Renovating the House of Being

Genomes, Souls, and Selves

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ABSTRACT: In recent years, the views of the German philosopher Peter Sloterdijk about humanism and the biological self-engineering of mankind caused much turmoil in European intellectual circles. However, this is just one episode in a more general current controversy about the ethics of self-manipulation, a debate that often centers around the recent progress in genomics and the possibility of shaping human genetic structure. The complete sequencing of the human genome has reinforced this focus. Making the human genome the object of a highly visible world-wide research effort has reinforced popular notions stressing the centrality of the genome in defining individuality and humanity. As a result, proponents and opponents of the self-engineering of human nature have often concentrated on technologies related to the genome. However, if one compares "genome-based" and "brain-based" explanations of Self and behavior, it turns out that neural aspects of human nature are more directly relevant. Many philosophical and ethical questions traditionally raised about genetics and genomics acquire more relevance and urgency when re-examined in the context of neuroscience.

KEYWORDS: genome; genetic essentialism; bioethics; neuroethics; Sloterdijk

A PHILOSOPHICAL SKIRMISH

"Who could overlook the fact that the house of being is disappearing under scaffolding—and nobody knows what it will look like after the renovations." This quotation is from the well-known German philosopher Peter Sloterdijk, who gave a presentation at the Los Angeles Goethe Institute a few years ago under the title "The Operable Man" (Sloterdijk, 2000a). Sloterdijk had

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become famous in central Europe because of a rather fierce public controversy. In 1999, he gave a lecture on Heidegger's *Letter on Humanism* at Elmau in Bavaria. In this talk, he supposedly advocated a program of genetic revision of the human species by large-scale genetic engineering. This caused a public outcry among German academic philosophers as well as in the highbrow press, who accused Peter Sloterdijk of wanting to revive a program of Nazi-like eugenics and selective breeding of future human generations. (Graumann [2000] provides a useful account of the debate and its implications as regards the standing of philosophical expertise in public discourse.) The title of Sloterdijk's text (2000b), "Rules for the Human Park," and its zoological metaphor were provocative and seemed to lend themselves to this interpretation. Nevertheless, a more accurate study of Sloterdijk's views shows that these accusations represent a fairly crude misreading of his statements. This does not mean that Sloterdijk's views are bland and uncontroversial; quite to the contrary. However, his claim is rather that traditional humanistic education is already a form of "human domestication," and as such perhaps not so different in principle from future biological interventions into human nature. In other words, the misunderstanding between Sloterdijk and his critics was based on their belief that Sloterdijk's program is one of replacing the noble ideas of humanistic education by a biotechnological dystopia of human breeding, selection and brutal manipulation. In reality, far from advocating such a eugenic program, Sloterdijk maintains a critical distance both from classical humanism and from the self-shaping character of modern "anthropotechniques," as he calls them. In fact, this new word is used in the Sloterdijkian vocabulary as a common concept for traditional education and domestication and biotechnologically based autopoietic interventions by humans on humans, along the lines of the motto *homo faber sui ipsius* ["man, maker of himself"]. Sloterdijk then calls for a common code to regulate all anthropotechniques, whether they are traditional or biologically based.

These views result from Sloterdijk's persistent engagement with philosophical anthropology in the Continental sense, as well as with the thought of Heidegger and Nietzsche. In his "Rules for the Human Park" (2000b), Sloterdijk traces the genealogy of contemporary humanistic thinking from the "telecommunication" of the learned elites, both by direct correspondence in letter writing and by the dialogue of learned minds through great books crossing the centuries (this is a *topos* that pervades humanistic culture: It is "ce tintamarre de tant de cervelles philosophiques"—the din of so many philosophical brains—that Montaigne imagines hearing while sitting quietly in his library [Montaigne, 1595]). Sloterdijk shows how this form of humanism evolved into bourgeois humanism, from the French Revolution onwards all the way to the end of World War II, acquiring more and more authoritarian overtones as its claims to universal validity become more and more self-assured: "The absolute power of imposing the classics to youth and to assert

