
A REVIEW OF FUTURE CODES: ESSAYS IN ADVANCED COMPUTER TECHNOLOGY AND THE LAW, BY CURTIS E.A. KARNOW, ED.

Charles H. Kennedy*

By now everyone has heard that the computer is remaking the law, but there is little agreement on what this means. Some advocates of the new technology insist that whole bodies of law, including copyright and anti-obscenity legislation, must be abandoned outright in the new territory of cyberspace.¹ Most legal scholars reject these claims and expect the law to accommodate computer technology in the same incremental way that it absorbed other social and technological changes—through judicial reasoning by analogy within the framework of existing law, supplemented by new legislation where necessary.² In deciding where new rules are needed and what those rules should say, however, lawyers, legislators, judges and legal scholars may be made timid—or, if they are bold, dangerous—by their uncertain grasp of computer technology.

Curtis E.A. Karnow believes that the challenges posed by computer technology are very large indeed, and he brings to this vexed subject a rare combination of intellectual subtlety and technical knowledge. *Future Codes* collects Karnow's reflections on a diverse set of subjects including computer crime, intellectual property, electronic privacy, the First Amendment, education in the electronic age and the loss of common sense as a workable legal norm.³ If a collection of essays as diverse as this one can be said to have a single theme, it is that the legal problems of computer technology call for what all legal problems de-

mand and too rarely get: common-sense rules backed by efficient dispute-resolution mechanisms. Accordingly, Karnow proposes practical as well as theoretical solutions to the challenges that computer technology poses to existing law.

Karnow predicts, for example, that advanced computers – and especially computer networks designed to handle several problems concurrently and recommend, or even execute, solutions to those problems – will come to complicate the chain of proximate cause by which the law traditionally links human actions to harmful consequences. To illustrate his point, Karnow asks us to consider a fictitious system, known as Alef, that replaces the present combination of human and electronic air traffic control methods with a distributed network of airborne and ground-based data processing devices, all connected in a network with a constantly changing complement of nodes and connections. Alef routes traffic and “[i]n emergencies, as Alef perceives them, . . . may control individual aircraft to prevent collisions.”⁴ The problem is that Alef, like human agents, can draw incorrect conclusions from the information it receives, and those errors may not be foreseeable by those who designed Alef's hardware or software. These errors may not be an argument against deploying Alef: some irreducible percentage of mistakes may be inevitable in a system employing machine judgment—just as some irreducible percentage of errors is unavoid-

* Mr. Kennedy is of counsel to Morrison & Foerster LLP and co-author of the forthcoming treatise, *Modern Communications Law* (from West Publishing Company).

¹ See, e.g., Egbert J. Dommering, *Copyright Being Washed away through the Digital Sieve*, in *THE FUTURE OF COPYRIGHT IN A DIGITAL ENVIRONMENT* (P. Bernt Hugenholtz ed., 1996); John Perry Barlow, *The Economy of Ideas: a Framework for Re-thinking Patents and Copyrights in the Digital Age* (*Everything You Know about Intellectual Property is Wrong*), *WIRED*, Mar., 1984 p.

84.

² For a notable example of this approach, see Leon E. Wein, *The Responsibility of Intelligent Artifacts: Toward an Automation Jurisprudence*, 6 *HARV. J.L. & TECH.* 103 (1992).

³ CURTIS E.A. KARNOW, *FUTURE CODES: ESSAYS IN ADVANCED COMPUTER TECHNOLOGY AND THE LAW* (1997) [hereinafter *Karnow*].

⁴ *Id.* at 172.

able in a system dependent on human judgment—and Alef's track record may be better than that of the human agents it replaced. So we want Alef; but how are we to compensate victims of its failures of machine intelligence? We cannot leave victims without a remedy; yet if we make Alef's human designers liable for harms they could not foresee or prevent, only fools will become involved in the design of intelligent agents.

Karnow sees this dilemma as an ideal occasion for a no-fault insurance scheme, and he proposes that developers of intelligent agents apply for certification with an institution he calls, aptly enough, the Turing Registry.⁵ The Registry will evaluate the risk posed by the intelligent agent and quote a rate for issuance of an insurance certificate. Upon payment of the premium, the holder of the certificate will be entitled to insert an encrypted warranty in the agent that will protect the owners and operators of sites at which the agent will be used. When a registered agent causes harm through an error in machine judgment, the Registry will compensate the victims with no need to assign blame to human beings.

Karnow shows similar creativity in addressing the privacy of personal communications sent over the Internet—a complex question to which current law offers only spotty answers. Karnow does not trust laws intended to limit the dissemination of personal information about real persons.⁶ Instead, he suggests that people can control the dissemination of information about themselves more effectively by creating electronic alter egos, which he calls electronic personalities or “epers,” that will transact business in cyberspace on behalf of their anonymous human progenitors. Like corporations and partnerships, epers will be created through the observance of suitable legal formalities.

Also like corporations and partnerships, epers will have identities and legal rights separate from those of their creators. Epers will “own physical property and maintain bank accounts, enter into contracts, and be recognized as authors of expression subject to constitutional protection.”⁷ Epers that live up to their commitments will acquire reputations for reliability and will be treated accordingly. Epers that behave badly – by violating copyright or publishing defamation – may be sued for their misconduct. Where a court finds that the protection of the eper has been misused, plaintiffs may “pierce the veil” and reach the real persons behind the fiction, as plaintiffs do now when suing those who have misused the corporate form to commit fraud.⁸

Karnow's eper is an arresting concept, but one that presents many questions. Notably, the eper protects the identity of real persons *and* makes it more difficult for victims of their criminal and tortious conduct to secure redress. This need not be a shocking result: the corporate form also shields owners from personal liability for harmful acts of the corporation. But society secures enormous economic benefits in exchange for immunizing corporate investors. Does anonymity on the Internet confer social benefits of comparable magnitude? This question should be answered before the legal system mobilizes to create and protect a new kind of fictitious entity.⁹

As these examples suggest, *Future Codes* is not a novice's introduction to the legal problems of computer technology. It is a series of personal – even idiosyncratic – reflections on the subject by a refined and original mind.¹⁰ For those who already have absorbed more conventional treatments of the subject and are ready for something more robust, this book is highly recommended.

⁵ Alan Mathison Turing (1912-54), a British mathematician, did pioneering work in computer logic and is credited with devising the formal structure of the electronic computer. Turing proposed a famous test for artificial intelligence: if human monitors of a conversation between a person and a computer are unable to distinguish the human responses from the machine responses, then the computer has achieved artificial intelligence.

⁶ *Id.* at 131 n. 38.

⁷ *Id.* at 128.

⁸ The veil apparently will be pierced when the identity of the principal behind the eper, formerly protected by use of public key encryption, is disclosed pursuant to an order ad-

dressed to the holder of the key.

⁹ In fact, if there is a good case for epers, that case could have been made before the advent of electronic communications. The desire to communicate and transact business anonymously certainly antedates the Internet, but our legal system has never – to this reviewer's knowledge—sanctioned the creation of a fictitious legal entity expressly for that purpose.

¹⁰ Karnow also can be quite humorous. His review of Richard A. Lanham's *The Electronic Word: Democracy, Technology, and the Arts* (University of Chicago, 1993) is hilarious. See *Karnow, supra* note 3, at 241.