

*From the Editors*

*Clinical Neuroethics: From Bench to Bedside . . . and Beyond*

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Although first used by Anneliese Pontius,<sup>1</sup> the term “neuroethics” gained more widespread use in 2002, based in part on the late William Safire’s address at a Dana Foundation conference devoted to ethical issues in the brain sciences.<sup>2</sup> Thus, we may look to 2002 as something of the formal birth of the field. In this light, we can describe neuroethics’ first decade (i.e., 2002–2012) as a period of establishing its turf, tasks, and tentative identity. During that time, the field grew in ardent strides through the work of a growing cadre of dedicated scholars, the development of a number of academic programs, and an expanding body of literature, all focusing on key issues and questions spawned by neuroscientific research, and the various uses—and misuses—of new techniques and technologies.<sup>3</sup>

As described by Adina Roskies,<sup>4</sup> the field entails both the ethics of neuroscience and the neuroscience of ethics. Although the second (i.e., the neuroscience of ethics) may be something of a misnomer (perhaps a more accurate description is “neuroscientific studies of moral cognition and actions”), what is clear is that these foci are interactive. We cannot—and arguably should not—engage in neuroscientific studies (of anything) without first examining the capabilities and limitations, outcomes, meanings, and implications of neuroscientific methods, tools, and information. In other words, there should be no neuroscience without neuroethics.

Yet, it is equally—and perhaps more—important to recognize that neuroethical discourse can devolve into proselytizing, can over- and/or underestimate and misrepresent scientific and technological achievement, and can be used to advance causes and agendas. This muddies the waters and is disingenuous at least and fallacious at worst. Neuroethics can be seen as a new domain of ethics and bioethics and may be unique in certain aspects,<sup>5,6</sup> but let us not forget that it is still ethics, and as such, any ethical deliberation must begin with, and proceed from, fact(s). To be sure, fiction has its place in discourses of and about science—as it serves to illustrate public visions, hopes, and fears—and defining and addressing the factual basis of these perspectives has value for ethical insight and analyses.<sup>7</sup>

But ethical engagement is not based on fictional accounts. Thus, any neuroethical discussion and speculation must be connected to—and grounded on—the realities of what neuroscience is, can achieve, and aims for, and what these capabilities, goals, and developments mean. To wit, we call for no neuroethics without neuroscience. This does not squelch philosophical conjecture about clinical applications of brain science, for there is much that current and near-future neuroscience and technology can and will be able to achieve; many extant and planned projects were almost unimaginable only a few years ago—and border on the fantastical in scope and effect. But reality is the keel that enables neuroethics to remain stable and solidly based in both the capabilities of neuroscience and the realities of the

clinical and social contexts in which such capabilities are employed (and limitations are encountered). Indubitably, there is plenty here to describe, discuss, and debate, as the field of brain science and the world stage on which it is enacted become ever more mutually engaged.

So, as neuroethics enters its second decade, we believe that it will be defined by two themes that substantiate the reasons for inaugurating *CQ*'s first annual issue of Clinical Neuroethics. The first is progress in the brain sciences. Neuroscience and the technologies it employs and develops will enable a number of new, provocative, and frequently controversial medical approaches. The need for a clinical perspective will only increase. As knowledge and technological capability continue to expand, determining and guiding how the findings and methods of brain science should best be applied to the real world of patient care becomes increasingly complex.<sup>8</sup> Clinical Neuroethics seeks to provide a forum for discourse in and about those issues generated by the translation of neuroscience from the research bench to the bedside of clinical care. Yet, it is important to recognize that what happens in the clinical realm often does not remain in the clinical realm. Definitions of neuropsychiatric function and dysfunction, and normality and abnormality, while clinical concepts, can and increasingly will extend beyond the bedside (and the bench), to be used in a variety of social contexts.

And this emphasizes the second theme: namely, that these social contexts are—and will be ever more—international in scope and effect. We do well to keep in mind predictions that within the next five years much of neuroscientific and neurotechnological research and use will occur outside the West.<sup>9</sup> Thus, brain science will be employed on a broader, more pluralized world stage to meet and leverage culturally defined—and, likely, differing—needs, values, interests, opportunities, and practices.

In light of this, neuroethics will need to go global. The field is creating a revised, if not new, vision of what an ethics of—and for—international neuroscience can, and perhaps should, be.<sup>10,11,12</sup> To do so in a genuine way will require the contribution of differing sociocultural philosophies, lenses, and voices and openness to the ideas, ideals, and changes that these may suggest.

Neuroethics is facing the future of the brain sciences, and the social realities that affect—and will be affected by—the scope and conduct of neuroscience and neurotechnological research and its translation. We view this as a work in progress and provide Clinical Neuroethics (and its sister *CQ* section, Neuroethics Now) as a workbench and nexus for perspectives, speculation, discussion, and debate. Through original research articles, commentaries, case analyses, special departments and symposia on targeted topics, and book reviews, Clinical Neuroethics will afford timely, deep treatment of the unique, realistic issues fostered by the clinical translation and application of brain sciences in practice, as a public good, and as a social force. In this way, we hope that Clinical Neuroethics will both depict neuroethics as a discipline in evolution and help shape its evolving constructs and canon. It is in this spirit that we invite your participation and welcome your contributions.

## Notes

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8. Giordano J, Shook JR. Minding brain science in medicine: On the need for neuroethical engagement for guidance of neuroscience in clinical contexts. *Ethics Biology Engineering and Medicine* 2015;6(1–2):37–42.
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