

Toward A Clearer Understanding of the Multi-Cultural Perspectives Concerning Pressing Neuroethical Issues

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Over the last two decades neurotechnology has emerged not only as an effective tool for exploring cognitive functions of our brain such as analyzing sensorimotor control, thinking and mental interaction, but also as potential interventions to reduce the burden associated with many neurological disorders and disabilities. Advances made in neuroimaging techniques allow us to view the brain's structure in far greater detail and clarity, which has brought new insight into what is perhaps the mankind's oldest challenge of all: the interaction of our mind and our body in knowing, perceiving, and learning about the world and ourselves. Significantly improved efficacy and safety of psychotropic drugs have made effective treatment of some psychiatric conditions possible. The application of electronics and engineering to the human nervous system has now reached a relative level of both scientific and commercial maturity thought to be producing benefits to patients with neurological and cognitive disabilities (Wolpaw, JR., et al., 2005).

Ethical issues associated with applications of neurotechnology

Much of the current controversy concerning neuroethics is related to what we can and should do with the increasingly emerging new knowledge about the brain and the increased ability of manipulating its structure and function. While still knowing very little about how our brains work, we often tend to eagerly apply this limited knowledge to seek immediate benefits, even when we are not sure about their long-term consequences. It is recognized that practice often

appears to have gotten ahead of the science and ethical discussions and guidelines are lagging behind both. As we encounter more issues with ethical, legal and social implications, both neuroscientists and social scientists are asking the question whether or how much our views on nature and humanity and the associated cultural and moral values will be altered as we learn more about the brain. Clearly, despite of our inquisitive desire to know how our brains work, we seem to be learning more than what we are prepared to know or to use.

Many of us would agree that there is nothing intrinsically wrong with taking advantage of new knowledge, to improve, enhance or even optimize ourselves, based on the recognition of our desire to better ourselves. Yet, to cope with the ethical ramifications of this new knowledge of the human brain, the Society should proactively begin to grapple now with the ethical issues raised by advances in neuroscience (Illes, J., 2006). Some of these issues may not be entirely new to our Society. For instance, while efforts on specific pharmacological enhancement of brain functions and behaviors are quite recent, enhancements of mental functions such as mood, cognitive abilities (attention and memory) and personality traits have existed for centuries in many Asian societies. The current controversy in western societies seems to be focusing more on the societal inequities in advantage and access; the debate is centering more on reducing unfairness than forgoing beneficial options (Caplan, A., 2002).

Multi-cultural perspectives of neuroethical issues

As a “field of philosophy that discusses the rights and wrongs of the treatment of, or enhancement of, the human brain” (Safire, W., 2003), neuroethics inevitably will have to deal with the cultural dimensions of ethical reasoning. Much of the discussion of mainstream bioethics has been focused on the issues from the perspective of the western philosophy, perceived by a significant of population in Asia as values centered around Judeo-Christian culture. These rights and wrongs are more or less based on values in societies that have a long tradition of emphasis on free will or autonomy very much from the perspective of individual. This is in contrast to Asian societies that strive for a balance of the rights of the individual with the good of the community or society. Therefore, it is important to understand the difference in perceived concepts of autonomy and free will among people from different cultural backgrounds.

The examination of ethical issues within a contextual framework that assumes dominant cultural values that are very different from the traditional cultural and spiritual perspectives or values in other regions of the world should be sensitive to these distinct cultural and social values held by a significant proportion of the world's population.

In addition to the perspective of dominant culture or philosophy, debate or discussion on neuroethical issues will have different social or political implications or solutions in societies with very different composition of cultural values or different political and demographical structures, such as between societies that are culturally and demographically homogeneous versus "melting-pot" type of societies that are highly heterogeneous and diverse. Neurotechnology will continue to provide insight into the relationship and integration of the mind and body in apprehending the world. It is important that we develop a framework and a strategy for examining such concepts such as self or consciousness not only within the context of research in neurosciences and mental health, but also from a multicultural perspective including relevant societal and spiritual values or beliefs (Cho, 2005). In view of the current effort in studying psychobiology of the "self" by exploring how the brain manages to form and maintain a sense of self with a goal of better understanding dementia and finding new therapies for it (Zimmer C., 2005; Seth and Farah, 2005), the attempt of finding a scientific definition of "self" may likely generate many interesting discussions and debates in Asian societies.

