

# PROPERTY, INTELLECTUAL PROPERTY AND THE BRAIN

## A Research Initiative of the Gruter Institute for Law and Behavioral Research

**Research Initiative Consortium Partners:** The Max Planck Institute for Intellectual Property, Competition and Tax Law (Munich, Germany), The Institute for Medical Psychology, University of Munich, Intellectual Property Institute (London, England), The Wellcome Department of Imaging Neuroscience, University College London, The Berkman Center for Internet & Society, Harvard Law School, The Dana Foundation.

### Concept in Brief:

The *doctrine* of intellectual property is well understood. Basic approaches to the rules of patent, trademark, and copyright have been worked out. Thanks to TRIPS, Berne, and the other conventions, these approaches have become widely spread throughout the world. Of course there are debates over particulars and national variations, but these are largely driven by policy and politics, and not by failures in understanding. Scholars and practitioners are also busy integrating new technologies into the framework, and are likely to succeed. These are challenges for the paradigm, but not fundamental problems (Goodenough, 2002).

What isn't well understood is the *evolved psychology* of intellectual property. The intractable problem for IP regimes isn't in stating coherent doctrinal rules. Rather, it is in getting people to take them seriously, not just as a matter of possible punishment, but as a real instance of right and wrong. In a field where technology is making law-breaking easy, it is important to find ways to make law-respecting emotionally compelling.<sup>1</sup>

The Gruter Institute for Law and Behavioral Research believes it is time to look once again at the interaction of the rules of intellectual property with the evolved psychology of human beings. In recent years, our understanding of human motivation, thought and behavior has been greatly enriched by the contributions of cognitive

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<sup>1</sup> The breadth of intellectual property rights is another important piece of this conversation. But for purposes of immediate discussion, we suggest that despite disagreement regarding the extent to which creative content/technology ought to be protected (see e.g. the free software movement, which advocates free software as opposed to software bound up by licensing restrictions), we would likely all agree that at least some creative content/technology ought to be protected and thus research into making law-respecting emotionally compelling is of import. Another important part of this discussion is the role of recognition and reputation, which seem to play significant roles in the free software movement.

neuroscience and related fields. We believe that the emerging synthesis can provide newly fruitful starting points for advancing the study of the law and institutions of both property and intellectual property. We have co-sponsored a one-day workshop, on April 28, 2005 at the Center for Advanced Study of the Behavioral Sciences to explore these concerns, and plan to address these concerns again in a conference co-sponsored by the Max Planck Institute for Intellectual Property in Munich, Germany in late August/early September of 2006. Because of the interdisciplinary nature of the task, we are inviting diverse participants from many fields of law, science, industry and practice.

We hope and expect that the workshop participants will bring their own approaches to the conversation. By way of example, we set out below a possible approach, both for critical assessment and as a goad to thought. We most emphatically invite other views and frameworks from the participants.

### A Possible Approach:

The Gruter Institute takes as its starting point an investigation of the brain's capacity for creating, understanding, internalizing tangible property and (or, one might say, *versus*) intellectual property. We find it interesting that a person who would not steal your pen, even if she knew she could get away with it, may not have any inhibition against going online and illegally downloading your music.

Some explain this differential attention to property by a lack of education, or a failure of credible enforcement (e.g. Lehman 1995). These are probably factors, but may not tell the whole story. The insights of cognitive neuroscience into the role of emotion in behavior and decision making suggest a further possibility. The difference may also have to do with the capacity of the brain to engage the full system of emotional motivation when considering compliance with, or judgment about, intellectual property and intellectual property rights (Goodenough & Prehn 2004).

We suggest that some rules - such as our taboos on the theft of tangible objects - exist both in our articulated codes and in our emotionally and intuitively grounded sense of justice. Such rules are likely to be highly internalized in members of society and to evoke the kind of emotional response that will lead to general acceptance, personal observance, and vigorous enforcement. In other cases, there may be laws which make excellent sense from an abstract "policy" standpoint, but which have little support in the mental processes associated with the sense of justice, with predictable results. Our system of intellectual property may be such a case.

There appears to be little or no emotional component to the understanding of intellectual property in many people. They know it exists, but so what? To be effective, a program to promote intellectual property compliance must not simply make people aware that such laws are on the books; it must also convince people that the violation of such laws is a serious injustice, invoking the emotional systems in the brain related to such a response (Goodenough 2002). As Casebeer (2003) concludes, "Emotion, reason

and action are bundled together.” Many neuroscience laboratories are currently engaged in important research on topics such as anticipated emotion (Ray Dolan, Univ. College London) and empathy (e.g. Tania Singer at Univ. Zurich). This research has very interesting implications for our understanding of how individuals react to intellectual property.

Why might there be an emotional deficit at the heart of copyright law? Two possibilities suggest themselves. Some look for the answer in experience and the social landscape. They argue that better engagement of the sense of justice is just a matter of education, life experience, socialization, and fear of punishment. This was the suggestion of the 1995 Working Group on Intellectual Property Rights of the Information Task Force, which suggested that ignorance and confusion were at the heart of the compliance problem and advocated popular education about the law (Lehman 1995). A second possibility is that the mental differences arise from some more fundamental, perceptual differences that implicate an emotional involvement in circumstances suggesting the theft of tangible property but that fail to do so for intellectual property. How could this come about?

One answer lies in the important strategic differences between tangible property and intellectual property. Although the solution of assigning ownership in an asset to a particular person is similar, the presenting problem which this is called on to solve is different. Current explanations for the evolvability of property focus on the utility to all players of ownership conventions to defuse rivalry over limited and consumable resources (Maynard Smith & Parker 1976; Stake 2004). Such conventions do not depend on any existing relationship between the parties, but rather identification between one of the parties and the resource in question.

It has frequently been noted that intellectual property is not a “rivalrous” resource. When someone reads a book or listens to a song, that generally does not consume it and exclude someone else from doing the same thing (e.g. Wagner 2003), although there are circumstances where information use can be competitive (e.g. Aviram & Tor 2004). Rather, protecting intellectual property is more in the nature of secret keeping, or a holding to a binding promise (Goodenough 2001). In such a context, inhibitions on exploitation and use do depend on a relationship between the parties.

It is plausible, if still only a hypothesis, that these strategic differences are represented in our cognitive “equipment” (to use a very loose term) at some point in the recognition of the moral dilemma. If so, we could further imagine that the “equipment” for a property structure works best with a tangible object and (perhaps) land. There has been the tendency to rely on concepts of tangible and real property (and property rights) when thinking about intellectual property (and intellectual property rights). Although such property concepts may provide a good theoretical solution for allocating rights in intangible products of the intellect, it may be that the perceptual equipment of the human brain is simply not set up to recognize them as proper objects for emotionally reinforced normative judgment in such a framework.

This model has the potential for testing by applying the methods of cognitive neuroscience. Theory arguments suggest that such a difference might exist. From the standpoint of lesion data, we are not aware of any reports of differential property-observing deficits that would support the idea of a property “primitive”. Nonetheless, such deficits could be masked by other cognitive capacities picking up the slack, i.e. property for the lesion patient becomes more like intellectual property in the rest of us. Among questions to explore is the potential for a program of behavioral and imaging experiments which could test this and other hypotheses about the psychology of intellectual property.

Such research would likely have interesting implications for intellectual property law, property law, and what we might call “neuro-jurisprudence.” It would also have interesting implications for the creators of technology and information in the business world, helping to design effective regimes of intellectual property, grounded more solidly in human cognitive psychology.

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