsible ministers of the government.[27] The first comprehensive examination of the Acts was undertaken by the Law Commission in its 38th Report on the Indian Post Office Act in 1968. The Law Commission was of the opinion that insofar as §26 of the Post Office Act intercepted or detained one's communication, it was a restriction on the freedom of speech and expression guaranteed under Article 19 of the Constitution.[28] Therefore, for interception to be permissible under §26, the rationale for such interception must be within the ambit of limitations prescribed under Article 19(2). Once again the Law Commission voiced concerns regarding the vagueness of the term 'public emergency'. It noted that if the emergency was not of such a character as to threaten public order or the security of the State, then it would go beyond the restrictions mentioned in the Constitution.[29] To that end, the Law Commission proposed an amendment to §26 of the Post Office Act and §5 of the Telegraph Act. It suggested that an order for interception must only be passed if it was "required in the interests of the security of the State, friendly relations with foreign States or public order or for preventing the incitement to the commission of any offence."[30] This, in the Law

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[25] Gazette of India, March 26, 1898, part VI, 285-287, *in* Law Commission Report No. 38 on the Indian Post Office Act.

[26] *Id.*

[27] Virendra Kumar, *Report of the Press Laws Enquiry Committee, 1947* in Committees and Commissions in India 1947-54, Volume I (2004).

[28] Law Commission of India, 38thLaw Commission Report ¶83 (1968).

[29] *Id.*

[30] Law Commission of India, *supra* note 28 at ¶93.

Commission's opinion, would go a long way in making the Acts compatible with the Constitution.

The Commission also considered §26(2) of the Post Office Act that barred judicial review after an administrative determination of the need for interception. The Commission found this provision to be wholly unconstitutional. It recorded that *vires* of an interference with freedom of expression had to be examined on the basis of whether the interference fell afoul of the limitations set out in the Constitution.[31] This determination could only be done by a court of law. The Commission therefore directed the government to omit the provision from the Acts.

Following the Law Commission's recommendation to amend the Telegraph Act, the legislature passed the Telegraph (Amendment) Act, 1972. The amendment repealed the erstwhile §§26(2) and 5(2) of the Acts. Orders of interception were now subject to judicial review.[32] Additionally, the legislature sought to bring the Acts within the ambit of restrictions laid down under Article 19(2). Following the Law Commission's recommendations, many of the restrictions listed under Article 19(2) were imported into §5(2) of the Telegraph Act.[33] It may be interesting to note here that the Law Commission had recommended the addition of a provision that authorised interception only if it was *required* under the conditions set out in Article 19(2).[34] This meant that interception orders could be passed only if it was absolutely necessary to do so. However, the provisions were amended to provide that communications could be intercepted if it was 'necessary or expedient'.[35] Thus, an additional dimension of vagueness *i.e.* 'expediency' was included in the already ambiguous provisions for interception. The consequences of this ambiguity in drafting have been discussed in the later parts of this paper. This paper, however, is not the first time that this lack of legislative clarity has been called into question.

The parliamentary debates surrounding the amendment reflected grave concerns regarding the arbitrariness in conferring powers, and ambiguity in language of the Act. The tenor of discussion reflected that the powers vested

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[31] LAW COMMISSION OF INDIA, *supra* note 28 at ¶86.

[32] The Indian Telegraph (Amendment) Act, 1972, §5.

[33] The amendment mandated that in addition to the existence of a public emergency and a threat to public safety, the State would have to be satisfied that it was necessary or expedient in the interests of the sovereignty and integrity of India, the security of the State, friendly relations with foreign States or public order or for preventing incitement to the commission of an offence to pass an order of interception.

[34] LAW COMMISSION OF INDIA, *supra* note 28.

[35] The Indian Telegraph (Amendment) Act, 1972, §5(1).

in the State under §5(2) were largely considered "excessive"[36] when a proclamation of emergency was not in effect. Concerns were also voiced regarding the lack of definition of the terms used in the Act.[37] It was also feared that the provisions may cause difficulties in centre-state relationships. A conflict of opinion could arise between the government at the centre and the government at the state. In such a case the central government, which controls the Telegraph Department, would be in a position to create hindrances in dissemination of information from the state to other parts of the country.[38] In the Rajya Sabha it was pointed out that terms like public emergency had not been defined in the Constitution. Therefore, it was not a reasonable restriction on freedom of speech and expression.[39] It was also cautioned that even the legitimate use of public emergency for interception left the provision open to misuse. While public emergency could be construed to be a special circumstance requiring exigent action, protection of public safety was a continuing concern. Therefore, even in cases where an emergent situation did not exist, interception orders could be passed by claiming that it was in the interest of public safety.[40]

All of the aforementioned concerns raised in the parliament were either unaddressed or brushed aside as trivial by Shri H.N. Bahuguna, the then Union Minister of Communications. He insisted that terms like public emergency had been derived from within the Constitution and were therefore valid restrictions on fundamental rights.[41] In response to the potential misuse of the provisions, the Hon'ble Minister claimed that there had been no reported cases of misuse and therefore it was unlikely that it would happen in the future.[42] What the Hon'ble Minister failed to acknowledge, however, was that without adequate safeguards and any provision for post-interception disclosures, no cases of misuse would ever be brought into the public eye. Moreover, even if it were found to be true that no misuse of §5(2) had occurred till 1972, this fact would not in itself preclude the possibility of misuse of the Section in the future. The Hon'ble Minister's claims were therefore a falsification of existing facts at worst or a moral high ground fallacy at best. Thus, despite numerous misgivings regarding the powers being

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36 Parliamentary Debates, Lok Sabha, 09 August 1972, 218 (Shri Dinen Bhattacharyya, Member of Parliament) (Ind.).

37 *Id.* at 219.

38 Parliamentary Debates, *supra* note 36 at 219.

39 Parliamentary Debates, Rajya Sabha, 31 July 1972, 268 (Shri Salil Kumar Ganguly, Member of Parliament) (Ind.).

40 *Id.* at 264.

41 Parliamentary Debates, Lok Sabha, 09 August 1972, 228 (Shri H.N. Bahuguna, Minister of Communications) (Ind.).

42 Parliamentary Debates, Rajya Sabha, 31 July 1972, 266 (Shri H.N. Bahuguna, Minister of Communications) (Ind.).

vested under the Act, the government Bill was passed in both the houses of the Parliament. For nearly two decades thereafter, there are no records of any judicial or legislative consideration of the ambiguity in surveillance laws. What is clear, however, is that during this time the interception provisions were used extensively by the government.[43] Often, such orders of interception were alleged to have been passed unjustly and in furtherance of political motives rather than in public interest.[44] It therefore became apparent that surveillance powers of the State could no longer be allowed to operate unbridled and without due procedure.

The year 1997 proved to be a watershed moment in the history of surveillance law. That year a division bench of the Supreme Court passed an order in People's Union for Civil Liberties v. Union of India (*hereinafter* "PUCL")[45] and added a slew of procedural safeguards to interception under §5(2). In PUCL, a PIL was filed challenging the constitutionality of §5 of the Telegraph Act. The contention of the petitioner was that there had been no procedural rules laid down under §7(2)(b) of the Act which gives the State the power to lay down precautions against improper interception and disclosure of messages. This had led to rampant misuse of the power of interception. The Court affirmed that tapping of telephones was indeed a breach of privacy and a restriction on free speech. It was therefore a restriction on rights guaranteed under both Articles 21 and 19 of the Constitution. Any order of interception would be illegal if it was not passed as per the due procedure of law. To that end, the Supreme Court suggested procedural safeguards to make the process of interception more transparent and uniform. It also suggested the setting up of a review committee to analyse every order of interception on the basis of certain criteria. As a result of this decision, the legislature included Rule 419A to the Indian Telegraph Rules, 1951 in the year 2007. Rule 419A reiterates the suggestions that were given in PUCL. The judgment in PUCL streamlined to a great extent the procedure for conducting surveillance. However, the substantive infirmities in the law, that had been pointed out time and again, fell through the cracks of this historic judgment. Concerns such as the excessiveness of powers granted to administrative authorities and lack of oversight etc. have not yet been considered by Indian courts. The next part of this paper draws attention to some of these substantive infirmities.

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[43] *See generally*, People's Union for Civil Liberties, *Mail and Telephone Censorship*(1982) *available at* http://www.pucl.org/from-archives/Media/mail-phone.htm(A chronicle of the various allegations of misuse of the interception provisions by the government and the resultant protests against this misuse.) (Last visited on Aug. 18, 2016).

