

## Law in an Era of “Smart” Technology

By Susan W. Brenner

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In *Law in an Era of “Smart” Technology*, Susan Brenner examines how the relationship between law and technology must develop to accommodate a shift in the nature of technology. Brenner describes the evolution of the relationship between law and technology by analyzing human innovations since the development of tool technology.

After discussing the relationship of the law as it related to machine technology and consumer technology, Brenner then applies the current technology laws to the future of technology, commonly called “smart” technology. Just like previous technologies, the goal of smart technology will be to make our lives easier. However, unlike previous technology, where the technology was used to carry out certain tasks, “smart” technology will be interactive. According to Brenner this difference means that the use of “smart” technology will be unconscious, rather than intentional, and the technology will play an active role in the process, rather than passive. Due to this shift in the nature of technology, the current criminal laws, which deal with the misuse of technology, will not discourage the infliction of harm effectively. Instead, Brenner argues that future laws must focus on the misuse of the underlying human behavior, rather than the misuse of the technology.

Brenner's argument is very fascinating and convincing. However, given the complexity and novelty of "smart" technology, Brenner's analysis is confusing at times. Notwithstanding, the book is thought provoking and educational.

Currently, Susan Brenner is a professor at the University of Dayton School of Law, concentrating in criminal law and cybercrimes. Prior to joining the faculty at the University of Dayton, Brenner taught at the Indiana University School of Law. Prior to teaching, Brenner was an attorney, specializing in criminal defense. In addition to this book, Brenner has published a number of other books and articles for various journals, many of which focus on the relationship between law and technology.

*Law in an Era of "Smart" Technology* begins with a discussion on the development of tool technology and its relationship to the law. Brenner defined tool as "a detached object that is controlled by the user to perform work, usually as an extension of the user's anatomy."<sup>1</sup> Brenner noted that initially the tools developed by humans were instruments used to perform the everyday jobs required for survival. Over the years tool technology evolved in complexity. Nevertheless, the devices continued to be used in similar contexts. Tool technology was used by specialists (one trained and experienced in the use of the technology) in a specific setting, rather than by the population as a whole. As a result, the laws relating to the use of technology focused on defined standards of conduct for the "specialists" who utilized the technologies. Brenner emphasized that the laws were context specific because they were concerned with the implementation of a particular technology. Thus, Brenner maintains that the laws were use laws, geared toward prohibiting the use of technology incorrectly.

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<sup>1</sup> Thomas Wynn, "Tools and Tool Behavior," in *Companion Encyclopedia of Anthropology*, ed. Tim Ingold, 133-134 (New York: Routledge, 1994).

Brenner mentions that technology can be implemented incorrectly in two situations. The first, known as “defective implementation,” addresses civil use laws because it deals with a malfunction in the implementation of the technology. In contrast, “improper implementation” occurs when an individual purposefully misuses a technology to cause harm to another. According to Brenner, the main difference is intent. Unlike defective implementation, which is an unintentional error, improper implementation is the intentional mistreatment of a technology.

Since the danger of technological misuse was more serious to society as a whole, technology-specific criminal laws were enacted to prevent the mistreatment of certain technologies. Just as criminal laws attempt to prevent the infliction of harms which endanger individuals, misuse laws discourage the infliction of harms resulting from the misuse of a technology. Tool technologies were implemented primarily by skilled individuals who were less likely to misuse the technologies. Thus, misuse laws were unnecessary until the development of future technologies.

Brenner next discusses machine technologies of the nineteenth century, which she separates into four categories: industrial, transportation, communication and electricity. Some of these machines acted as a substitute for human activity while others allowed human to do what they could not do before. Although machine technologies could be utilized by individuals other than specialists, specialists continued to play a role in their use and civilian control over the technologies remained somewhat limited. Even though this discussion on the history of technology seems to be repetitive and complex, it provides a useful foundation when applied to Brenner’s primary argument regarding

future technologies. Furthermore, even if the reader is unconvinced by Brenner's argument, the discussion is extremely educational.

