Re-Globalization

New Frontiers of Political, Economic, and Social Globalization

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9 All Ethics Is Global

New Neuroethics in a Multipolar and Multicultural World

James Giordano and John R. Shook

The geopolitical restructuring that Benedikter and Kofler describe as re-globalization also establishes newly developing fora and vectors for scientific and technological (S/T) enterprise. Such ventures are clearly influencing major biomedical markets but also, and perhaps ever more explicitly, are transforming the capabilities and perhaps the very concept of the human being (Benedikter et al. 2010). Re-globalization entails, or at least implies, interdisciplinary and multinational perspectives on the current global system of norms, standards, and mores. These new constructs are already influencing S/T endeavors to evoke changes in the ways that humanity views, accesses, and affects biological systems to direct change in human understanding, capability, relationships, and power. One of the focal domains of such influence is the brain sciences.

Neuroethics at a global scale must closely follow the expansion of neuroscience. Neuroscientific discoveries about substrates of thought, emotion, and behavior may be the proverbial "tip of the spear" that pierces previously held notions and limits of consciousness, capabilities, and constraints of the human being as well as humanity's relationship with S/T, society, and global ecologies. Despite prior, titular projects declaring a "Decade of the Brain" (1990–1999), the groundswell of research, development, and applications of neuroscience and its technologies (neuroS/T) fostered by multinational projects of the past ten years may render the 2020s to be the more potent and portentous decade for advancing an understanding – and capabilities to affect – the brain and its functions. Initiatives based in the United States (Jorgenson et al. 2015), the European Union (Amunts et al. 2016), China (Poo et al. 2016) and Japan (Okano et al. 2015) just to mention a few, are incorporating opportunities to reflectively and ethically consider the impacts of investigations and achievements in brain science research.

In hindsight, neuroscientific efforts of the early to mid-1990s served as a major milestone toward fertilizing the current climate and pace of brain research. Coupled to currently funded initiatives in biotechnology, the neurosciences are emerging as the next domain and frontier of human cognition itself. Therefore, it will be important to appreciate, apprehend, and articulate technology in its literal sense, as *tekne logos*: a rational accounting

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of tools, their development, use, misuse, and those who develop and use them. With these techno-cultural contexts in place, any genuine approach to neuroscience and neurotechnology must entail neuroethics, as both a discipline and set of practices (Giordano 2015a).

In this light, we applaud and equally advocate Roland Benedikter's urging that core aspects of the globalization process – particularly the technological, economic, political, cultural, and religious dimensions of society – feature prominently in a major reassessment and redesign of a truly global neuroethics (Benedikter and Kofler 2019). The "globalization" of neuroethics becomes self-evidently important, if not urgently necessary, as novel neurotechnologies are being developed and are reaching various markets for use around the world. Consistent with these guiding themes, we offer our perspective on the importance of the new field of neuroethics for guiding and propelling the research, development, and translational use of neuroscience and its technologies in medical areas.

Despite its broad prospects, from its formation around 20 years ago neuroethics was apparently planned to be little more than a domain of applied bioethics, somewhat awkwardly paired with moral psychology. Two driving questions were posed to lead the way. How should neuroscientific research be conducted ethically? And, how should neuroscience affect our self-understanding as moral persons? To each question, there was already a straightforward answer, to promptly simplify matters. First, standards of research ethics can appear to sufficiently regulate neuroscientific research through familiar principles respecting animal welfare, human safety, and individuals' autonomy. Second, the dichotomy dividing facts and values enshrined in Western ethics minimized any relevance of neuroscience to ideas of personal selfhood, dignity, and duty. According to this perspective, what neurons happen to be doing won't necessarily describe or inform what people should really be doing.

All the same, neuroscientific advances would not be irrelevant to research ethics or moral psychology, allowing for ongoing discussion and deliberation. Both casuist and principlist clinical ethicists will be tirelessly pondering how to narrowly apply principles to novel scenarios and opportunities. Just as research ethics enlarged in the wake of organ transplantation and genetic engineering, just to mention two examples, neuroscience will be a fertile source of case studies. As for philosophical ethicists, those daring to leap over the fact–value gap are trying to land on their preferred views, perhaps deontological or utilitarian as may be, so that brains can empirically testify to some theory's veracity. Moral philosophy, for its part, won't be impressed by that circular reasoning – since brains won't exhibit moral functioning unless the subject is displaying moral conduct per the observer's prior ethical stance. Brains turn out to be highly accommodating, competent with all manner of moralistic judging and acting depending on social and personal circumstances. Moral philosophy, for its part, is not surprised in the least, since that inherent variability to "moral" conduct calls for the independent

theorizing of philosophical ethics. Ecumenical moral psychology never adds up to sound moral philosophy. How people should be good is not reducible to whatever brains happen to be good at.

