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On the Role of Human Mortality in Information System Security: From the Problems of Descriptivism to Non-Descriptive Foundations

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The question of whether ethical theories appealing to human morality can serve as a means of protection against information system security breaches has been recognised by several authors. The existing views concerning the role of ethics in information systems security can be divided into two categories. These are 1) expressions about the use of human morality and 2) arguments claiming that the use of ethics is useless or, at best, extremely restricted. However, the former views are general statements lacking concrete guidance and the latter viewpoint is based on cultural relativism, and can be thus classified as descriptivism. This paper claims that the use of ethical theories and human morality is useful for security, particularly given that Hare's Overriding thesis has validity - though it has its limitations, too. This paper further argues that descriptivism (including the doctrine of cultural relativism) leads to several problems, contradictions and causes detrimental effects to our well-being (and security). Therefore, an alternative approach to using ethics in minimising security breaches that is based on non-descriptive theories is proposed. The use of non-descriptivism will be demonstrated using Rawls' concept of the "veil of ignorance." The limitations of non-descriptivism, and appealing to human morality in a general sense, will also be discussed. Finally, suggestions for future research directions are outlined.

INTRODUCTION

The relevance of security solutions and procedures depends on the motivation of the users to comply with the security solutions/procedures provided. Many studies indicate that users fail to comply with information security policies and guidelines (e.g., Goodhue & Straub, 1989; Parker, 1998; Perry, 1985). It is widely argued (e.g., Loch & Carr, 1991; Anderson, 1993; Parker, 1998; Vardi & Wiener, 1996; Neumann, 1999) that a remarkable portion of security breaches are carried out by organizations' own employees. Several proposals have been made to tackle this human problem; the solutions range from 1) increasing the users' motivation (e.g. McLean, 1992; Perry, 1985; Siponen, 2000a; Thomson & von Solms, 1998), 2) using ethics (e.g., Kowalski, 1990; Leiwo & Heikkuri, 1998a, 1998b), 3) organizational/professional codes of ethics (e.g., Harrington, 1996; Straub & Widom, 1984; Parker, 1998), to 4) using different deterrents (e.g., Straub, 1990). With respect to the second issue–Can human morality function as a means of ensuring information security? The existing works can be divided into two categories. The first category covers expressions concerning the use of human morality including Kowalski (1990), Baskerville (1995), Siponen (2000) and Dhillon & Backhouse (2000):

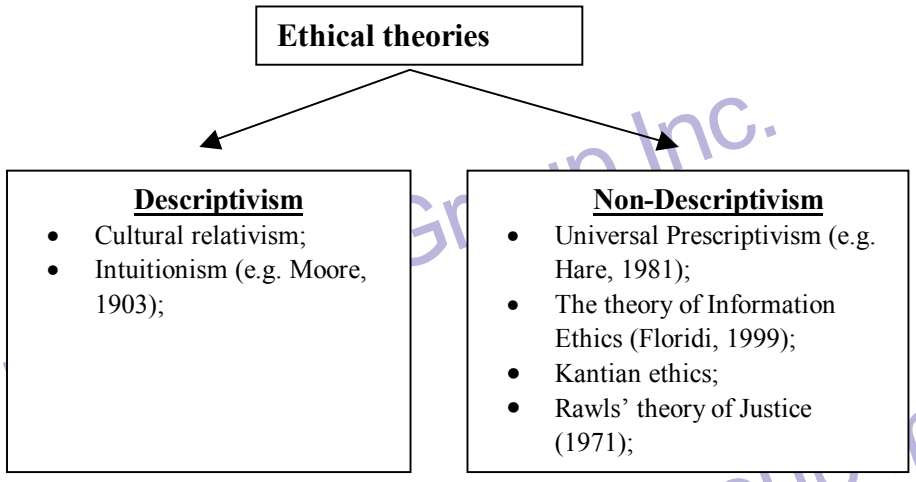
- "*Security administrators are realizing that ethics can function as the common language for all different groups within the computer community*" (Kowalski, 1990).
- "*Proper user conduct can effectively prevent* [security] *violations*" (Baskerville, 1995 p. 246).

The second claims that the use of ethics is useless or, at best, extremely restricted (Leiwo & Heikkuri, 1998a, 1998b).

