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Give Me Symmetric Transparency or Give Me Cash

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In "RFID and the End of Cash?" (Dec. 2006), Ian Angell and Jan Kreitzmann focused far too much on governments and not enough on corporations. Democratic governments may not be as accountable as we would like, but they are far more accountable than corporations. Yet Angell and Kietzmann provided only a perfunctory discussion of corporations' use of technology, including RFID, to gather massive amounts of information on individuals.

Trackable cash transactions would be only the latest in a series of technological developments (after, say, telephone records, purchasing records, and Internet searches) used by corporations to track individuals' whereabouts and activities. So, while some concern may be warranted as to government abuse of gathered information, governments may also be the only entities that could plausibly curb abuse by corporations. In any case, corporations are a crucial source of such information for governments—whether they provide it voluntarily or in response to sub-

poenas—so any restriction on corporations' data use would have a second-order effect on government use.

Angell and Kietzmann ignored the political realities that would intrude if a government sought to carry out any of the hypothetical measures they explored, including forced spending. Even if these activities were technologically feasible and legal, there is no reason to believe that governments would have an easier time putting them into practice than they do, say, freezing bank accounts, seizing assets, or taking many other legitimate actions that are similarly debilitating in our largely cashless society.

Angell's and Kietzmann's claim that cash is the "cornerstone of individual freedom" rings hollow. They lamented that the end of cash would frustrate tax evasion, money laundering, and "slipping through customs without paying duty." Most law-abiding citizens prefer not to subsidize such illegal activities. In addition, by citing Al Capone's conviction, they not only sounded decidedly ambivalent but overlooked the prosecu-

torial value of money trails, which are immune to the intimidation and assassination tactics employed by Capone and other criminals to avoid prosecution.

Some of their hypothetical scenarios do not withstand even cursory scrutiny, even under their own assumptions. If one's possessions are tagged and tracked, why would "thieves" screen the tagged content of our wallets to find out if we're worth robbing? If they rob us of trackable items, doesn't it seem likely that they could also be readily apprehended and prosecuted?

Aspiring to forestall the advance of pervasive transparency may be impractical. Most citizens exhibit a tolerance for much of the scrutiny Angell and Kietzmann are concerned about, plus a great deal they did not address, including customer surveillance by retail businesses, recording of Internet shopping transactions, and deployment of road-safety cameras. Legitimate customers and law-abiding citizens tolerate these technologies, provided they enable the efficient delivery of goods and services. Rather than

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try to forestall these trends, we would do well to correct the asymmetry that has developed between citizens and governments, as well as between customers and corporations.

If ordinary citizens are willing to bare their private lives for the collective good, it is more than reasonable to expect the same of corporations and governments. Symmetric transparency would decrease the likelihood of abuse, both corporate (such as Enron's accounting, options backdating, and pretexting) and governmental (such as torture and warrantless wiretapping). To minimize the likelihood of abuse of the data collection about which Angell and Kietzmann concerned themselves, as well as other types of abuse, we must demand symmetric transparency.

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Authors' Response:

Wilt's strawman argument misses the point. Our subject was cash; RFID was subordinate. Governments have always been ambivalent about cash, needing its wealth to create leverage but resenting how it frees individuals from collective control. Examples are legion: Plato, the Medieval Church on usury, Henry VIII's debasement of coinage, the Mississippi Bubble, Weimar hyperinflation, Karl Marx, and George Soros. We intended simply to place RFID in the context of this never-ending story.

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Still Not Enough Software

Peter Naur has contributed much of significance to the computing profession, including his "Turing Lecture: Computing Versus Human Thinking" (Jan. 2007). I certainly agree with his conclusion that there's never enough software. Indeed, we do a disservice to ourselves and to the public when we imply that any rule-based system will result in "thinking" machines or "smart" software or that any fixed-instruction-set machine will ever have the "plasticity" he mentioned. We may have reached the point where we can replace the term "artificial intelligence" with "better rule-based software." Kudos to Peter Naur.

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Regarding the ACM's Code of Ethics

I was pleased that *Communications* published an article on computer ethics. I was disappointed that the article—Dinah Payne's and Brett J.L. Landry's "A Uniform Code of Ethics: Business and IT Professional Ethics" (Nov. 2006)—did a disservice to the current ACM Code and to the profession by confusing the state of computer ethics today with where it was 15 years ago.

Payne and Landry based their assessment on the ACM's 1972 Code. This 35-year-old version differs markedly from the current one, adopted in 1992. A Google search on "ACM Code of Ethics" yields thousands of references to the current Code (www.acm.org/serving/ethics.html). Finding references to the 1972 version is actu-

ally more difficult.