[44] Chawla, *supra* note 13.

[45] *People's Union for Civil Liberties* v. *Union of India*, (1997) 1 SCC 301 : AIR 1997 SC 568, ¶ 35.

IV. Constitutionality of §5(2)

Any Act that restricts the fundamental rights guaranteed to a citizen must be in accordance with procedure validly established by the law. Such procedure must be "fair, just and reasonable and non-arbitrary, non-fanciful or non-oppressive."[46] The contention in PUCL was with regards to the lack of adequate procedure for conducting surveillance. However, the Constitutional *vires* of §5(2) was not "seriously challenged."[47] So far, there has been no judicial determination of whether the conditions for authorising surveillance are arbitrary or oppressive. Therefore, while the procedure for conducting surveillance has been detailed with relative clarity, the prerequisites for authorisation of surveillance are yet to be explicated.

Authorisation for interception is still granted on the basis of conditions that had been laid down over a century ago. §5(2) outlines a two-tiered test that must be satisfied for the interception of telegraphs. The first-tier consists of *sine qua non*[48] in the form of an 'occurrence of public emergency' or 'in the interest of public safety'. An officer passing an order must first establish the existence of either one of the two conditions. Thereafter he must undertake an examination of whether it is necessary or expedient in the interest of public order or national security to pass an order of interception. There are, however, no objective criteria prescribed in the Acts on the basis of which an authority is meant to arrive at these conclusions. He must, in that case, necessarily arrive at these findings on a discretionary assessment of the facts and circumstances. The power under the Act has not been vested in a judicial authority but an administrative one. If the power had been vested in a judicial or Constitutional authority, there would have been a presumption of legitimate use of the power. For instance, in Babulal Parate v. State of Maharashtra, it was held that when a power is conferred on a judicial authority it can be assumed that the power would be exercised legitimately and honestly.[49] A similar decision regarding a Constitutional authority was arrived at in Accountant General v. S. Doraiswamy.[50] Under the Telegraph and Post Office Acts, the power to suspend a person's fundamental rights has been left to the discretionary assessment of an administrative official.

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[46] *Maneka Gandhi* v. *Union of India*, (1978) 1 SCC 248; *State of Maharashtra* v. *Bharat Shanti Lal Shah*, (2008) 13 SCC 5.

[47] *People's Union for Civil Liberties* v. *Union of India*, (1997) 1 SCC 301 : AIR 1997 SC 568 ¶ 34.

[48] *Hukam Chand Shyam Lal* v. *Union of India*, (1976) 2 SCC 128.

[49] *Babulal Parate* v. *State of Maharashtra*, AIR 1961 SC 884 : (1961) 3 SCR 423.

[50] *Accountant General* v. *S. Doraiswamy*, (1981) 4 SCC 93 : (1981) 2 SCR 155. (It was held that the Comptroller and Auditor General being a high ranking Constitutional authority can be expected to act without arbitrariness and a discretionary power conferred on him does not violate the principle against excessive delegation.).

Some of the specific aspects of §5 that are vague and indeterminate are discussed herein.

A. On the Occurrence of Public Emergency

The term 'public emergency' has been in operation within the Telegraph Act since its very inception. It has remained the focal point of controversy relating to the arbitrariness of the interception powers. The major concern surrounding 'public emergency' is that the term has not been defined by the legislature.[51] Hence the determination of whether public emergency exists can often fall to a delegated administrative official. The term 'public emergency' and all orders for interception arising out of it shall be deemed to be arbitrary unless it can hold up against a test of constitutionality. In other words, for public emergency to continue to remain in operation in the Act, it must be established that the existence of public emergency is one of the conditions envisaged in the Constitution for restricting fundamental rights. Questions regarding the elusive definition of public emergency were raised during the passing of the Indian Telegraph (Amendment) Act, 1972. In response, it was claimed in the Parliament that the basis of the terms appearing in the Act could be located within the Constitution.[52] Thus, public emergency could be a valid ground for restricting freedom of speech and expression. This, however, is not true. Although the Constitution uses the term 'emergency', it does not mention the phrase 'public emergency'. For Bahuguna's claims to find any credence, public emergency would have to be taken to mean the same as a proclamation of emergency or any other form of emergency mentioned in the Constitution. Both, the Second Press Commission in 1952 and the Law Commission in its 38th Report in 1968 attempted to discern the meaning of 'public emergency' but failed to arrive at an exhaustive definition. The Law Commission acknowledged that the phrase public emergency is very broad and §§26 and 5 of the Acts contemplate interception of communications during peaceful times as well.[53] The Press Commission clarified that public emergency need not be confined to an emergency arising out of war or external aggression. It may arise locally and yet it may have repercussions in other parts of the country.[54] Moreover, the Indian Telegraph Act was drafted nearly six decades before the Constitution of India was brought into force. It is inconceivable to imagine that a law drafted in the 19th century was meant to be synonymous with a proclamation of emergency. Further, conceiving

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[51] *Communist Party of India (Marxist)* v. *Commr. of Police*, 1994 SCC OnLine Bom 281 : AIR 1995 Bom 136.

[52] Parliamentary Debates, *supra* note 41.

[53] LAW COMMISSION OF INDIA, *supra* note 28 at 97, ¶1067.

[54] SECOND PRESS COMMISSION, COMMISSION REPORT 62 (1952).

public emergency as a proclamation of emergency may even create additional barriers in the implementation of the law. By way of illustration, let us consider the argument that public emergency is the same as a proclamation of emergency. Then, any requests by law enforcement agencies to intercept communications would require them to establish that a state of emergency exists. This is an extremely high threshold to meet. Instead, law enforcement agencies would find it easier to establish that public safety is threatened and requires the interception of communications. Over time this would cause the phrase 'public emergency' to become redundant. Public emergency therefore cannot be conflated with a proclamation of emergency.

The only guidance to the possible meaning of 'public emergency' came from the Supreme Court in Hukam Chand Shyam Lal v. Union of India (*hereinafter* "Hukam Chand").[55] Therein, a four judge bench of the Supreme Court defined 'public emergency' as a situation "which raises problems concerning the interest of the public safety, the sovereignty and integrity of India, the security of the State, friendly relations with foreign States or public order or the prevention of incitement to the commission of an offence."[56] This definition seemingly brings public emergency into the ambit of the restrictions laid down under Article 19(2) of the Constitution. In reality, though, it does not lend any clarity to the indeterminacy surrounding the term.

Firstly, both public emergency and public safety are envisaged as conditions precedent to the exercise of power under §5. In this regard the Court was correct in holding that the two phrases must take their colour off each other. But interpreting public emergency as a situation that must necessarily implicate public safety does not assist in delineation of the term. Instead, it renders the term 'public emergency' redundant. The fact that the two terms have been separately included in the Act means that they must necessarily refer to two distinct situations.[57] Granted, that situations may arise where both public emergency and public safety overlap; however there must necessarily be situations where a public emergency has arisen but public safety is not threatened. By way of illustration, an imminent strike that may cease operation of transportation services may be an emergent situation affecting the public while not necessarily threatening the safety of the public. This would then qualify as a public emergency but would not implicate public safety.

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[55] *Hukam Chand Shyam Lal* v. *Union of India*, (1976) 1 SCC 128.
[56] *Hukam Chand Shyam Lal* v. *Union of India*, (1976) 1 SCC 128.
[57] Law Commission of India, *supra* note 28 at 92.

Secondly, the Act envisages public emergency as a *sine qua non* before a threat to sovereignty and integrity of India, the security of the State, friendly relations with foreign States or public order exists. The Supreme Court's interpretation seeks to define public emergency as a situation where public order, sovereignty and security of the State are already threatened. This is a cyclic interpretation of §5 where it is difficult to understand whether a threat to public order and security create a condition of public emergency or vice versa.