This paper argues, following the scholars of the first category, that human morality has a role as a means for ensuring security. But to achieve this goal solid theoretical foundations, on which a concrete guidance can be based, are needed. The existing proposals (e.g., Kowalski, 1990; Baskerville, 1995; Dhillon & Backhouse, 2000) do not suggest any theoretical foundation, nor concrete means for using ethics as a means of ensuring security. The aim of this paper is to propose a framework for the

use of ethics in this respect. To achieve this aim, a critique of the relevance of ethics must be considered. The use of human morality as a means of ensuring security has been criticized by Leiwo & Heikkuri (1998a,b) on the grounds of cultural relativism (and hacker ethics/ hacking culture). If cultural relativism is valid as an ethical doctrine, the use of human morality as a means of protection is very questionable. It would only be possible in certain "security" cultures - i.e. cultures in which security norms have been established - if at all. However, the objection of Leiwo & Heikkuri (1998a,b) is argued to be questionable. We feel that cultural relativism has detrimental effects on our well-being and security. Things might be better if the weaknesses of cultural relativism were recognized. This paper adopts the conceptual analysis in terms of Järvinen (1997; 2000) as the research approach. An early version of this paper was presented at an international conference on information security (IFIP TC11, Beijing, China, 2000).

Figure 1: Depicts the division and some ethical theories



The paper is organized as follows. In the second section, the possible ethical theoretical frameworks are discussed. In the third section, the objections to the use of ethics as a means of protection based on cultural relativism (descriptivism) are explored. In the fourth section, an alternative approach based on non-descriptivism is suggested. The fifth section discusses the implications and limitations of this study. The sixth section summarises the key issues of the paper including future research questions.

THEORETICAL FRAMEWORKS

Ethical Theories

The philosophical ethical theories can be classified into two categories, descriptivism and non-descriptivism (Hare, 1997). In this paper, descriptive theories refer to ethical doctrines that attempt to draw a morally or action-guiding conclusion purely from a set of factual premises, such as prevailing cultural habits. In other words, the separation between descriptivism and non-descriptivism can be retraced to Hume's thesis that moral norms (what we ought to do) cannot be drawn from a set of factual matters. Those theories arguing that factual matters imply moral norms, are called as descriptivism, as opposed to non-descriptivism. This simplistic division is chosen for a practical reason; it is perhaps the simplest classification and therefore helps us to understand the different theoretical possibilities available and their one fundamental difference.

We have left out religion-based ethical theories (e.g., Christian ethics) from the categorization. The reader is advised to look at Outga (1972) for more religion based ethical theories and the question of descriptivism versus non-descriptivism ("is/ought"-problem). We believe Siponen (200)1; Siponen & Vartiainen (2001), as many others have already proposed (e.g., Hare, 1981; 1997; Taylor, 1975), that descriptive theories such as cultural relativism and intuitionism are inadmissible as moral qualifiers. Instead of attempting to find what is morally right and wrong, descriptive theories, at best pay lip service to prevailing cultural moral notions (cultural relativism) or individual's intuitions (intuitionism). In the worst possible scenario, descriptive theories may be used as an excuse to indulge in morally questionable behaviour (e.g., Nazism or hacking), as shall be seen in section three. In Section four, it is proposed that we should look to non-descriptivism to provide solutions. In this study, the term moral means what people regard as right and wrong – how we should act in the final analysis. Ethics refers to moral philosophy, i.e., ethical theories discerning what is morally right and wrong.

Overriding Thesis

In order for human morality to be useful in security procedures, it is necessary that we should have an intrinsic sense of moral responsibility, in other words, a sense of duty forcing us to follow our moral concerns: to find out what is morally right. If all people were totally amoral (i.e., did not care what is morally right) or if theories such as cultural relativism were considered as valid moral qualifiers (as proposed by Leiwo & Heikkuri, 1998a; 1998b), human morality could not function as a means of ensuring security. We need to examine whether there is such a thing as "moral responsibility"? And, if there is, how strongly does it guide our behaviour? These two questions (and the relevance of human morality for security) can be retraced to the validity of the overriding thesis suggested by R.M. Hare (1963). Hare claims that moral concern overrides all other nonmoral concerns (overriding thesis). In other words, given that one regards unauthorized copying of