Neuroethics as a mere mode of applied ethics could never have been as radical as its some of its founders may have hoped. As far as typical brain researchers and most philosophers can see, nothing new about neuroscience could significantly affect or influence ethics, because (a) research ethics stands secure, and (b) moral philosophy remains untouched. Those twinned positions reinforce each other: so long as (Western) ethics is unquestionable then the regime of (Western) research ethics has rule. In order for neuroethics to transcend a hegemonic Western bioethics, a genuinely transnational approach has to be recommended.

To date, those two rather conservative positions (not the stances of this chapter's authors) have appreciably dictated most of the discourse about ethics and the brain. This was not merely coincidental. Bioethics was bound to be swept up into the globalist neoliberal agenda, and the West's vision of certain individual rights would stand as the regulatory global standard. The establishment of any single bioethical regime during neoliberalism's peak was at most a superficial feature of the many nationalistic research agendas around the world. A checklist of concerns about informed consent, treatment safety, patient privacy, and medical paternalism merely reflected one culture's focus on largely legalistic issues of consumer protection law in an age of rampant capitalist individualism. In brief, neuroethics was part of a broader, legalistically driven bioethics that was conducive to nationalist and transnational capitalism, so that "neuroethics 1.0" remains stuck and stunted pretty much where it began. As long as (Western) ethics remains unquestionable, the regime of (Western) research ethics can rule.

Opportunities to re-ground neuroethics for higher ambitions and greater impact have not been scarce. However, in America, traditional applied ethics has continued to prevail, as a recent example can illustrate. The Presidential Commission for the Study of Bioethical Issues released two volumes of its *Gray Matters* report (2014, 2015), coinciding with the Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative. The Presidential Commission and its resulting report did not deviate from long-established ethical standards for evaluating medical advances that had long been a preoccupation of bioethics and medical ethics before that. The report accordingly delivered 14 recommendations embodying clear ethical priorities for neuroscientific research.

1 **Prioritize existing strategies to maintain and improve neural health:** In addition to developing new drugs and devices to maintain and improve neural health, funders should prioritize and support research on existing, low-technology strategies, such as healthy diet, adequate exercise and sleep, lead paint abatement, high-quality educational opportunities, and toxin-free workplaces and housing.

2 **Prioritize treatment of neurological disorders:** Funders should prioritize research to treat neurological disorders to improve health and alleviate suffering. This research should consider individual, familial, and public health burdens as well as potential risks, benefits, and long-term effects of specific interventions.

3 **Study novel neural modifiers to augment or enhance neural function:** Funders should support research on the prevalence, benefits, and risks of novel neural modifiers to guide the ethical use of interventions to augment or enhance neural function.

4 **Ensure equitable access to novel neural modifiers to augment or enhance neural function:** Policy-makers and other stakeholders should ensure that access to beneficial, safe, effective, and morally acceptable novel neural modifiers to augment or enhance neural function is equitable so as not to compound or exacerbate social and economic inequities.

5 **Create guidance about the use of neural modifiers:** Professional organizations and other expert groups should develop guidance for clinicians, employers, parents, educators, and patients about the use of neural modifiers and their potential risks and benefits. Medical professional organizations should develop guidelines to assist clinicians in responding to requests for prescriptions for interventions to expand or augment neural function. Clinicians should not prescribe medications that have uncertain or unproven benefits and risks to augment neural function in children and adolescents who do not have neurological disorders.

6 **Responsibly include participants with impaired consent capacity in neuroscience research:** Researchers should responsibly include individuals with impaired consent capacity who stand to benefit from neuroscience research. Participation, with ethical safeguards in place, can ensure progress aimed at understanding and ameliorating neurological disorders and psychiatric conditions.

7 **Support research on consent capacity and ethical protections:** Funders should support research to address knowledge gaps about impaired consent capacity, including the concept of capacity, brain function, and decision-making capacity, current policies and practices, and assessment tools.

8 **Engage stakeholders to address stigma associated with impaired consent capacity:** Funders and researchers should engage stakeholders, including members of affected communities, to build understanding of consent capacity and associated diagnoses to mitigate the potential for stigma and discrimination.