There are therefore no objective criteria against which the existence of public emergency can be measured. Thus, the question of the existence of a public emergency is left to the subjective determination of a delegated official. The question that arises at this juncture is whether the subjective assessment by a delegated administrative official is sufficient for the suspension of fundamental rights. A similar question arose before the House of Lords in Liversidge v. Anderson.[58] The case examined the *vires* of an Act that vested an administrative authority with the power to detain a person if there was reasonable cause to believe that the person was of hostile origin. Lord Atkin in his dissenting opinion weighed in on the conditions set out for the power in question to be exercised. Relying on Greene v. Secy. of State for Home Affairs,[59] he was of the opinion that the precondition of "a reasonable cause to believe" was one requiring subjective determination and not an objective one. Further, the power that was meant to be vested in the administrative official was a conditional one. However, by allowing an administrative authority himself to determine whether he was entitled to use his power, the law had the effect of vesting in him an absolute authority instead of a conditional one. In such cases, the only protection available against misuse of such power was the belief that the official was acting in good faith. This proposition was unacceptable to Lord Atkin. He opined that any law that lays down preconditions for the exercise of a certain power but lacks objective criteria to test whether the preconditions have been met is unsustainable. Although, Lord Atkin's judgment formed the dissenting opinion, it has since emerged as the more logically defensible position.[60]

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[58] *Liversidge* v. *Anderson*, 1942 AC 206.

[59] *Greene* v. *Secy. of State for Home Affairs*, 1942 AC 284.

[60] *See Lord Diplock in IRC* v *Rossminster Ltd.*, 1980 AC 952, at 1011 : (1980) 2 WLR 1 "the time has come to acknowledge openly that the majority of this *House in Liversidge* v. *Anderson* were expediently and, at that time, perhaps, excusably, wrong and the dissenting speech of Lord Atkin was right"; *Also See ADM, Jabalpur* v. *Shivakant Shukla*, (1976) 2 SCC 521 : AIR 1976 SC 1207.

A similar position was also taken by the Supreme Court in State of M.P. v. Baldeo Prasad.[61] The case dealt with the constitutionality of the Central Provinces and Berar Goondas Act, 1946 and the lack of the definition of *Goondas* under the Act. While deeming the statute as unconstitutional, the Court held that a statute must provide adequate safeguards for the protection of innocent citizens. It must also require the administrative authority to be satisfied as to the existence of the conditions precedent laid down in the statute before making an order. If the statute failed to do so in respect of any condition precedent, then the law suffered from an infirmity and was liable to be struck down as invalid. Similarly, public emergency has not been defined under the Telegraph Act. Moreover, the legislature has also failed to lay down any objective criteria that may guide the administrative authority in coming to a conclusion regarding the existence of public emergency. This view also finds support from the findings of the Second Press Commission. The Press Commission acknowledged the vague nature of public emergency and its potential to be misused by delegated officials. It was of the opinion that the appropriate government should declare the existence of a public emergency by a notification warranting the exercise of the power under §5. Only after the issue of such a notification would the delegated authority be able to exercise the power of withholding telegraphic messages.[62] This, however, is not a practical solution. In exigent cases where an order of interception may need to be urgently issued, it may be impossible to obtain a declaration of public emergency from the appropriate government. A more plausible solution may be a clearer definition of the term.

It is now evident that the definition of 'public emergency' is vague at best. Any law that seeks to restrict the fundamental rights of individuals must be fair, just, reasonable and non-arbitrary.[63]As the law stands today, the determination of a condition of public emergency is left to the arbitrary decision of a delegated authority. Hence, the occurrence of a public emergency is not a valid ground for interception of communications and consequently for restricting freedom of speech and expression. In its current form, it is therefore *ultra vires* the constitution and liable to be struck down.

Unfortunately, Indian laws provide little guidance in discerning a non-exclusionary meaning of the term. The only statute that uses the term 'public emergency', not in the context of surveillance, is the Factories Act, 1948.[64] This 'public emergency', however, is limited only to an emergency whereby

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[61] *State of M.P.* v. *Baldeo Prasad*, AIR 1961 SC 293.
[62] Second Press Commission, *supra* note 54 at 62.
[63] *Maneka Gandhi* v. *Union of India*, (1978) 1 SCC 248.
[64] Factories Act, 1948, §5.

the security of India is threatened, by war or external aggression or internal disturbance.[65] The Supreme Court has already held that public emergency cannot be equated with any other form of emergency.[66] Hence, other statutes using the term 'emergency'[67] may not provide any guidance in the interpretation of this term. It may, therefore, be necessary to look beyond the Indian legal system to understand what the phrase means. In the context of protection of human rights, the European Court of Human Rights (*hereinafter* "ECtHR"*)* has attempted to define 'public emergency'. In Lawless v. Ireland,[68] it defined the phrase as "an exceptional situation of crisis or emergency which affects the whole population and constitutes a threat to the organised life of the community of which the State is composed."[69] This definition was further developed by the ECtHR in the Greek Case.[70] In that matter the Court further clarified the term to having been said to exist only when a threat is actual or imminent and the effects of emergency involve the whole nation. Further, the continuance of the organised life of the community must be threatened for a declaration of public emergency. It was also held that the crisis or danger must be so exceptional that the normal measures or restrictions, permitted by European Convention on Human Rights for the maintenance of public safety, health and order, must have proven to be inadequate.[71] Admittedly, the pronouncements by the ECtHR are in the context of derogation of national responsibility in relation to human rights under emergent circumstances. These definitions therefore cannot be directly imported into Indian surveillance laws.

When delineating a power that is exercised for regular law enforcement, the Act cannot rely on a definition that necessitates the existence of 'exceptional' social conditions. Instead, Indian courts must strive to arrive at a more balanced definition. It is entirely possible to define public emergency under the Acts without relying on principles of public order or public safety. A good starting point can be the classification of criminal acts as those that threaten national security and those that do not. A near inclusive list of threats to national security could then be said to cause a public emergency,

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[65] Explanation to §5, Factories Act, 1948.

[66] *Hukam Chand Shyam Lal* v. *Union of India*, (1976) 2 SCC 128.

[67] *See for example*, §11(2) of the Official Secrets Act, 1923 and §4A of the Indian Tariff Act, 1934

[68] *Lawless* v. *Ireland*, 1961 ECHR 2.

[69] *Lawless* v. *Ireland*, 1961 ECHR 2 ¶28.

[70] The Greek Case, (1969) 12 YECHR (Application No. 3321/67, *Denmark* v. *Greece*; No. 3322/67, *Norway* v. *Greece*; No. 3323/67, *Sweden* v. *Greece*; No. 3344 *Netherlands* v. *Greece*).

[71] Tahmina Karimova, Derogation from Human Rights Treaties in Situations of Emergency *available at* http://www.geneva-academy.ch/RULAC/derogation_from_human_rights_treaties_in_situations_of_emergency.php (Last visited on Aug. 18, 2016).

while everything else would only threaten public safety. Any such classification must then necessarily be followed by different rules of procedure for reacting to the different classes of threats. In fact, such a distinction may be the only thing that helps §5(2) of the Telegraph Act retain its constitutionality when the matter comes for consideration before the courts.

B. Expedient in the Interest of National Security and Public order

Another point of concern that raises doubts about the Constitutionality of §5 of the Telegraph act is the use of the word 'expedient' for authorising an interception. The Law Commission in its 38th Report suggested that surveillance should be undertaken only if it was necessary under one of the grounds listed in Article 19(2).[72] The legislature however amended the Act in a manner so that communications could be intercepted if it was either necessary or expedient to do so. The meaning of the term expedient is not *res integra*. It has been defined to mean something that is apt or suitable to the end in view.[73] It can be also taken to mean something that is either practical and efficient or advantageous.[74] In other circumstances it can be understood as a device "characterised by mere utility rather than principle, conducive to special advantage rather than to what is universally right."[75]

In light of these definitions, it is fairly simple to conclude that the burden for determining an act of interception as expedient is much lower than determining it as necessary. This essentially means that the State can choose to intercept a person's communication if it finds such interception an efficient means of obtaining communication. The term 'expedient' therefore, *prima facie* seems at odds with Rule 419-A(3) of the Indian Telegraph Rules, 1951. Rule 419-A(3) States that an administrative authority shall only pass an order of interception when it is not possible to obtain the information by any other reasonable means. However, the use of the term 'expedient' gives the authority the power to intercept communication even on the mere satisfaction that it is efficient or advantageous to do so. The power to determine whether it is expedient in the interest of public order, security and sovereignty of the State to intercept and detain communications therefore seems arbitrary and falls afoul of the constitutional principles of just, fair and non-arbitrary.

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[72] Law Commission of India, *supra* note 28.
[73] Wharton's Concise Law Dictionary (2011).
[74] *Hotel Sea Gull* v. *State of W.B.*, (2002) 4 SCC 1, 13.
[75] *State of Gujarat* v. *Jamnadas G. Pabri*, (1975) 1 SCC 138.

