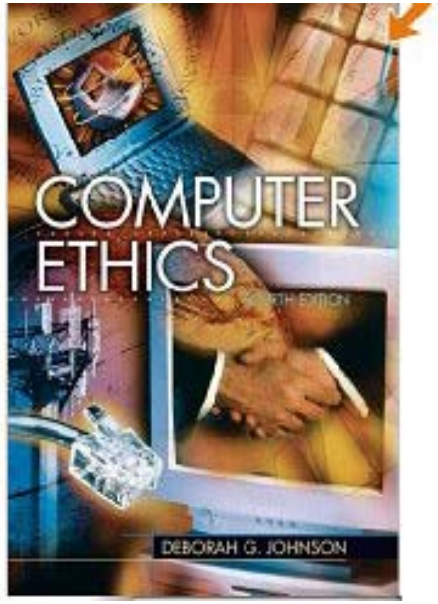

Deborah G. Johnson is the Anne Shirley Carter Olsson Professor of Applied Ethics in the STS Program at the University of Virginia. Johnson's research and teaching combines STS and ethics. A philosopher by training, she writes and teaches about the ethical issues in and around science and engineering, especially those involving computers and information technology. Johnson is the author/editor of six books. The most recently published books are the 4th edition of *Computer Ethics* (Prentice Hall/Pearson, 2009) and *Technology & Society: Engineering our Sociotechnical Future*, co-edited with Jameson Wetmore (The MIT Press, 2009).

Ethics and Technology Research

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"Scientists and engineers do not work in isolation; their work is shaped by social, cultural, economic, and political elements, as well as by what they learn about nature."

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Ethics for Developing Technologies

Concepts of agency and autonomy are central to Western moral philosophy; they underpin the very possibility of morality, and are strongly linked to notions of responsibility and accountability. Artificial agents are software (programs) and software-hardware combinations (robots, drones) that make decisions and perform tasks independently in space and time from those who design and deploy them. Artificial agents are said to operate autonomously and to make decisions that may be opaque to the humans who design and deploy them. The discourse around artificial agents both challenges and draws on traditional notions of agency, autonomy, and responsibility. On the one hand, artificial agents seem to call into question the uniqueness of the human capacity for moral agency and responsibility. On the other hand, the discourse uses human agency as a metaphor and the metaphor facilitates and shapes the development of the technology. My research examines the discourse around artificial agents with special attention to the issues of responsibility. For example, can the humans who design and deploy 'autonomous' agents be responsible for their behavior? Can the artificial agents bear some form of responsibility? Can responsibility be distributed, and if so, what would that look like?

Surveillance and Transparency

The challenge of this project is to explore the information technology-democracy connection. We take accountability to be fundamental to democracy and examine transparency systems and surveillance systems as parallel systems of accountability. We focus on five case studies including campaign finance disclosure, Google's search engine, and Secure Flight seeking to understand how accountability is materialized when transparency and surveillance are instrumented with information technology. Our analysis makes use of a 'house of mirrors' metaphor to describe how each of the case-study systems work. One interesting finding is that systems designed to achieve transparency often morph into systems of surveillance.

RECENT RESEARCH DEVELOPMENTS

- *Computer Ethics*, 4th ed. (Prentice Hall/Pearson) 2009
- *Technology & Society: Engineering our Sociotechnical Future*, co-edited with Jameson Wetmore (The MIT Press) 2009
- National Academy committee member on Responsible Science

RECENT GRANTS

- NSF-Ethics for Developing Technologies: An Analysis of Artificial Agent Technology

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