ON PRIVACY AND SECURITY: AN OVERLOOKED PROCEDURE OR TWO FOR GAINING PUBLIC TRUST IN E-GOVERNMENT

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ABSTRACT

Reviewing recent literature on security in 'tele-computing', we have located an implementable procedure, which will concurrently ensure privacy. We note that the ability to encrypt, as well as to watermark digitally, texts over one's INTRA-net allows identification of the source of file-access requests. Still, we need protection of the privacy of governmentally secured files dealing with one's personal status and/or information. We propose the implementation of two procedures already extant: a requirement that each computer both maintain an electronic file of the source of every such access request, whether granted or not, yet with a 'tickler' mechanism requiring that periodically every person whose file was so requested or accessed will be accordingly fully advised. We include also the near-resolution of the "Digital Dilemma", the copyright-violating conclusion to the logic that a digital text transmitted is a text copied.

INTRODUCTION

At last year's Festival, we noted the need for governmental (i.e., Congressional) roles in the Internet (including the Web) and even desktop publishing. At the center of this argument is an awareness that, though and since we have moved into an Age of Tele-Communications from our earlier Age of Written (Printed Communications), Congress has failed thus far to meet its obligations, its duties, to:

- 1. "provide [electronic] post-offices and post-roads" (Clause 7); and
- 2. "ensure the progress of science and the <u>useful</u> arts [emphasis added] by securing for limited times to authors and inventors the exclusive right [e.g., copyright protection] to their respective [digital] writings and discoveries" (Clause 8).

In that paper, we examined in great detail how how the simple introduction of a government-operated National Electronic Postal Service, having as a fundamental characteristic the provision of a government-issued (and –secured) "enhanced electronic postmark", would permit Congress readily to meet <u>both</u> its duties.

HISTORY

We point out again that a fundamental understanding of the <u>need</u> for a governmentoperated (and –secured) system for each person-to-person communication network (postal; telegraph; tele-phone; tele-computing: Internet/Web) follows by reviewing the story behind A. Dumas's (19th century) historical novel, *The Three Musketeers* (published in 1844; situated in the period: 1625-1628).

Though the authors of the 18^{th} -century *Constitution of the United States of America* (1787) could not have had a chance to read that novel, they clearly were aware of France's Cardinal Richelieu (1585-1642), a primary character in the book-to-be. Richelieu is recognized as the Founder/father of the national postal services. Indeed, a bit of reflection on the story related in *The Three Musketeers* is the strife resulting from the existence of multiple carriers operating on and over essentially unregulated roadways (= post-roads).

When America's Founding Fathers formed the republic, they delineated six reasons for the existence of government, two of which are:

To ensure domestic tranquility; and To secure the blessings of Liberty [= freedom + (national) responsibility] for ourselves and our posterity.

ON FACETS OF E-GOVERNMENT

Currently, considerable interest in establishing an "Electronic [Federal] Government", or E-Government, exists. Senator Burns of Montana is proposing that such be undertaken.

A fundamental concern, recognisable by many familiar with the defects of E-mail and the Web as they presently exist, deals with public trust, particularly as concerns the authenticity of a particular E-government document, publication, or form which one finds on display on the computer's monitor in front of him/her. Can the source of the digital document be determined? Is this the most recent version (OR: What is its publication date? OR: Is the publication date on the monitor authentic?)?

We maintain that our proposal (Ref 1) for establishing a copyright-registration procedure for digital documents despatched electronically for this purpose to the Library of Congress could be ideally subjected to a test by first implementing the proposal on government documents. Whatever procedural/technical alterations might then need be instituted as a result of this testing would then allow the Library of Congress to move swiftly in establishing a copyright registration (and subsequent copyright protection) for authors and/or publishers. Another matter of concern deals with proper access to, and concomitant protection of, electronic/digital government files to which access by government employees, and then citizens, is to be granted.

We maintain that our proposals (Ref 1) for establishing a governmentally-issued/-secured "enhanced electronic postmark" will serve as an additional and valuable procedure for either granting or refusing access to any governmentally-held or "-published" file in digital/electronic format. Indeed, by having each computer which "protects" any such file maintain a log-file of every access request (in the form of its enhanced electronic postmark, plus PIN or biometric data, as may for some files be required), the efforts of illicit hackers would surely be discouraged. Under penalty of law, any electronic/digital counterfeiting of this electronic postmark would be controlled.

Of course, the efforts of law enforcement agencies would, as a result of the implementation of this proposal for electronic log-files, be reduced to the tracing of only the counterfeiters. Criminal investigations would be, as a corollary, improved by the implementation.