V. Difficulties with standards of enforcement

The surveillance set up under the Telegraph Act and Post Office Act suffers not only from substantive infirmities but also from institutional ones. One of the imminent concerns is regarding the severe lack of oversight of the surveillance set up. In accordance with the court's direction in PUCL, Rule 419-A(16) provides for the establishment of a three member Review Committee. This Committee consists of the Cabinet or Chief Secretary and two other Secretaries of the Centre or State Government as the case may be. According to Rule 419-A(17), this Review Committee shall meet at least once every two months. The mandate of the Committee is to review whether the orders passed under sub-rule (1)[76] are in accordance with §5(2) of the Telegraph Act. Therefore, the Review Committee, after considering all relevant facts and circumstances, is meant to review whether a public emergency or a threat to public safety existed at the time of passing of the order. Further it must, after judicial application of mind, come to a conclusion about whether or not it was in the interest of public order, national security or sovereignty or protection of friendly relations with foreign States to pass the order of interception. A recent application under the Right to Information Act to the Ministry of Home Affairs has revealed that on an average 7500 to 9000 orders for interception are issued every month by the Central Government alone.[77] Therefore, if the Review Committee meets once every two months as it is statutorily mandated to do, then it would have to consider and dispose off between 15000 to 18000 orders of interception at every meeting. If, on the other hand, the Review Committee were to meet every day of the month it would have to dispose off between 290-345 orders. It is inconceivable that any three member body would be able to take into account all the relevant facts and circumstances surrounding 290 orders of interception in a day, let alone 18000. It is therefore clear that either the Review Committee undertakes its task in an extremely cursory manner or fails to even consider the vast majority of cases. If this is the case then despite the existence of Rule 419-A (16), India lacks any effective oversight of orders of surveillance. Hence, orders of interception passed under §5(2) are issued without any judicial scrutiny and even after their issuance are not subjected to any form of review. Therefore, a vast number of people whose communications are

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[76] Rule 419-A (1), Indian Telegraph Rules, 1951 lists the authorities under Central and State Governments sanctioned to pass orders of interception.

[77] Rakesh Mittal, Director (Internal Security-I), Ministry of Home Affairs, Reply to Application of Ms. Shagun Belwal seeking information under the Right to Information Act, May 12, 2014 *available at* http://sflc.in/wp-content/uploads/2014/09/RTIreply_MHA_419A.pdf (Last visited on Aug. 18, 2016).

wrongfully intercepted are never even made aware of the serious infringement of their privacy by the State.

Despite the lack of any protection against the violation of its citizens' rights, India has been dangerously toeing the line that separates a democracy from a totalitarian surveillance State. In the last half a decade alone the Government has introduced tools that increase its surveillance capabilities manifold. Two of the most controversial tools alleged to have already been put into operation are the Central Monitoring System and the Network Traffic Analysis System (*hereinafter* "NETRA"). These projects have been tightly kept under wraps by the Government and most of the information available about them is speculative. Almost all the information available about these projects can be attributed to anonymous bureaucratic sources within the Government.[78] However, from whatever little information is available about these projects, they seem to fall within the ambit of the laws in operation governing surveillance.

NETRA has been developed by the Centre for Artificial Intelligence and Robotics (*hereinafter* "CAIR") laboratory at the Defence Research and Development Organisation (*hereinafter* "DRDO"). It appears to be designed to monitor packetised data and voice traffic over the internet using keyword searches.[79] As a tool that employs keyword searches to intercept communications, it will conduct dragnet surveillance. This form of surveillance will not discriminate between a malicious user and an innocent one, theoretically putting the entire internet user network under surveillance. NETRA, therefore, is a form of mass surveillance that will cause large scale breaches of privacy and unwarranted restriction on free speech and expression. Naturally, it begs the question of where exactly a tool designed for mass surveillance of a country's own citizens stands legally?

As a tool meant to be used strictly for surveillance over the internet, NETRA must necessarily function within the limits of §§69 and 69B of the Information Technology Act, 2000. §69 which is analogous to §5 of the Telegraph Act provides for interception of communication transmitted *via* a computer resource.[80] The procedure for intercepting communication transmitted over the internet has been laid down under the Information

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[78] Press Trust of India, *India to deploy Internet spy system 'Netra'*, Live Mint, Jan. 06, 2014 *available at* http://www.livemint.com/Politics/To4wvOZX7RmLM4VqtBshCM/India-to-deploy-Internet-spy-system-Netra.html (Last visited on Aug. 18, 2016).

[79] Bhairav Acharya, NETRA: India's planned Orwellian surveillance system, Sep. 5, 2014 *available at* http://notacoda.net/2014/09/05/netra-indias-planned-orwellian-surveillance-system/ (Last visited on Aug. 18, 2016).

[80] Information Technology Act, 2000, §69.

Technology (Procedure and Safeguards for Interception, Monitoring and Decryption of Information) Rules, 2009 (*hereinafter* "Decryption Rules"). Rule 9 of the Decryption Rules states that the direction of interception shall be with regard to any information that is sent to or from any person or class of persons or relating to any particular subject matter.[81] This is a significant departure from the interception that is allowed under the Telegraph and Post Office Acts. The Telegraph and Post Office Acts also allow the interception of communication relating to a person or a class of persons as well as any subject matter. However, owing to the physical nature of communication under the ambit of the Acts, only the communication of clearly identifiable individuals would be intercepted. Under the Decryption Rules, all persons over a computer network engaging in communication about a monitored subject matter would be brought under the ambit of surveillance. Therefore, the Decryption Rules authorise dragnet surveillance instead of targeted surveillance. The legality of this provision allowing bulk surveillance has not been called into question before Indian courts. However, as the matter stands, bulk surveillance is legally authorised in this country. A similar challenge that recently arose before the Investigatory Powers Tribunal in the UK does not inspire much optimism either. In Privacy International v. Govt. Communications Headquarters (*hereinafter* "GCHQ"), the legality of the GCHQ's involvement in the mass surveillance under the NSA's PRISM program and other similar activities was called into question.[82] The Tribunal considered the question of whether the practice of bulk data collection was permissible under the Regulation of Investigatory Powers Act, 2000 (*hereinafter* "RIPA"). Under the RIPA, §8(1) permits interception relating to only one person or one premise.[83] However, U/§ 8(4) non-targeted surveillance is also allowed so long as a warrant is obtained to that effect from the Secretary of State. While weighing in on the actions of GCHQ, the Tribunal said that it did not believe that §8(4) authorised bulk or mass surveillance and that such interception would be illegal.[84] It also rationalised GCHQ's position by stating that the espionage organisation's actions could not be called indiscriminate bulk surveillance, rather they should be considered "discriminate but vast"[85] surveillance. Here, the Tribunal while couching it

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[81] Rule 9, Information Technology (Procedure ad safeguards for Interception, Monitoring and Decryption of Interception) Rules, 2009; also see Rule 3(4) of the Information Technology (Procedure and safeguards for Monitoring and Collecting Traffic Data or Information) rules, 2009.

[82] *Privacy International* v. *Govt. Communications Headquarters*, 2014 UKIPTrib 13_77-H.

[83] §8(1), Regulation of Investigatory Powers Act, 2000.

[84] *Privacy International* v. *Govt. Communications Headquarters*, 2014 UKIPTrib 13_77-H ¶71.

[85] *Privacy International* v. *Govt. Communications Headquarters*, 2014 UKIPTrib 13_77-H ¶72.

in slightly more politically correct terms has, in fact, indirectly given intelligence organisations a *carte blanche* to continue expanding their powers of interception. It is a legitimate fear that if the *vires* of the Decryption Rules are brought into question before the courts, a similar line of reasoning may be applied thus buttressing the perhaps already prevalent practice of dragnet surveillance.

As has been previously argued, communications can be intercepted on the mere belief that it is expedient in the interest of public order or national security. It has become apparent from the preceding discussion that the laws governing surveillance are not only archaic and ambiguous but also, in some cases, misguided. Over the last decade, the State instead of proactively modernising these legislations has been involved in creation of newer tools for restricting fundamental freedoms. In light of these developments, a serious revaluation of the existing laws has become imperative. The next part of the paper briefly discusses some practices that may be adopted to improve surveillance practices and minimise misuse.

