Chapter 15
Cyberinsecurity and Cyberwarfare: The Case for Social Science and Philosophical Approaches. Reflections from Asia.

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ABSTRACT
This chapter seeks to define the term “cyberinsecurity” as the intersection of human fears and errors with user behaviour in a digital setting. Examining links between psychology and human-computer interaction, the author explores several case studies set against the context of cyber-authoritarianism in Asian countries and argues that any attempts to address or advance studies in cybersecurity and cyberwarfare must be grounded in a solid foundation of current social science theory.

INTRODUCTION
While the study of cyberwarfare has proliferated over the past two decades, scholarship has insufficiently maintained a commensurate intellectual depth. A vast majority of authors have not kept their senses tuned to the ground. (Arquilla & Ronfeldt, 1997; Armistead, 2004) The fundamental fact of cyberspace is that it begins with the social origins of computing. Computers could only be experimented with, and eventually redesigned for office and home, on the basis that they fulfilled human needs. In this regard, the cybernetic idea challenges human capacities to cope with information overload and the readiness to react. Over time, computer usage socializes human behaviour into the pattern that time honoured traditions in many societies prefigure their members’ reactions to the capabilities of new technologies. While the use of the human messenger, carried on horseback, elephant or camel, or on his own feet, appeared commonplace across the globe, the embrace of the telegraph, the telephone and the television impacted unevenly. In some societies, early forms of electronic communication displaced Providence

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and spirituality severely since visions and disembodied voices could now be created by one’s fellow humankind and projected in defiance of space and time.

The purpose of such a long exegesis is intended to draw attention to the social grounding of cyberspace, and the consequent need to employ traditional social science and philosophy to examine cyberspatial politics. It is the sole contention of this chapter that research on cyberspace and its implications for national and global security ought to logically begin with the by-product of widespread civilian computer usage – cyberinsecurity. As the renowned industrial sociologist Jacques Ellul had warned, the computer arises from the industrial technique, and it is ‘nothing more than means and the ensemble of means.’ (Ellul, 1973, p. 19) At this point, the industrial man applies consciousness and judgment into the technical phenomenon: ‘the technician takes stock of alternative possibilities. The immediate result is that he seeks to apply the new methods in fields which traditionally had been left to chance, pragmatism, and instinct. The intervention of consciousness causes a rapid and far-flung extension of technique…It is really a question of finding the best means in the absolute sense, on the basis of numerical calculation.’ (Ellul, 1973, p. 21) In short, the computer was invented to render calculation and other forms of industrial calibration more accurate, but that very production of precision required also corresponding efforts at ‘troubleshooting’ possible faults that impeded the attainment of accuracy in any computer. Faults had to be found and isolated in laboratory and actual practice sessions. Therein lies the beginnings of cyberinsecurity: the computer user’s fears are bound up with his search for the perfection of his computing capabilities. Writing about the initial impact of home computers and ‘desktops’ in 1983, Otto Friedrich, the then Senior Editor at Time Magazine, reflectively queried if the advent of the computer will radically transform the very nature of human thought. His answer was emphatic: ‘computers do not think, but they do stimulate many of the processes of the human brain: remembering, comparing, analyzing. And as people rely on the computer to do things that they used to do inside their heads, what happens to their heads?’ (Friedrich, 1983, p. 229) In support of this clean distinction, Friedrich goes on to quote Charles Lecht, president of the New York consulting firm Lecht Scientific: “Computers help teach kids to think. Beyond that, they motivate people to think. There is a great difference between intelligence and manipulative capacity. Computers help us realize that difference.” (Friedrich, 1983, p. 229) This position strays a little from that of Jacques Ellul in suggesting that computers are probably benign instruments in assisting humanity in seeing good from evil, instead of deciding for them.

At the other extreme, there are the proponents of medium theory. These argue that computers are never neutral, and may actually do more than help human discernment. Computers may even prefigure certain options, and construct new horizons for social activity where none had existed before. The writings of Marshall McLuhan exemplify this perspective to a very great degree. For McLuhan, human agency ought to accommodate the likelihood that ‘the medium is the message’ because the message in any medium ‘is the change of scale or pace or pattern that it introduces into human affairs.’ (McLuhan, 1974, p. 16) In this regard, McLuhan drew an analogy with the impact of the railway. The latter cannot be described as introducing the idea of movement or transportation into human consciousness, ‘but it accelerated and enlarged the scale of previous human functions, creating totally new kinds of cities and new kinds of work and leisure.’ (McLuhan, 1974, p. 16) By extrapolation, electric media environments can alter our sensory horizons by speeding up events, encapsulating a remote event in a portable extract, and subvert the association between time and place. This is all abstract until one begins to unpack how the transnational Islamic diaspora exhibits umbrage over cartoons and books depicting the Prophet Mohammed in secular and Christian-majority societies in the western hemisphere. Likewise, tsunami-triggered calamities, ferry disasters and airplane crashes across the globe assume an aspect of