ON PRIVACY PROTECTION

Furthermore, the issue of privacy usually arises whenever such a proposal is made, though one should note that there is little justification for there to be a (Constitutional) "right to privacy" (Refs 2, 3).

We view the matter of "privacy" to be essentially resolvable once one has: 1) a certified electronic postmark which can be assigned to each digital file-access request addressed to a computer; and 2) a log-file at each file-protective computer of these requests. Law enforcement and prosecutorial agents would be required to obtain a court (an "electronic-court") order as permission to enter government maintained files of data of a personal nature (e.g., Social Security records or felony conviction files, perhaps).

We propose that, under conditions 1) and 2) above, each computer protecting personaldata files maintain a "tickler file" which requires that this computer advise periodically each person whose file has either been electronically requested or, if the request was granted, exactly which data was released. In either case, the "enhanced electronic postmark" (those from law enforcement/prosecutorial agencies being appropriately restricted, as provided by Congress) would be provided to each individual whose data was sought or released.

We intend that government agents particularly would be expected to know that their attempts to enter any such file would result in their being placed on file and subsequently "reported" by the tickler mechanism.

A slightly different approach could be implemented, yet would still accomplish the elimination of concerns about the privacy of one's government-maintained records of a personal nature. This could also be of pertinence to personal records outside those of government: e.g., one's medical and/or insurance files. Much the way that consumer credit-reporting institutions

now allow citizens to examine their own records, including accesses thereto and entries made therein.

A NOTE ON PORNOGRAPHY, OBSCENITY, AND DISPLAYS OF VIOLENCE

The rapidly ongoing "convergence" of technology (Ref 3, e.g.) means that indeed "video-on-demand" services will become widespread, with the resulting "electronic shipment" of materials pornographic, obscene, or gratuitously violent. Under the US Postal Code, pornographic and obscene materials could be despatched only under conditions that:

a) the shipper first examined a list maintained by the US Postal Service in order to assure that the present addressee had not earlier placed his/her household on the list restricting such deliveries;b) the shipper then marked the "outer wrapper" to declare that the contents were pornographic or obscene.

The present-day nature of the Web has permitted a quite passive mechanism by which electronically materials pornographic and/or obscene can be transmitted. The failure of the US Congress to undertake its obligation/duty, under the US Constitution, to establish our "*electronic* post-offices and post-roads" now that we have entered our Age of Tele-communications (Ref 2) has permitted the widespread dissemination of such objectionable materials. With such a National Electronic Postal Service and its concomitant "enhanced electronic postmark" (Ref 3), we can correct these otherwise illegal activities.

Furthermore, there seems to be considerable belief that videos, like TV broadcasts and cinema productions, cannot be said to *cause* misbehaviour, misconduct, or violence by viewers. Such attitudes—of those defending the TV/cinema producers—seem to remain despite the evidence that younger and younger children are conducting criminally violent acts which are more and more adult crimes (Ref 4). Even whenever statistical studies show that there is a significant increase in violent behaviour by individuals who had years earlier been exposed to much more television broadcasting than others, many still do not accept this as a cause-and-effect result. Indeed, statistical significance seldom can be interpreted with certitude as cause-and-effect; but, from our contemporary understanding of the operation of the brain and its central mind, we definitely possess a scientific explanation for the performance of lewd, vicious, pornographic, obscene, and/or pernicious acts by an individual who had earlier been exposed earlier to a similar broadcast or video.

Even more astounding is the dominance at the Headquarters level of the American Library Association over its membership of a view that librarians in our Age of Telecommunications are to be civil libertarians, joining with the American Civil Liberties Union in taking the December 2000 Act of Congress [Children's Internet Protection Act] to court because it might be used to violate individuals' right to free speech (Ref 5).

Our present-day scientific understanding of how the mind works would cause them all pause. We summarise this result in Table I (below).

One should note that we are not proposing (Ref 3) the implementation of any procedure within the "enhanced electronic postmark" which could be interpreted as governmental

censorship. Instead, any numerical rankings (Ref 1) accompanying the copyright-registration application for publications with video or pictorial content are left to be assigned (0 to 9) by the author/producer/publisher, though we would expect that church-sponsored organisations (or, electronic publications like an "Electronic Family Circle") would make available to parents, schools, and libraries subscriptions to their published reviews, with their own numerical rankings $\{P, V, L, D\} = \{Pornographic, Violent, Linguistic, Drug\}.$

Indeed Cause Violent and/or Promiscuous Acts

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A. Each individual, from infancy to senility, builds in his/her <u>brain</u> a personal neural library of experiences As he/she individually develops, then trains, its neural librarian (his/her <u>mind</u>), including experiences with parents, preacher/priest, and teachers (eventually adding peers, however immature).

---AMERICAN SCIENTIST 67: 394, 1979.