VI. Suggested best practices for surveillance

Legal provisions governing surveillance and interception of communication in India are far from ideal. The very first infirmity that the legal setup suffers from is that the laws governing surveillance are outdated. The Information Technology Act, 2000 only regulates interception of communications transmitted over a computer network. The laws governing interception in other spheres are still archaic. Since the coming into force of the Telegraph Act there has been a sea change in technology that can remotely intercept communications over a telephone network. In 2012, the Department of Telecommunications issued a recall order for thousands of sophisticated phone interception devices that had been imported during the open general license regime.[86] These devices can remotely listen in and intercept phone conversations within a radius of two kilometres. It is believed that nearly 90% of these interceptors (codenamed FOX) had been purchased by private companies. However, despite the recall order, not one corporate entity declared that it was in possession of these devices.[87] Surveillance technologies

[86] Sanjay Singh, *Government hunts for elusive bug: DoT wants snooping and listening devices within private sector surrendered*, Daily Mail, Nov. 28, 2012 *available at* http://www.dailymail.co.uk/indiahome/indianews/article-2239422/Government-hunts-elusive-bug-DoT-wants-snooping-listening-devices-private-sector-surrendered.html (Last visited on Aug. 18, 2016).

[87] *Id.*

have moved far beyond the limitations that a hundred and thirty year old law could possibly impose on them. It is not just the government that possesses the capability of intercepting communications anymore. In spite of this, there have been no steps to draft specialised laws that protect citizens' privacy and insulate them from unauthorised surveillance either by the State or by private individuals. While almost all developed and developing countries have drafted progressive laws to enhance and better regulate their interception capabilities, India continues to be governed by an archaic law. This part exposits some aspects of the modern surveillance laws adopted globally, and discusses their viability in the Indian context.

One of the primary problems with Indian surveillance law is the executive authorisation model for intercepting communications. Both surveillance[88] and interception of one's communication[89] are a restriction on one's fundamental rights. They can therefore only be undertaken with due regard to procedure established by law. The right to privacy has been called too "broad and moralistic"[90] to be defined judicially. Any claim arising out of a violation of this right must be analysed on a case-to-case basis.[91] Therefore by necessary corollary, any restriction imposed on the right must also be determined with regards to the particular facts and circumstances of a case. An order of surveillance can impinge upon the right to privacy and impose a chilling effect on free speech. Every such order must be tested against the limits set under Article 19 of the Constitution. This determination can only be done adequately by a judicial officer and not by an executive authority. It is for this reason that almost all countries with specialised legislations for preventing unlawful surveillance have favoured a judicial sanction model over an executive authorisation one. In Australia, for instance, warrants for intercepting communications are granted by a judge or a nominated member of the Administrative Appeals Tribunal.[92] The Australian Telecommunications Interception and Access Act also clearly identifies which judges and nominated members are authorised to issue such warrants. In case of the nominated member, such member must have been enrolled as a legal practitioner of either a Supreme Court or a federal court for not less than five years.[93] It is only in case of an application for interception by the Australian Security Intelligence Organisation that a warrant is not required from a judge or a nominated member. But even so, a warrant must be obtained from the

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[88] *Kharak Singh* v. *State of U.P.*, AIR 1963 SC 1295 : (1964) 1 SCR 332.
[89] *People's Union for Civil Liberties* v. *Union of India*, (1997) 1 SCC 301 : AIR 1997 SC 568.
[90] *People's Union for Civil Liberties* v. *Union of India*, (1997) 1 SCC 301 : AIR 1997 SC 568.
[91] *People's Union for Civil Liberties* v. *Union of India*, (1997) 1 SCC 301 : AIR 1997 SC 568.
[92] Telecommunications Interception and Access Act, 1979, §39.
[93] Telecommunications Interception and Access Act, 1979, §6DB.

Attorney General after judicial application of mind.[94] In Brazil, wiretapping is regulated by the Federal Law No. 9,296. Under this law, authorisation for interception is granted on a judge's order for a period of 15 days at a time. Moreover, interception is only allowed for investigations into serious offences like drug smuggling, corruption, murder and kidnapping. The Canadian Criminal Code, 1985 which governs general rules of criminal procedure including search and seizure protocols, also favours the judicial sanction model. Under the Code, interception orders can only be issued by a provincial court judge or a judge of the superior court.[95] Similarly, in the United States, authorisation for interception can be granted by a District Court or a federal appeals court on application by a law enforcement officer duly signed by the Attorney General.[96] In France, the civilian law governing video surveillance and interception of communication also requires previous authorization from an investigating judge after consultation with the Public Prosecutor.[97] This reflects a clear lean in favour of letting the judiciary allow or disallow requests for interception of communications. The executive authorisation model, however, also finds some takers.

When it comes to authorising orders for interception, the United Kingdom, like India, goes against the grain. The UK has consistently followed an executive authorisation model for intercepting communications. Under the RIPA, UK grants authorisation for interception in the form of a warrant by the Secretary of State or in certain special cases by a senior officer.[98] It may be interesting to note here that most countries that have not drafted specialised legislations governing interception or have chosen to adopt the executive authorisation model are former colonies of the United Kingdom.[99] Telecommunications regulation in most of these countries is still governed by colonial laws. This may be attributed either to a lack of recognition of the right to privacy[100] or due to inadequate sensitisation of the citizens about State sanctioned surveillance.

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[94] Telecommunications Interception and Access Act, 1979, §9.

[95] Canadian Criminal Code, 1885, §184.2.

[96] Electronic Communications Privacy Act, 1986 under Title III, Omnibus Crime Control and Safe Streets Act, §18.

[97] Loid'orientation et de programmation pour la performance de la sécuritéintérieure (LOPPSI 2), 2011, Article 36.

[98] Regulation of Investigatory Powers Act, 2000, §7.

[99] *See* generally, Privacy International's Country Reports on Iraq, Jordan, Malaysia, Sri Lanka and Bangladesh *available at* https://www.privacyinternational.org/resources/reports (Last visited on Aug. 18, 2016).

[100] *Privacy and Human Rights Report, 2006 for the Republic of Sri Lanka available at* http://www.worldlii.org/int/journals/EPICPrivHR/2006/PHR2006-Republic-28.html (The Sri Lankan Constitution does not explicitly recognize a right to personal privacy. The Country also lacks any specialized data protection framework) (Last visited on Aug. 18, 2016).

Exceptions however do exist. Of the countries that gained independence on a comparative time scale as India, only three have managed to draft specialised laws regulating interception. All three of these countries have opted for a judicial sanction model for intercepting communication. South Africa, having gained independence in 1931, drafted the Regulation of Interception of Communications and Provision of Communication-related Information Act in 2002. Under this law, a warrant for intercepting communications and installing surveillance devices is granted by a designated judge.[101] Such warrant is issued on satisfaction of the judge that the investigation relates to a serious offence or that the information gathering is vital to public health or safety, national security or compelling national economic interests.[102] Cyprus, that gained independence in 1960, drafted the Protection of Secrecy of Private Communications (Call Interception) Law in 1996. Under this Law, the Attorney General must file for a court order before using wiretaps.[103] The latest among the three countries to have modernised its surveillance laws is Pakistan. There, the power of law enforcement and intelligence agencies to intercept communications and undertake covert surveillance is governed by the Investigation for Fair Trial Act, 2013. The Act provides for a two-tiered supervisory model for authorising interception. Under §6 of the Act, every application for interception must be placed before the Federal Minister for Interior for his due consideration. It is only with the Minister's permission that the application can then be placed before a High Court Judge[104] for the issuance of a warrant.[105]

Modern tools and methods of conducting surveillance are complex and highly specialised. Moreover, the contours of privacy laws have not been well defined in India. Therefore, the determination of legitimate restrictions on the law of privacy is no simple task that can be left to the discretionary whims of a delegated administrative official. It is clear from the above discourse that in order to adequately regulate the practice of State sanctioned surveillance, it is necessary that the determination of a need for surveillance must be undertaken by the judiciary. The conditions listed under §5 of the Telegraph Act for interception can only be assessed by a judicial application of mind. No delegated administrative official is competent to make that determination. Therefore, warrants for ordering surveillance or intercepting

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[101] Regulation of Interception of Communications and Provision of Communication-related Information Act, 2002, §16.

[102] *Id.* §19(4).

