

The Problem of Perspective in Internet Law

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91 Georgetown Law Journal 357 (2003)

I. THE INTERNAL AND EXTERNAL PERSPECTIVES IN INTERNET LAW

A. THE PROBLEM OF PERSPECTIVE

In the 1999 science fiction thriller *The Matrix*, Keanu Reeves plays a computer hacker named "Neo" who learns that the reality he has known since birth is merely a virtual reality created by a computer network known as the Matrix. The *real* Neo lies in a semicomatose state attached to the network, to which he and others have been connected by advanced computers that have taken over the world and sap energy from humans while occupying their minds with virtual reality. Neo ends up joining the rebel forces trying to destroy the Matrix, and the movie jumps several times between the virtual world inside the Matrix and the real world outside of the Matrix. The movie presents us with two different realities, two existing worlds. The first reality is the virtual world that we experience inside the Matrix, and the second is the "real" world that we experience outside the Matrix.

In addition to being a fun movie, *The Matrix* points out an important problem that arises when we try to understand the nature of computer networks in general and the Internet in particular. Like Neo confronting the Matrix, we can think about the Internet in two ways, virtual and real. The virtual perspective is like the perspective inside the Matrix: it accepts the virtual world of cyberspace as akin to a reality. Of course, unlike Neo, we know all along that the virtual world that the computer generates is only virtual. But as we try to make sense of what the Internet is, to understand what we experience online, we might decide to treat that virtual world as if it were real.

I will call this virtual point of view the internal perspective of the Internet. The internal perspective adopts the point of view of a user who is logged on to the Internet and chooses to accept the virtual world of cyberspace as a legitimate construct. To this user, a computer connected to the Internet provides a window to a virtual world that is roughly analogous to the physical world of real space. The user can use her keyboard and mouse to go shopping, send mail, visit a chat room, participate in an online community, or do anything else she can find online. The technical details of what the computers attached to the Internet actually do "behind the scenes" don't particularly matter. What matters is the virtual world of cyberspace that the user encounters and interacts with when he or she goes online.

We can also understand the Internet from a different perspective. Like Neo when he is outside the Matrix, we can look at the Internet from the point of view of the physical world, rather than the virtual one. I will call this the external perspective of the Internet. The external perspective adopts the viewpoint of an outsider concerned with the functioning of the network in the physical world rather than the perceptions of a user.

From this external viewpoint, the Internet is simply a network of computers located around the world and connected by wires and cables. The hardware sends, stores, and receives communications using a series of common protocols. Keyboards provide sources of input to the network, and monitors provide destinations for output. When the Internet runs properly, trillions of zeros and ones zip around the world, sending and receiving communications that the computers connected to the network can translate into commands, text, sound, and pictures.

From the external perspective, the fact that Internet users may perceive that they have entered a virtual world of cyberspace has no particular relevance. These perceptions reflect the fact that software designers often garnish their applications with icons, labels, and graphics to help novices understand and use them--for example, by writing e-mail programs so that e-mail looks and feels like postal mail. These superficialities have no deeper meaning from the external perspective. What matters is the physical network and the technical details of how it works, not the easily manipulated perceptions of Internet users.

Both internal and external understandings of the Internet should ring true to most of us. The Internet *is* a physical network, and it *can* create a virtual world for its users that can appear sufficiently realistic to its users to make a plausible claim for equal footing with the physical world. But the key for us is that by generating a virtual reality, the technology in a sense leaves us with two Internets, rather than one. We have an external version of the Internet, and also an internal one. One is physical, the other virtual.

B. PERSPECTIVE AS A PROBLEM OF LAW

Why does this matter to lawyers and to the nature of Internet law? It matters because legal outcomes depend on facts, and the facts of the Internet depend on which perspective we choose. This is a very practical problem. The basic task of a lawyer is to apply legal rules to facts--to apply law to an understanding of reality. In the case of the Internet, however, two competing understandings of reality exist. We have a virtual reality from the internal perspective and a physical reality from the external perspective. This means that we face a choice of which perspective to use when applying law to the Internet. Do we decide to follow the internal perspective of virtual reality or the external perspective of physical reality? Which version of the Internet should we pick before applying the law to it? By choosing the perspective, we choose the reality; by choosing the reality, we choose the facts; and by choosing the facts, we choose the law.