Toward a responsible way of disseminating knowledge from neuroscience research

Any healthy societal debate or discussion on neuroethical issues will require a reasonably solid public understanding of neuroscience as well as neuroscientists' understanding of public concerns (Blackmore, 2002). To that end, a scientifically well-informed public that can objectively digest research findings and appreciate their potentials, in a fair-minded way, is essential for integrating neuroscientific knowledge with ethical and social thought (Roskies, 2002). Such an educated public can only be cultivated from a combination of the media's objective and adequate reporting of a scientific result with its potential applications and scientists' responsible ways of objective interpreting the research results. The process of public understanding of the neuroscience, neuroethical issues, and its implications to society can only be realized by a two-way interaction between scientists and the public through dialogue and

debate. On this note, it is recognized that the current “regional disparities” reflected in a general lack of neuroscientific knowledge in underdeveloped regions may complicate any effort of global mental health initiative. Unlike the creation of a new antibiotic, a successful use of an equally regarded effective new psychopharmacological agent for ameliorating a psychiatric disorder would have to take into consideration of potential social issues as a result of the public’s lack of adequate knowledge on related science and ethical implication.

International collaboration and coordination

The increasingly global nature of scientific inquiries and health care research requires international participation to address all key issues related to neuroethics, especially issues specific to a variety of socially or culturally distinct communities. While a complete consensus and common understanding may not be easy to reach, it is essential to bringing together researchers and scholars from various disciplines, to view neuroethical questions, issues and problems from a broad range of perspectives. It is also fundamentally important to view ethical questions in broader contexts that challenge traditional modes of thinking, and to break up traditional silos and disciplinary boundaries.

Current effort in promoting culturally sensitivity should be reinforced in being incorporated in research design for cognitive and behavioral studies. As part of continue development based on US Society for Neuroscience 2003 Brain Information Group White Paper, recent coordinated efforts in sharing and re-analyzing imaging data from different labs around the world through international consortia provide an excellent example of opportunities to examine the potential impact of these cultural or social factors on either the neurobiological correlates of the psychobehaviors or interpretation of the results behavioral neuroimaging studies (see website in references). A broader and more comprehensive international collaboration and coordination would help facilitate similar efforts. The DANA Alliance for Brain Initiatives has been taking a significant leadership role in this effort. Further consorted participations from international organizations such as International Brain Research Organization (IBRO) and neuroscience research funding agencies around the world should make it possible for productive dialogue and discussion on culturally sensitive neuroethical issues through a yet-to-be-established international forum.

As the discussions and debates on neuroethical issues are getting underway in Japanese scientific communities and in the general public, it is both exciting and encouraging to appreciate the unique advantage Japan has in addressing neuroethical issues in the context of its cultural identity and strength. For centuries, Japan has taken a leading role among far eastern countries or societies in approaching European civilization and at the same time coping with its influence, especially in the area of science and technology, while trying to maintain a Buddhist and Confucian philosophy based cultural values. Discussions on neuroethics in Japan will provide much insight to a lot of contemporary Asian social and cultural issues and challenges. They certainly will shed light on many societal and moral issues specific to several countries in this particular far eastern region that not only have significant level of shared values and culture but also are increasingly sharing many aspects of both their material and spiritual lives with the western world. It is with much hope that the discussion and debate will lead to solutions that truly relevant to issues in these societies, not as another “western import”.

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References:

- Blackmore, C., 2002. From the “Public Understanding of Science” to Scientists’ Understanding of the Public” in: Neuroethics: Mapping the Field. The Dana Press, pp. 211-223.
- Caplan. A., 2002. No Brainer: Can We Cope with the Ethical Ramifications of New Knowledge of the Human Brain? in: Neuroethics: Mapping the Field. The Dana Press, pp. 95-132.
- Cho, F., 2005. Buddhist Perspectives on Brain Function and Personhood. Presentation at the symposium on “Ethics of Neuroscience: Lack of Consciousness and Assessment of Personhood”, AAAS annual meeting, St. Louis.

Illes, J., 2006. Neuroethics: Defining the Issues in Theory, Practice, and Policy (Illes, J., Eds.), Oxford University Press.

Roskies, A., 2002. Neuroethics for the new millennium. *Neuron* 25:21-23.

Seth, JG. and Farah, MJ. 2005. Is Self Special? A Critical Review of Evidence from Experimental Psychology and Cognitive Neuroscience. *Psychological Bulletin*, 131: 76-97.

Society for Neuroscience, 2003. Brain Information Group White Paper: The Information Infrastructure Needs of Neuroscience Research: Opportunities and Issues of Implementation. http://www.sfn.org/index.cfm?pagename=NDG_whitepapers#conclusions

Wolpaw JR., et al., 2001. Brain-Computer Interfaces for Communication and Control. *Clinical Neurophysiology*, 113: 767-791.

Zimmer, C., 2005. The Neurobiology of the Self. *Scientific American*, November, 92-101.