Overgeneralization vitiates the practical application of any code of ethics. Payne's and Landry's proposed unified "Code of IT and Business Ethics" is an abstract compendium of general moral principles, including respect, integrity, justice, and competency, taken from various codes of ethics. Research on codes of ethics indicates a high degree of commonality on these principles. Unfortunately, a code limited to such high-level analysis offers little guidance for the practicing professional. It is precisely the details and unique elements of individual professions that make their codes distinct and useful.

Payne's and Landry's rediscovery of the common elements of IT codes would have been simplified if they had referenced Ron Anderson's history and analysis of the current ACM Code [1] in which he compared eight IT codes of ethics and characterized the significant differences between the 1972 ACM Code and the current Code. Another key article, Jacques Berleur's seminal study of IT codes of ethics [2], compared more than 20 such IT codes.

Even when applied to the 1972 ACM Code, Payne's and Landry's main argument does not hold. That Code was based on canons specifying precise behaviors that could not be derived from their vague, high-level code. (Their use of the 1972 Code in a similar article [3] was even more surprising, as it referenced the *Communications* article in which the current ACM Code was first published and enumerated significant differences between it and the 1972 Code.)

The current article did a disservice by proposing a code that trivializes crucial issues that have been explored for decades in computer ethics publications.

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REFERENCES
1. Anderson, R. The ACM Code of Ethics: History, process, and implications. In *Social Issues in Computing*, C. Huff and T. Finholt, Eds. McGraw Hill, New York, 1994, 48–71.
2. Berleur, J. and Brunnstein, K. *Ethics of Computing: Codes, Spaces for Discussion and Law*. Springer Verlag, 1996.
3. Payne, D. and Landry, B. Similarities in business and IT professional ethics: The need for and development of a comprehensive code of ethics. *Journal of Business Ethics 62*, 1 (2005), 73–85.

Authors' Response:

We argue Gotterbarn's premise. Our article explained why we used the sources we used. Our use of principles sometimes dating back centuries was legitimate, as they are at the root of decision-making processes. We urged the development of a universal code of ethics. We're pleased the article was so utilized and hope it will continue to be by others.

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Still Plenty of Inspiration in the Real World

In his "Viewpoint" ("Biologically Uninspired Computer Science," Nov. 2006) Christof Teuscher noted a not-so-desirable state of affairs, writing "Trying to copy or mimic life or lifelike behavior has generally produced disillusion after high initial hopes and hype." However, the column only narrowly interpreted "the pursuit of biological inspiration," or the effort to mimic biological designs and structures in a direct manner.

Yes, the wings of an airplane do not flap. But the study of birds contributes insight to our understanding of the laws of aerodynamics, identifying which aspects of nature's design serve which purposes. Teuscher's conclusion that we should (also) look elsewhere implied too much having to restart from scratch. Researchers must be able to look differently, more closely, and, most important, dig deep. Just because the word "uninspired" applies to what is done by the computer science community does not warrant discarding the original source of inspiration.

Rodney Brooks, a roboticist at MIT, has argued that the world is its own best model. Indeed, food-foraging ants manage extremely complex environments, using the world itself as its own model.

The true inspiration is about bringing such a world of interest into cyberspace and within reach of computer programs. If we did so, we would probably discover we can do some things better than nature. Adding memory to record history or adding software that answers what-if questions brings about services well beyond the biological source of their inspiration.

Deeper insight must provide guidance on which properties of cyber reflection are important. Note that the real world is consistent and coherent at any point in space or time. Should we safeguard this consistency in a cyber version? The following dialogue might imply development of a specific kind of software or an intelligent being (in contrast to an intelligent agent):

Intelligent Being transmits over maritime radio on a foggy night: "This is CL233. Our radar shows you are on a collision course with us. Please change your heading immediately."

Intelligent Agent responds: "This is HMS772 of the Royal Navy. You change your course."

Intelligent Being transmits: "This is Canadian Lighthouse number 233."

Note how reality protects the intelligent being. In case of conflict, the solution does not require modification of the intelligent being. The intelligent being inherits consistency and coherence from the corresponding reality. This way of being inspired by biology is completely different from naively mimicking the biological world. It agrees with Teuscher's message that progress requires something more than imitation.

Concerning the Church-Turing thesis, the world is more than a function or calculation. It is interaction, and the proper theoretical counterpart is at least several Turing machines, sharing tapes, without explicit control over the relative execution speed of the machines.

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