[103] Privacy International, Country Report on Cyprus (2012) *available a*t https://www.privacyinternational.org/resources/reports/cyprus#footnote1_1dd86bp (Last visited on Aug. 18, 2016).

[104] Investigation for Fair Trial Act, 2013, §9.

[105] Investigation for Fair Trial Act, 2013, §7.

communications must be issued by a Magistrate[106] or either a sitting or retired High Court Judge. In addition, laws governing surveillance must also be updated to keep up with vast leaps in the technology of intercepting communications. Some additional steps that can be taken to modernise the surveillance set up in India have been discussed below.

Along with a long overdue overhaul of the regulatory framework for interception, it is essential that the law must put in place adequate oversight mechanisms to prevent misuse of the law. Sub-rule 16 of Rule 419A provides for the establishment of a three-member Review Committee to review orders of interception. It also mandates that the committee meet at least once every two months. As has already been discussed, one meeting every two months is not nearly enough to thoroughly review all the orders passed under §5(2) of the Telegraph Act. The law should therefore mandate that the committee meet more frequently to be able to give due consideration to every order. Moreover, the constitution of the Review Committees has been limited to secretaries serving within the government. This has the effect of expecting the executive to conduct oversight on itself. Instead, it should be mandated that every Review Committee must have at least one judicial member who is independent of the government in power at the State or the Centre. In addition to the judicial member, the Review Committee should also include a member with technical expertise to deal with the increasingly complex issues of electronic surveillance such as encryption. Further, while the Rules provide some guidance with regards to duration for which intercepted data shall be retained,[107] they are completely silent with regards to inter-departmental sharing of such data. It is advisable that the legislature clarifies data sharing provisions under the Act. These protections may go a long way in helping reduce the misuse of surveillance powers by law enforcement and intelligence agencies.

VII. Conclusion

Surveillance causes a serious breach of one's privacy. Interception of communications restricts one's freedom of speech and expression by inducing a chilling effect. There have been proven cases of misuse of surveillance provisions in the past. With the invention of Orwellian tools for monitoring the lives of people, we have entered into a dangerous and uncharted territory.

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[106] *See* Draft Privacy (Protection) Bill, 2013, §53 *available at* http://cis-india.org/internet-governance/blog/privacy-protection-bill-february-2014.pdf (Last visited on Aug. 18, 2016).

[107] Indian Telegraph Rules, 1951, Rule 419-A(18).

If the disclosures by former NSA employee Edward Snowden caution us of one thing then it is this: the State's machinery cannot always be relied on to act within the boundaries of law and display adequate respect for citizens' rights. It, then, falls onto all the stakeholders involved to ensure that the powers and functions of their correlative duty bearers are precisely defined. This paper has attempted to draw attention to systemic ambiguities and shortcomings in the existing legal regime. It has also attempted to highlight those aspects of the State's machinery that are vulnerable to misuse. To address these shortcomings, legislative and judicial authorities must not only look ahead but also draw lessons from the past. Creating a progressive and comprehensive legislation will only re-enact the failures from the past if the endemic problems in implementation are not resolved.

The absolute first step must be to address the ambiguities and shortcomings in the existing laws. For instance, oversight provisions, where they exist, must be strengthened, and where they don't exist, must be introduced. The Review Committee formed under Rule 419A has proven to be ineffective. Its powers, functions and constitution must be updated to actually help it discharge the duty it was established to discharge. The intelligence agencies that have been tasked with handling the information collection systems have not been created under any legislation and are therefore not subject to any parliamentary oversight. Attempts like the Intelligence Services (Powers and Regulation) Bill, 2011[108] have been shelved and not revisited since their introduction. Intelligence agencies that have been created through executive orders enjoy vast and unbridled powers that make them accountable to no one. They are putting the surveillance powers to the exact same kind of misuse[109] as it was subjected to in the past[110]. Before vesting the Indian law enforcement agencies with sensitive information that can be so readily misused, it is essential to ensure that a mechanism to check the use and misuse of that power exists.[111]

The second step must be the creation of progressive laws. The fountainhead of the solutions to all of these problems is a clear delineation of the right to privacy. A well-defined right to privacy will bring clarity to the focal point at which the State's power ends and a citizen's right begins. It is well

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[108] The Intelligence Services (Powers and Regulation) Bill(2011) *available at* http://www.thehindu.com/multimedia/archive/00852/THE_INTELLIGENCE_SE_852812a.pdf (Last visited on Aug. 18, 2016).

[109] Saikat Dutta, *We, The Eavesdropped*, OUTLOOK, May 3, 2010 *available at* http://www.outlookindia.com/article.aspx?265191 (Last visited on Aug. 18, 2016).

[110] Dutta, *supra* note 109.

[111] *See generally*, HANS BORN AND IAN LEIGH, MAKING INTELLIGENCE ACCOUNTABLE: LEGAL STANDARDS AND BEST PRACTICE, (2005).

past time and the legislature and the courts should revisit the question of specifically including a right to privacy within the fundamental rights.[112] Additionally, the legislature must undertake the herculean task of drafting a detailed and multidimensional legislation protecting physical, informational and locational privacy of individuals. A privacy protection legislation can do more than just delineate the scope of the right to privacy. It will help identify specific rights holders whose privacy is sought to be protected. It will assist in creating distinction between the privacy available to private individuals and public individuals. This may help resolve the long standing conflict between the right to privacy and freedom of speech and expression. Moreover, a legislation providing a right to privacy will also help identify the duty bearers who are obligated to not only deprive individuals of their privacy, but in certain cases even assist in the protection of the same.[113] Lastly, creating an explicit privacy legislation will also help dispel the erroneous notion that privacy is a western concept and finds no basis in Indian law. It will also help sensitise the citizenry about their right to privacy and inform them against potential violations of the same.

Over the last century, there have been very few attempts at redesigning the declining surveillance infrastructure in the country. Every single one of those attempts has ended with suggestions for improvement and modernisation of these laws. Each additional day that these draconian laws remain in operation, people's fundamental rights are threatened. However, we are now at a critical juncture. Never before has the Indian Government possessed the capability of restricting fundamental rights of the entire citizenry at once. With systems like CMS and NETRA possibly already in place, a legislative re-examination of these laws and institution of additional safeguards cannot come fast enough. Therefore, the one fact that becomes manifestly clear is that the data protection regime and surveillance powers of the State require a complete overhaul if even a vestige of privacy is sought to be protected.

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[112] The National Commission to Review the Working of the Constitution in 2002 recommended that 'a right to respect for his private and family life, his home and his correspondence' be included as Article 21-B under the Fundamental Rights.

[113] *See generally*, Henry Shue, BASIC RIGHTS: SUBSISTENCE, AFFLUENCE AND US FOREIGN POLICY (1996).

Expedited Trials in IP Cases

Prathiba M. Singh and Devanshu Khanna[†]

I. Introduction

The famous quote "justice delayed is justice denied" by William E. Gladstone has stood the test of time. Judicial delay remains one of the biggest problems faced by litigants throughout the world. Delays in the Indian judicial system as well have long been highlighted not just by foreign courts but even by our own judges.

Recently, however, delays have severely undermined the credibility of the Indian legal system. Judgments of foreign courts and tribunals have been extremely critical of said delays. As seen in *White Industries Australia Ltd. v. Republic of India,*[1] inordinate delays in the legal process were viewed as a breach of investment treaty obligations by India. In *Pike v. Indian Hotels Co. Ltd.* [2] the Queen's Bench Division of the High Court of Justice observed, "granting a stay in English proceedings and requiring proceedings to be commenced in India would amount to a denial of justice."

With the increase in the number of Intellectual Property (hereinafter IP) rights granted and IP related transactions, the number of disputes related to this field has seen tremendous growth and is only set to grow exponentially in the years to come. The recently announced National IPR Policy recognizes the importance of IP rights for building an innovation driven eco-system in the country.[3]

Trends show a steady growth in the field of patent litigation in the country. Both users and holders of IP rights need well-functioning and efficient mechanisms to resolve these disputes, which are also growing in technical complexity.

[†] Pratibha M. Singh is a Senior Advocate at the Delhi High Court with extensive experience in Intellectual Property matters. Devanshu Khanna is an advocate at the Delhi High Court.

[1] Final Award of the UNCITRAL Arbitration in Singapore, November 30, 2011.

[2] *Pike* v. *Indian Hotels Co. Ltd.*, 2013 EWHC 4096 (QB).