9 **Establish clear requirements for identifying legally authorized representatives for research participation:** State legislatures and federal regulatory bodies should establish clear requirements to identify who can serve as legally authorized representatives for individuals with impaired consent capacity to support their responsible inclusion in research.

10 **Expand and promote educational tools to aid understanding and use of neuroscience within the legal system:** Government bodies and professional organizations, including legal societies and non-profit organizations, should develop, expand, and promote training resources, primers, and other educational tools that explain the application of neuroscience to the legal system for distribution to members of the public, jurors, judges, attorneys, and others.
11 **Fund research on the intersection of neuroscience and the legal system:** Relevant bodies, such as the National Academies of Science, the US Department of Justice, the National Institute of Justice, and the Social Security Administration, should support comprehensive studies of the use of neuroscience in legal decision-making and policy development.
12 **Avoid hype, overstatement, and unfounded conclusions:** Neuroscientists, attorneys, judges, and members of the media should not overstate or rely too heavily on equivocal neuroscientific evidence to draw conclusions about behavior, motivations, intentions, or legal inferences.
13 **Participate in legal decision-making processes and policy development:** Neuroscientists should participate in legal decision-making processes and policy development to ensure the accurate interpretation and communication of neuroscience information.
14 **Establish and fund multidisciplinary efforts to support neuroscience and ethics research and education:** The BRAIN Initiative should establish and fund organized, independent, multidisciplinary efforts to support neuroscience and ethics research and education, including the activities recommended in this report.

These recommendations are straightforwardly classifiable into four primary priorities: (a) advancing the overall goods of public health and welfare; (b) protecting the autonomy and best interests of the vulnerable; (c) promoting the justice of resource distribution and of the legal system, and (d) preventing harms due to public ignorance about scientific matters. As important as those general priorities must be, their status as recommendations leaves them vaguely worded and open to interpretation, and they can change in scope and effect depending on situational implementation. Therefore, while reasonable enough for precautionary application, these recommendation are "non-essential," and do not provide additional insight into dilemmas arising from neuroscientific findings. Furthermore, we find these recommendations to have little to no grounding in any neuroethical or neurophilosophical basis. They should sound familiar to any student of medical ethics, because they pair with canonical criteria for judging medical concerns: the four principles of beneficence, autonomy, justice, and non-maleficence as laid down by Beauchamp and Childress (2012) in their *Principles of Biomedical Ethics*.

The principlism of medical ethics over the past several decades continues to guide policy about novel neuroscience and neurotechnology. What shall be the particular role of neuroethics, as it receives an invitation to inherit the

framework of medical ethics? The "principlism" to medical ethics does serve a preparatory function, to initiate discussions of BRAIN-related projects and neuroscientific advances in general. These proven principles have invigorated discussions about novel issues brought back from other medical frontiers, such as reproductive technologies, end-of-life decisions, and genetics. Those "post-operative" principles do keep debates alive, yet it can be questioned whether they make much of an operational difference to the medical advances as they are made (Page 2012). To the extent that this *Gray Matters* report is aimed to the public first, and to the (neuro)scientific community second, we find merit in the initiative, as it stipulates directives to improve research and contextualize findings. As for its neuroscientific relevance, this report adds little to no information or direction to neuroscientifically "savvy" entities engaged in ongoing research, as the recommendations are mostly self-evident and bring nothing new to the table (Shook and Giordano 2015).

If neuroethics will ever contribute anything to the very question it was supposed to address – what is becoming known about the brain that impacts our moral judgment and ethical priorities – then "pre-operative" recommendations must arise from the real contexts of neuroscientific applications in various spheres, from the local to the cross-cultural. Neuroethics is most sensitive to the relationships between neuroscience and the nature of the self and identity, the capacity for agency and responsibility, and the potential for new selves by design. We therefore suggest that emerging domestic and cosmopolitan themes must arouse a distinctive voice of counsel from twenty-first-century neuroethics. With this new medical frontier opening up within the skull, we expect neuroethics to play a more forward role on the frontlines, working closely in concert with other brain-related sciences in their exploratory pursuits. We look forward to the enhanced integration of neuroethics with all stages of neuroscientific research and neurotechnological utilization.