Civilian limited use began to vanish with the development of consumer technology. Just like previous technologies, a consumer technology seeks to make tasks easier and more enjoyable by automating ordinary and dull tasks. However, nearly all consumer technologies are used by civilians, not just by specialists. Brenner discussed various examples, including the automobile, the telephone and the computer. Without the proper training and experience, there was a greater chance of improper implementation of consumer technologies. This shift in the nature of technology required legislators to re-evaluate the laws regarding the use of technology. At this point, the book becomes very complicated. However, as mentioned earlier, Brenner's detailed discussion on the history of technology and its relationship to the laws enacted at various times proves to be helpful. Additionally, Brenner's writing style, although repetitive, provides much needed support to the reader.

Both defective implementation and improper implementation laws seek to discourage the infliction of serious harm. Since previous technologies were implemented by specialists, the laws sought to maintain a certain level of quality in the implementation of the technology. As a result, defective implementation laws targeted the user of the technology (i.e. the specialist). In contrast, consumer technologies were implemented by everyone and the likelihood of misuse increased. According to Brenner, focusing on the users of a technology is an ineffective way to address misuse. Brenner reasons that as technologies evolve they will become more integrated into our lives to the point that individuals will no longer be "using" a technology in the traditional meaning of the word.

In other words, as technology increases in complexity and intelligence, people will become unaware that they are using the technology.

Misuse laws target the method used to facilitate the crime. For example, current law makes it a crime to use a computer to commit fraud. The computer, in this example, is the method used to commit the crime of fraud. It is a context specific law enacted by Congress to limit the misuse of computer technology. Brenner argues, however, that laws should discourage the result (i.e., the harm resulting from the misuse of the technology), rather than the method used to facilitate the result. Brenner asserts that as technology, such as computers, are woven into our everyday lives it will be inappropriate to consider ourselves as using the computer technology. Since our relationship with technology will no longer be one of use, misuse laws will become an ineffective way of dealing with the misuse of technology.

Brenner then applies this theory to “smart” technology. “Smart” technology is ambient technology that fades into the environment. It will make our lives easier but the use of smart technology will go unnoticed. Initially people will consider themselves using the technology because it will be novel. However, over time society will become so accustomed to the technology that people will become unaware of it. According to Brenner, this is a direct result from the shift in our relationship with technology from one of use to one of interaction. Due to the decline in use the relationship between law and “smart” technology must adapt.

The current law focuses on the misuse of technology. However, Brenner argues that in the future the law should focus on the misuse of behavior. Rather than enacting method laws that target how one goes about inflicting harm (i.e., harms accomplished

through the use of a technology such as a firearm), lawmakers should enact result laws, which concentrate on the infliction of harm. In order to accomplish this, Brenner argues that misuse laws should be divided into two categories. The first category focuses on the misuse of technology to inflict harm in a manner that has not been possible (i.e., a new crime). The second category focuses on a crime previously recognized but accomplished by a new method (i.e., an old crime, new method).

To enact these laws effectively, Brenner suggests that the best approach is to first identify the harm. Once identified, the role the technology played in accomplishing the harm should then be analyzed. If there is a direct connection between the use of a certain technology and the infliction of the harm, a law prohibiting the misuse of a technology in a certain manner will be effective (i.e., the technology will be necessary to accomplish the harm). However, if the harm is one that can be inflicted by other means, lawmakers should punish the dangerous human behavior used to inflict the harm, rather than the technology or method used to achieve the harm.

This approach, based on harm rules rather than technology rules is persuasive but problematic. Brenner notes that criminals are among the first to utilize new technologies. In addition, Brenner recognizes that many of the misuse laws are proposed too late. The laws end up criminalizing a type of misuse that is disappearing or has vanished. If Congress is already having a difficult time enacting laws after the misuse of the technology has become apparent, any attempt to identify a type of harm that is unknown or create laws for criminal acts that have not yet been encountered appears to be extremely difficult.

Nevertheless, *Law in the Era of “Smart” Technology* is an extremely interesting, creative and carefully planned book. Initially, the description of technology from tools to consumer technology seems like a history lesson. However, the discussion provides much needed support once Brenner turns to “smart” technology and applies the current laws to future technology. Although at times the argument is tedious and repetitive, due to the complicated nature of the argument and the difficult inferences to be drawn, Brenner’s constant repetition proves beneficial and arguably invaluable. Although this book is not an easy read, Brenner’s argument is persuasive, clear, concise and very intriguing. Anyone interested in how the law has and should adapt to technology will find this book thought provoking and enjoyable.