[3] National IPR Policy *available at* http://dipp.gov.in/English/Schemes/Intellectual_Property_Rights/National_IPR_Policy_12.05.2016.pdf.

To make litigation in the country more speedy and effective, a number of significant amendments were made to the Code of Civil Procedure in 2002. These brought in some sweeping changes to ensure a speedy trial.

For instance,

- the Defendant is required to file his Written Statement within 120 days of being served with the summons. If no written statement is filed within the said 120 days, the right to file a written statement stands forfeited;[4] and
- adjournments of a Case Management Hearing can only be granted on the basis of a written application. Besides, the Court should not grant more than three adjournments to a party to the suit.[5]

These amendments however, did not specifically cover cases relating to IP where a person's right can be enforced only for a specific term, as in the case of patents, designs and copyright.

There has been a perceptible change in the approach of judges while deciding IP cases. Greater emphasis is being laid on expedited trials, though the focus on interim injunctions still exists. In several cases, expedited trials have been ordered. Moreover, wherever parties and their counsels have been keen on getting matters disposed of without seeking unnecessary adjournments, trials have concluded expeditiously. Some cases where such directions have been issued include the orders of the Hon'ble Supreme Court in *Shree Vardhman Rice and General Mills v. Amar Singh Chawalwala*,[6] wherein it was held as under:

> "*...we are of the opinion that the matters relating to trademarks, copyrights and patents should be finally decided very expeditiously by the Trial Court instead of merely granting or refusing to grant injunction. Experience shows that in the matters of trademarks, copyrights and patents, litigation is mainly fought between the parties about the temporary injunction and that goes on for years and years and the result is that the suit is hardly decided finally. This is not proper.*"

The Supreme Court of India in *Bajaj Auto Ltd. v. TVS Motor Co. Ltd.*[7] again held as follows:

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4 Rule 4 (D), Schedule I, Commercial Courts Act, 2015.
5 Rule 7(I), Schedule I, Commercial Courts Act, 2015.
6 *Shree Vardhman Rice and General Mills* v. *Amar Singh Chawalwala*, (2009) 10 SCC 257.
7 *Bajaj Auto Ltd.* v. *TVS Motor Co. Ltd.*, (2009) 9 SCC 797.

> "*...in matters relating to trademarks, copyright and patents the proviso to Order XVII Rule 1(2) C.P.C. should be strictly complied with by all the Courts, and the hearing of the suit in such matters should proceed on day to day basis and the final judgment should be given normally within four months from the date of the filing of the suit. Experience has shown that in our country, suits relating to the matters of patents, trademarks and copyrights are pending for years and years and litigation is mainly fought between the parties about the temporary injunction. This is a very unsatisfactory state of affairs, and hence we had passed the above quoted order in the above-mentioned case to serve the ends of justice. We direct that the directions in the aforesaid order be carried out by all courts and tribunals in this country punctually and faithfully.*"

These orders did emphasise the importance of trials being conducted without undue delays but in practice, the impact was not too significant. This trend has however changed now, especially in patent cases.

The first case which saw this perceptible change was *F. Hoffmann-La Roche Ltd. v. Cipla Ltd.*[8] (hereinafter *Roche v. Cipla*) wherein the Hon'ble Supreme Court vide order dated 28th August 2009, directed that the trial should be completed as expeditiously as possible. This being the first full-fledged pharmaceutical patent trial in which expert witnesses were deposed from both sides, the trial commenced in April 2009 and concluded in November 2010. Thus, the first attempt to conclude a patent trial was met with success. The case is currently pending after the Single Bench and Division Bench judgments, before the Hon'ble Supreme Court.

Following the case of *Roche v. Cipla*, there have been a number of cases where expedited trials have been directed.

II. Recent Cases

In *Glenmark Pharmaceuticals Ltd. v. Merck Sharp & Dohme Corpn*,[9] the Supreme Court vide Order dated 15th May 2015, directed the Local Commissioner to record evidence on a day-to-day basis. Pursuant to this order, the evidence of the witnesses was recorded in as few as 22 days. The court further asked both parties to cooperate and directed that any percep-

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[8] *F. Hoffmann-La Roche Ltd.* v. *Cipla Ltd*, SLP (Civil) No. 20111 of 2009, decided on 28-8-2009 (SC).

[9] *Glenmark Pharmaceuticals Ltd.* v. *Merck Sharp & Dohme Corpn.*, (2015) 6 SCC 807.

tible lack of cooperation by either side be noticed and recorded by the Local Commissioner.

The Supreme Court further observed the following:

> "*...we have taken a little unusual and extraordinary course of action in ordering the above time schedule. This has been prompted by our desire to ensure that highly contested commercial cases, in which category this instant case can be put, requires immediate attention and disposal* to ensure a suitable commercial environment which is vital to national interest." (emphasis added)

It is important to note that in this case, the trial was conducted during the summer vacations of the Delhi High Court, in a mutually agreed calendar by the parties who agreed to produce their witnesses. Without imposing undue scheduling burdens, the cross examination of a total of six witnesses (four produced by the plaintiff and two by the defendant) was recorded. The final arguments commenced, as directed by the Supreme Court, on 6th July 2015 and concluded on 27th August, 2015. The judgment was pronounced on 7th October, 2015.

This case has shown that trials in patent cases, when duly supervised and managed by the Court with the cooperation of counsels, can be concluded in less than six months.

In *Lava International Ltd. v. Telefonaktiebolaget L.M. Ericsson*,[10] the Supreme Court, by its order dated 16th December 2015, directed the High Court to decide the suit as expeditiously as possible in view of the time consumed in the settlement talks. The trial in this case is currently underway and final arguments are yet to commence.

The Delhi High Court in *Bayer Corpn. v. Cipla Ltd.*[11] ordered that instead of deciding upon the interim injunction application, the suit should be expedited directly to trial, and to that effect, also appointed two scientific advisers for expert opinion under section 115 of the Patents Act. In addition, both parties were allowed to cross-examine such appointed scientific advisers.

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[10] *Lava International Ltd.* v. *Telefonaktiebolaget L.M. Ericsson*, SLP (Civil) Nos. 34886-34887 of 2015, decided on 16-12-2015 (SC).

[11] *Bayer Corpn.* v. *Cipla Ltd.*, CS(OS) No. 523 of 2010, order dated 23-7-2010 (Del).

In *Xu Dejun v. Vringo Infrastructure Inc.* (hereinafter Vringo case),[12] a Division Bench of the Delhi High Court vide order dated 12th December 2013, directed that the trial should be expedited. It was further directed that the trial shall be completed within six months from the first day when the matter is listed before the Local Commissioner. The Vringo case was however settled before the commencement of the trial.

In an attempt to promote ease of doing business and remove inefficiencies in legal procedures, the government recently gave the nod to create special courts for adjudicating commercial disputes of a specified value.

III. The Commercial Courts Act, 2015

Until now, law suits involving commercial disputes were being tried by the regular Civil Courts and judges were taking up all civil cases. Commercial Courts have been created to address the concerns related to pendency of law suits and slow disposal of commercial matters, which include disputes related to Intellectual Property Rights (IPRs). As per Section 2(c)(xvii) of the Commercial Courts, Commercial Division and Commercial Appellate Division of High Courts Act, 2015 (hereinafter the Commercial Courts Act), such cases would include unregistered and registered trademarks, patents, copyright, designs, geographical indications, domain names and semiconductor integrated circuits.

As per the Statement of Objects and Reasons, the Commercial Courts Act has been enacted to accelerate growth, improve the international image of the Indian justice delivery system and boost investor confidence in the legal culture of the nation.

The Commercial Courts Act stipulates various functions to be performed by three key players; namely, state governments, Chief Justices of High Courts and lawyers/litigants to ensure that the provisions under the Commercial Courts Act are followed in letter and spirit for quicker dispute resolution. All state governments have the duty to ensure that adequate infrastructure is provided for Commercial Courts and commercial divisions so that modern methods like electronic filing and video conferencing can be implemented without delay.

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[12] *Xu Dejun* v. *Vringo Infrastructure Inc.*, FAO(OS) No. 573 of 2013, order dated 12-12-2013 (Del).