What is the new social and civic landscape, so different from the 1960s and 70s when American medical ethics congealed, now requiring neuroethical deliberations? First, there is no singular "public" for neuro-related advances, but only innumerable specific "publics" deciding for themselves which aspects of neuro-enabled advances are relevant and worthy to them. Second, the dichotomy between those possessing competence and those lacking competence will become contested ground as "ableist" paradigms shift and indefinite ranges and varieties of autonomy emerge from the availability of self- and identity-altering modifications. Third, worries about just distribution presume that all persons can equally value some finite good in a zero-sum game, but those factors won't characterize most sorts of cognitive, social, or moral enhancers in a culture-fractured world where there's no consensus on what they even mean or accomplish. Fourth, public education will become vastly more difficult in a future world where control over access to designer enhancements has been largely lost and concealment of their use will be paramount.

What would a new neuroethics, a neuroethics 2.0, look like on this global stage? A multipolar neuroethics would serve as a start. If global economics and politics is going to be characterized by greater multipolarity among several regional powers, no hegemonic bioethics or neuroethics could prevail with assurance. Like political or economic arrangements for mutual convenience, this basic sort of international neuroethics would be an arena of negotiation and compromise. Going further, a robustly multicultural neuroethics could seek areas of overlapping and reinforcing moral agreement that partially unifies the ethics of multiple countries. Much translation and creative interpretation is required, as moral terms and concepts have been treated more fluidly and expansively, but consensus is possible if not probable where cultures share abiding moral values common across humanity. Beyond a multipolar neuroethics and a multicultural neuroethics, a truly global neuroethics could be designed.

The visible obstacles to any globalist ethos actually provide the materials for its origins. Cultural variety about morality is a sign of reasonableness at work. The deepest problems to vex countries arise where top moral priorities conflict or contend for final say. When shall the general social welfare trump an individual's rights? Where shall personal liberties stand inviolable despite communal or national interests? Balancing such priorities, and remembering consequential lessons learned, is part of every society's collective experience and heritage. A people's ethos is no accidental or nonessential component of their culture. A nation, or a culture, might refuse to reconsider its preferred ranking of ethical ideals and principles, willing to stand alone against all remonstration from other nations and peoples. Yet it remains true that ethics ultimately is wider experience plus thoughtful time. Only by taking into account the widest sphere of human moral experience, from trial and tragedy to triumph, could a global moral wisdom emerge that deserves the title of a "cosmopolitan ethics." We do not speak of an ethics merely for a cosmopolitan, one who could live anywhere while rooted nowhere. From the deepest roots of our common cultural heritage as one moral humanity, the flower and fruit of a global ethics for everyone may be cultivated and shared.

No deficit of national endeavors in neuroscience stands in the way of neuroscience and neurotechnology (hereafter, neuroS/T). Yet, this expansion of neuroS/T at international scales does not mean that neuroethics is developing internationally. As we look to the growth of brain initiatives, we might ask, "What is international about them?" Gazing at a world map highlighting several rich nations funding brain research might cause a blurriness of vision, letting "international brain science" swim into view and obscuring how different these separate research agendas are proving to be. Admittedly, laboratory science and technological invention is often international because collaborative teams can be assembled across national borders. All the same, the nature of translational research into innovative application will reflect a nation's social and economic priorities.

In order for neuroethics to transcend a hegemonic Western bioethics, a genuinely transnational approach must be undertaken. That approach won't be constructed by assembling a map and pinning labels for "brain projects" on it. The relationship between translational research and innovative applications could largely reflect a nation's social, economic, and in these ways, arguably ethico-legal priorities. For example, a particular nation or whole cultural sphere might refuse to reconsider its preferred ranking of ethical ideals and principles, and be willing to stand alone against all remonstration from other nations and peoples.

The current retreat of neoliberalism opens the field for neuro-nationalism. However, it also opens the field for a wider, more interrogative approach which asserts that neuroethics should be a discursive component of neuroscientific research itself, and not merely a trailing field only disciplined to ask its questions long after neuroS/T reaches application (Shook and Giordano 2015). That broader and forward-looking approach in turn is far more conducive to developing and sustaining a cosmopolitan neuroethics (Shook and Giordano 2014). We do not speak of an ethics merely for a traditional "cosmopolitan," that is, one who could live anywhere while rooted nowhere. From the deepest roots of humanity's common cultural heritage, the flower and fruit of a global ethics for everyone may, and we argue, should be cultivated and shared.