We can look at this another way by noting the differences between what happens when we apply law to the Internet from an internal versus an external perspective. From the internal perspective of an Internet user, the Internet is cyberspace, and we apply law to the Internet by trying to map the physical world of "realspace" onto the virtual world of cyberspace. We look for analogies between cyberspace and realspace, and try to match the rules between them. To the external observer, in contrast, the Internet is the physical network, and we apply law to the Internet by applying the law to the electronic transactions underlying the network's operation. This does not necessarily mean that the Internet must be viewed only as 0s and 1s, any more than modeling the physical world requires us to model sounds as pressure waves or light as photons of energy. But it does mean that we look for analogies between realspace and the behind-the-scenes action that the computers connected to the Internet process and complete.

These two approaches are similar to each other and also quite different. In both the external and internal cases, we apply law to "the Internet." However, our model of what that Internet is--and therefore what Internet law is--varies dramatically depending on the perspective we choose. The law is contingent on the facts, and the facts are contingent on our perspective.

What makes this problem unusually interesting is that there is no particular correlation between internal and external renderings of the Internet's facts. The real produces the virtual, but the virtual need not reflect the real. Significant changes in the behind-the-scenes workings of the Internet can go entirely unnoticed by users. At the same time, minor changes in computer code can have a dramatic impact on users' experiences. A typical user immersed in the internal perspective can be blissfully unaware of the complex inner working of the Internet.

The lack of correlation between the real and the virtual has profound implications for Internet law. It means that the legal outcomes reached using an internal set of facts exist independently from outcomes reached with an external set of facts. When we apply the law to the facts, an internal perspective will take us down one path, and an external perspective will take us down another. The two paths may happen to converge, but there is no reason to think they will. In effect, we not only have two Internets, but two versions of Internet law. Every time we apply law to the Internet, we will have two possible outcomes: an internal outcome and an external outcome. The two outcomes may happen to match in some cases. In many cases, however, the choice of perspective proves outcome-determinative. Consequently, the shape of Internet law hinges on our choice of perspective.

C. AN EXAMPLE: SURFING THE WEB

All of this may seem rather abstract, so an example may help. Consider what happens when an Internet user surfs the web. Imagine that an Internet user opens up a web browser and types in "www.amazon.com," and moments later the homepage of Amazon.com appears on the viewer's screen. How might we model this event? How can we develop a factual picture of what has happened, so that we can later determine the legal consequences of accessing a webpage?

This is easy from an internal perspective. The user has visited Amazon.com's website, going to Amazon.com's home on the Internet. The user has visited Amazon.com's virtual store much like a person might visit a store in the physical world, traveling from one point in cyberspace to another. Of course, we realize that the user has not actually traveled anywhere. The user is just sitting in front of the screen. But from an internal perspective, the essential experience of surfing Amazon.com can be captured by comparing it to visiting a store.

From an external perspective, however, the event appears quite different--and significantly more complicated. Behind the scenes, the simple act of typing "www.amazon.com" into a web browser triggers a series of responses from different computers connected to the Internet. The browser begins by sending out a request across the Internet to a special type of computer known as a Domain Name System (DNS) server. The browser's request asks the DNS server to translate the letters of the website address "amazon.com" into an "Internet Protocol" or "IP" address, which is a series of numbers that computers connected to the Internet understand as an address akin to a phone number. The DNS server will respond that "www.amazon.com" translates into the IP address "207.171.184.16." The user's

browser then issues another request, this time directed to "207.171.184.16," asking it to send a set of data files back to the browser. Amazon.com's computer will receive the request and then send data back to the browser. The browser will receive the data and display it on the user's screen. The resulting images and text appear in the form of the Amazon.com webpage that the user requested.

Notice that the internal and external perspectives have produced two different accounts of the same event. One model of the facts follows the virtual perspective of the user, and another model follows the behind-the-scenes perspective of how the Internet actually works. From the internal perspective, visiting Amazon.com resembles visiting a store. The user types in the address, and a moment later is paying a virtual visit to Amazon.com's site. From the external perspective, visiting Amazon.com resembles calling Information and asking for Amazon.com's phone number, then dialing the number and asking the representative to send you the latest Amazon.com catalog. The single event of surfing the web produces two sets of facts, one internal and the other external. As a result, when we need to apply law to the act of visiting a website, we can apply that law to two different sets of facts, which can produce two different outcomes.

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