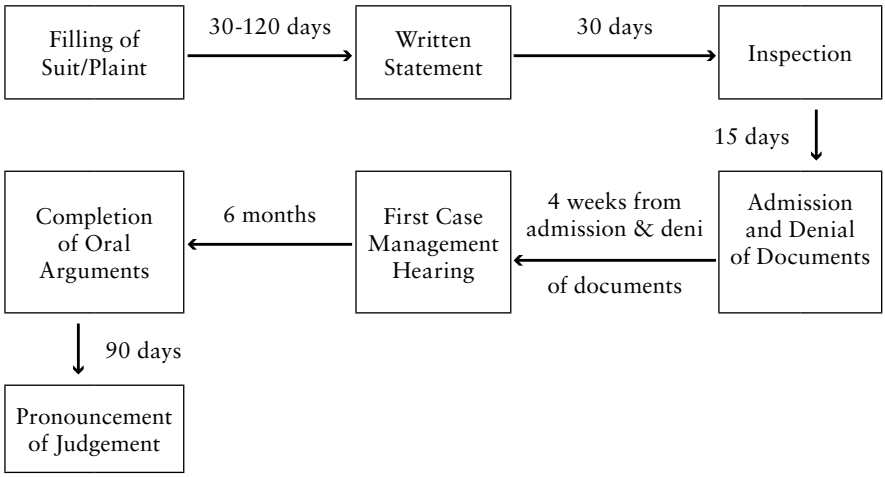
Chief Justices have a huge responsibility to implement this Act by setting up Commercial Courts in various districts and by designating or setting up commercial divisions in the High Courts, which also need to issue practice directions to implement the provisions of this Act. There can be consultation between different High Courts and common practice directions can be evolved so that implementation is uniform across the country.

The Act makes a complete departure in the general practice followed by lawyers and litigants. Unnecessary adjournments are frowned upon and strict timelines have been prescribed, reinforced by not vesting any discretion in Courts to condone delays. The Act features a number of amendments to the C.P.C. which should result in expedited proceedings. Litigants often fail or deliberately refuse to file pleadings in matters during the time period prescribed and thereafter approach the Court to condone their delay, which is more often than not granted by the Courts to avoid miscarriage of justice. In order to discourage such practices, it is now prescribed that if the defendant fails to file the written statement within one hundred and twenty days (120) from the date of having been served with the summons, then he would abdicate his right to file a written statement and the Court would be bound to not take such a delayed submission on record.

If the Act is fully implemented, then the trial of a commercial suit from the date of filing till that of judgment can be concluded within 365 days. Earlier, a number of interlocutory/interim orders of a court were subject to an appeal or revision petition leading to delay in the adjudication of the principal dispute. The Act has reduced the ability of defaulting parties to use such appeal/revision provisions as delaying tactics.[13] Appeals against orders of Commercial Courts have to be disposed of within six months.

[13] Section 13 and Section 8 of the Commercial Courts Act, 2015.

The following chart describes the strict timelines prescribed by the Commercial Courts Act:



One of the biggest reforms is that the court is vested with the discretion to impose heavy costs on parties who indulge in frivolous litigation and delay cases. Earlier, Section 35A of the Code of Civil Procedure, 1908 provided for compensatory costs in respect of false or vexatious claims or defenses. The maximum amount that could be levied as compensatory costs for false and vexatious claims used to be a meager Rs. 3,000/-. After the enactment of the Commercial Courts Act, both Sections 35 and 35A have been amended. A cost-based system would result in the culture of 'losing party pays' in commercial cases and hence litigants would be well advised not to bring frivolous cases to courts.

The Act also amends several provisions of the C.P.C. in order to curtail delays. The said provisions include,

- payment of costs (Section 35);
- strict timeline and forfeiture of right to file Written Statement after completion of 120 days of the service of summons (Order V, Rule 1);
- disclosure & discovery of documents (Order XI, Rule 1);
- discovery by interrogatories (Order XI, Rule 2);
- inspection of documents (Order XI, Rule 3);
- admission and denial of documents (Order XI, Rule 4);

- production of documents (Order XI, Rule 5);
- electronic Records (Order XI, Rule 6);
- no adjournments for the purpose of filing written arguments (Order XVIII, Rule 3E) and
- pronouncement of judgment within 90 days of conclusion of arguments (Order XX, Rule 1).

Several important parameters have been incorporated for the Court to take into consideration while awarding costs. One of the key parameters is an *unreasonable refusal of a reasonable offer for settlement made by a party*. This is clearly aimed at promoting settlement of disputes and encouraging a reasonable approach by parties towards such discussions.

Currently, one of the biggest delaying factors in commercial cases is trial procedures. The Act contemplates "case management hearings" similar to the procedure adopted in the U.K. Civil Procedure Rules. Such a system was hitherto unknown in India. This would reduce most of the procedural hearings which clog the pipelines in courts deciding commercial cases. The Court is further empowered to dismiss a petition, foreclose the right to make certain pleadings or submissions or order payment of costs in the event of non-compliance of the orders passed in a Case Management Hearing.

To curb frivolous claims or defences being raised and to cut short litigation, provisions have been made for a party to apply for a summary judgment without trial, either for dismissal or decreeing of a suit or for acceptance or rejection of any particular claim or defence.

The Act has laid down new and detailed procedures regarding the disclosure, discovery, inspection, admission and denial of documents and nature of verification of pleadings, with a view to bring about greater clarity, objectivity and efficiency in the proceedings. Such procedures should end the delays occasioned due to prevalent practices such as bald denials without proper reasoning, introduction of fresh documents and amendment of pleadings which were not disclosed at the outset during the course of the proceedings. Care must be taken to meet the prescribed timelines for disclosure, failing which a party may not be permitted to rely upon the same.

The Act recognizes that competent judges having experience in dealing with commercial disputes are important for expeditious disposal and therefore, requires the appointment of persons having such experience to be judges of the Courts. It also acknowledges that piece meal production of documents by parties at different stages tends to delay proceedings and

therefore, requires the filing of all documents relevant to the dispute at the time of filing of the suit itself or at the time of filing of the defence, as the case may be.

Recent judgments passed under the Commercial Courts Act have shown that timelines are being held to be mandatory. In *Telefonaktiebolaget L.M. Ericsson v. Lava International Ltd.*,[14] the Learned Single Judge of the Delhi High Court vide order dated 9th December 2015, held that the time period prescribed for filing the written statement is mandatory under the Act.

In another recent order,[15] trade secrets have been held to be "commercial disputes" by a Ld. Single Judge of the Delhi High Court.

IV. Conclusion

India's approach towards protection of intellectual property has undergone a paradigm shift in the last few years. There has been a boost in IP litigation recently and the number of disputes related to intellectual property is growing each passing year. This shows that IP owners realize the importance of their intellectual property and are actively taking measures to protect the same.

The Commercial Courts Act has been enacted with the vision to put an end to the cumbersome process of litigation that has thwarted the speedy disposal of cases in India. Its enactment is a major policy shift in commercial dispute resolution in the country. It is a laudable piece of legislation and a step in the right direction. It shall not only change the speed at which commercial disputes will attain finality, but also improve the perception of India as an investment destination. While the need for Commercial Courts is obvious in India, the institution of such courts should be seen as a stepping-stone to reforming the larger civil justice system.

The role of lawyers is extremely important in commercial disputes. Since well-established international procedures have been incorporated in this Act, lawyers should avail this opportunity to cooperate and kick-start the system together with the Courts. Procedural issues like admissions and denials, inspection of documents, interrogatories etc., ought to be held in lawyers'

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[14] *Telefonaktiebolaget L.M. Ericsson* v. *Lava International Ltd.*, 2015 SCC OnLine Del 13903.

[15] *Sanofi Winthrop Industrie* v. *Kirti B. Maheshwari*, CS(OS) No. 2265 of 2014, order dated 14-12-2015 (Del).

offices. Litigants ought to be advised not to seek undue adjournments and adhere to the schedule fixed by the Courts.

It is important that even though Commercial Courts are in the process of being designated, courts which are dealing with commercial disputes must adhere to the timelines provided in the Act. The Act has been enacted with the vision to reduce delays and unless the same is strictly enforced by courts, the purpose of the legislation will be defeated. The legislature has done its job by enacting the statute; it is now up to the judiciary and lawyers to implement and create an environment favourable for businesses. Thus, the implementation and strict enforcement by Courts of the relevant provisions of the Commercial Courts Act is key to ensure that the idea of speedy disposal of cases is manifested in reality and does not remain a dead letter. If the Act is properly implemented, it would go a long way in reposing public confidence in the judicial system.

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