Genuine respect for cultural heritages (Chattopadhyay and De Vries 2013) that condition moral values and priorities begins with and derives from the people themselves. All of the benefits, burdens, risks, and potential harms of neuroS/T to persons – regarded both as individually separable and as communally integrable – require honest assessment prior to any evaluative or prescriptive stage. To structure this assessment, we have proposed, and here again endorse a multi-component, multi-step risk assessment and mitigation approach (Giordano 2015b, 2017)

6W queries:

1 What types of neuroS/T is available for current use; what are the defined benefits, and known and potential burdens and risks?
2 Why is particular neuroS/T being considered/advocated for use; can technical capabilities affect identified substrates of neuro-psychological functions?
3 Who will receive neuroS/T assessments and/or interventions (i.e., disorders/conditions, outcomes)?
4 When will certain neuroS/T be considered within a use algorithm or protocol; will (and how will) factors such as age and comorbidities be considered in making such decisions?
5 Where will such neuroS/T be employed (e.g. clinic, work, home)?
6 Which mechanisms are, should, and/or will be employed to subsidize equitable provision of resources and services necessary for intervention and subsequent care required?

6C contexts and contingencies:

1 Capacities of the neuroS/T in specific applications of intended use.
2 Consequences of the research and/or its translation.
3 Character of both the research, and how its outcomes/products might affect individual and/or community identity and ontology.
4 Contexts in which specific types of neuroS/T might be used within various situations, institutions, and socio-cultural contingencies that may affect the aforementioned variables.
5 Contingencies affecting of continuity of research and clinical care as necessary to address and manage any/all effects of novel interventions.
6 Consent obtained to assure voluntary participation in research trials or clinical interventions in light of the relative nascence of techniques and technologies (and as contingent upon, at very least provision of information, if not relative assurances regarding the aforementioned Ws and Cs).

Rather than exemplifying any singularly nationalistic agenda, this assessment schedule would be useful for enabling international and cross-cultural deliberations to proceed in a disciplined manner. Discourse toward guidance and direction starts with and proceeds from exploratory questions rather than accusatory dictates, and then frames and analyses the responses to these queries, addressing particular contingencies in defined contexts.

We then recommend that short-term evaluations of an emerging neuroS/T, as established by the aforementioned process of questions, context(s), and contingencies, should seek a fair balance among the following (6P) priorities:

1 Protecting the autonomy and liberties of persons.
2 Promoting public health and general welfare.
3 Presenting economical ways to fairly distribute resources.
4 Preventing neglect of the vulnerable and disadvantaged.
5 Preserving the justice of the legal system.
6 Publicizing sound science for better public understanding.

This framework of a deliberative neuroethics can engage brain researchers, technological innovators, and neuroethicists in collaborations to reconstruct ethical guidelines that work in practice rather than just theory. This new neuroethics, "neuroethics 2.0," should be readied for the global stage. Consensus can be possible (if not yet probable) wherein cultures share abiding moral values that are common across humanity.

In this search for a truly global ethics of neuroethics that may be adequate to our twenty-first-century planet, we have offered a cosmopolitan neuroethics.

We recommend that four guidelines, of equal importance, be central to a principled neuroethics:

1 **Self-creativity.** Access to self-creative alterations, for improving and enriching oneself or even developing a new self, should be protected. An alteration is unethical if it obstructs personal creativity or self-development in concert with other persons; for example, by reducing responsible autonomy or moral capacity, or increasing isolation or alienation.
2 **Non-obsolescence.** The development of people rendered obsolete by modifications excessively limiting their career and lifestyle options must be avoided. An alteration is unethical if it deprives a person from broad access to job opportunities and social roles, or for creating a "single-use" individual whose capabilities are too irreversibly specialized.
3 **Empowerment.** The capabilities of a person to autonomously live an independent and fulfilling life must be protected. An alteration is unethical for unreasonably harming a person's best interests, leaving a person more dependent on others, or reducing a person's capacity to pursue one's own well-being.
4 **Citizenship.** The ability to be a free, equal, participating, and law-abiding citizen must remain guaranteed. An alteration is unethical for debilitating a person's capacity to be a community member and engage in civic activities, or degrade a person's eligibility for the rights and obligations of citizenship from local to global levels.

From this point of vantage, beyond a multipolar neuroethics and/or multicultural neuroethics, a truly global neuroethics could be developed as more than just a sum of component nationalist parts. We conclude that an ethical centerpiece of re-globalization can be found on a very practical and techno-innovative level, which must not be neglected in the coming years as re-globalization inspires fresh innovation not only in science and technology, but also in ethics and politics.

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