B. Not until adolescence is the individual capable of fully developing his "personality", that set of personally neurallydeveloped 'algorithms' for conducting his/her proper behaviour as an adult in the national society in which he/she is about to enter.

> --GROWTH OF LOGICAL THINKING FROM CHILDHOOD TO ADOLESCENCE B. Inhelder and J. Piaget. 1958: New York, Basic Books.

- **C.** Yet, today's children are devoting a considerable percentage (often over 25% to 30%) of their upbringing hours in front of TV broadcasts (and/or videos or cinema shows).
- **D.** Indeed, we have to recognise that we have allowed TV broadcasting to become today's child's parent, preacher/priest, AND teacher.

---BOOKLIST (American Library Assoc.) 76: 204, 1979.

E. Fortunately, we understand indeed—and very nearly algorithmically so—how one's mind constructs a model for conducting behaviour: eventually, personality itself, then (as an adult) even scientific conjectures and models.

---ROLE AND EFFECTIVENESS OF THEORIES OF DECISION IN PRACTICE

(NATO Conference on Decision Theory (Luxembourg: 1972): London: Hodder-Stoughton, 1975.

F. Nobel Laureate Konrad Z. Lorenz:

"I thank you very much...for sending me your highly interesting paper[1]....I realise that our thoughts have run on very parallel paths indeed. I used to add to trains of thought dealing with models and analogy that everything (Lorenz's emphasis!) we can know is based on an analogy of real things, built up in our nervous system." ---Personal communication (30 AUG 1974).

 [1] "Human Knowledge: The Role of Models, Metaphors, and Analogy," INT'L JOURNAL OF GENERAL SYSTEMS 1: 41-60 + 281, 1974(1971).

G. Children are almost always at the task of making (elementary) analogies. If their upbringing has not (or, has not yet) DISCIPLINED their minds so that they discern between proper and improper behaviour, then (statistically speaking) it is virtually inevitable that at least one of these will commit an atrocious (or, say, pernicious) act—like one which he/she has just retrieved from his/her neural library, one filled with views from TV (or video or cinema or those formed from musical lyrics).

H. <u>Conclusion</u>: TV broadcasting officials can simply NOT claim that their broadcasts have not caused many, many of the atrocious behaviours which we have 'witnessed': not only those quite unexpectedly by children but also those by adults conducting themselves (quite immature, adolescent-like) promiscuously: Both behaviour patterns we are now experiencing internationally as well, with television becoming worldwide via satellite broadcasting!

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Additional References (Table I):
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- 3. Where Do You Draw the Line? Explorations in Media Violence, Pornography, and Censorship Victor B. Kline, 1974 [Provo, Utah: Brigham Young U. Press].
- 4. An Epistle to Dr. Benjamin Franklin
 - G. Arthur Mihram, 1975(1974) [New York: Exposition-University Press].
- 5. Entertainment-Education

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Singhal, A. and E. M. Rogers, 1999 [Mahweh, NJ: L. Erlbaum].

Proceedings, Computers in Libraries 2000: pp. 195-204

Danielle Mihram and G. Arthur Mihram [Medford, NJ: Information Today].

CONCLUSION

We suggest that the reader re-examine our paper from the Year 2001 Proceedings of this Trenton Computer Festival (Ref 1). Alternatively, one could examine the lengthier publication (Ref 3) published in 1999.

We conclude that considerable security re electronic databases can be achieved. A recognition of the pertinence, of a government-operated (and –secured) National Electronic Postal Service, with its "enhanced electronic postmark", to attaining this goal should be appreciated. Copyright protection becomes virtually a "corollary" to this "theorem" when implemented in conjunction with an electronic/digital copyright-registration procedure at the Library of Congress's Registry of Copyright.

Privacy protection can also be enhanced by "arming" those computers which protect (i.e., which grant access to) electronic data files with, as standard operating procedure, both log-files and tickler-file timetables so as to record and report accesses (both attempted and successful), particularly as applies to governmental files of a personal nature. As a corollary to this "theorem", analogous procedures could be implemented in the private sector, with medical and insurance files (akin to those of credit-reporting agencies) being similarly protected with software.

Penalties for those who attempt to enter illegally protected files or to counterfeit any portion of an enhanced electronic postmark would accompany the legislation implementing the E-government.

We propose that, in order to expedite the implementation of these suggested procedures, the E-government begin by instituting them on their own files (document files). The lessons thereby learned can then surely be employed so as to provide us with the more general protections which are required by the *Constitution of the United States of America*: In order to fulfill its duty "to ensure domestic tranquility", Congress should implement the technological advantages of electronic/digital watermarking while establishing a National Electronic Postal Service and a Digital Copyright Registry.

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