the universal validity of national readings" (Sloterdijk, 2000c). Finally, the last half century has seen the demise of modern humanism as a tool of social control and as a means for taming the beast in man and controlling social violence. This does not mean that humanism has disappeared. In the words of a French commentator of Sloterdijk, Yves Michaud, "literature has not disappeared for all that: it has merely become one subculture among others. Such is the crisis of humanism, with the overwhelming savagery and bestiality of the 20th century" (Michaud, 2002). Actually, Sloterdijk's critique of humanism can be seen as rather ambiguous. Is it humanism's failure at efficient domestication of man's bestiality which is at issue, or is this domestication itself called into question, in a Nietzschean vein? This ambivalence is reflected in his assessment of biological anthropotechniques and explains why his work has been variously interpreted as an enthusiastic clarion call for the biotechnological reform of mankind, or as a critical or nostalgic negative commentary on this technological enterprise. Whatever the case may be, what is radically taken to task in Sloterdijk's writings is the conventional moral divide between traditional humanistic education (good) and biotechnological influence of human nature (bad). Roughly speaking, both are thought to be ethically ambivalent.

What made Sloterdijk's recent works controversial, and even inflammatory for some, is his revival of the theme of *homo faber sui ipsius* without condemning it out of hand. This topic fuels contemporary imagination in many ways and also creates a great deal of controversy in contemporary cultures, although it is basically a very old *topos* of Western civilization. One should mention the Platonic myth of Prometheus and Epimetheus, which already contrasts the animal's determined capabilities and fixed fate with man's destiny, the latter being indeterminately open towards shaping and self-shaping, because humans are endowed with the open-ended gifts of fire and *technai* (the arts). Sloterdijk's previous work had been concerned with the way humans creates "spheres", that is, controlled environments which isolate them from the randomness of nature and basically consist of extensions of their own nature, which retroactively influences itself. In his recent work (2000c) *The Domestication of Being* this theme is taken up again. Since humans are masters of *technai*—but, of course, even more so now that technique includes biotechnology—humans have been constructing bubbles which insulate them from selective pressure. In these novel, artificialized environments, the nurturing capacities of nature and culture are increasingly indistinguishable. Not for nothing does Sloterdijk call these bubbles "utero-technical environments."

CO-CREATOR OR DEMIURGE?

But let us go back to the theme of *homo faber sui ipsius.* It is not only immemorial as a *topos*, but its moral ambivalence is old as well. An important

strand in classical and Christian culture views this faculty of man quite positively. One of the best-known statements of this view comes from the Renaissance writer, Giovanni Pico della Mirandola, who writes in his "On the Dignity of Man" (1486):

> God chose to have man as a creature that does not have any distinctive image; He placed him in the middle of the world and spoke to him: "We did not give you any specific home nor an specific face nor any other special gift, oh Adam, so that you may have and possess any home, any face and any gift that you surely wish for yourself according to your wish and own opinion. (p. 18)"

More recently, a strand of theological thinking intitiated by the German theologian Karl Rahner has extolled man's status as a co-creator, a collaborator of the Creator God, including to some extent a co-creator of human nature (reviewed by Cole-Turner [1987]). On the other hand, there is a strand of contemporary thinking, discernible, for instance, in the writing of the more conservative bioethicists, which sees autopoietic ambitions of humans as the ultimate *hubris*, especially in debates on gene technology, cloning, embryo research, and the like. The idea of humans taking charge of their own biological nature is seen as a further step towards the usurpation of divine powers by man. Although reducing this conservative critique to the oft-mentioned cry against "playing God" tends to make a straw man of ethical opinions that are often more subtle, it is nevertheless the case that various forms of reverence for human nature as a given reality outside of human control lie at the heart of much conservative thinking in bioethics today. This is particularly clear in the work of several appointees from the humanities and the social sciences to the new President's Council on Bioethics (2002).

One contemporary discussion in which this theme figures prominently is the debate about reproductive cloning. The bioethicist Dan Brock (2002) remarks that part of the theological disapproval of cloning comes from the idea that, through reproductive cloning, man is manufactured rather than begotten by sexual reproduction. On the other hand, everybody agrees that it would be absurd to ascribe less dignity and worth to a human being that resulted from cloning than to one that has been born in the traditional way. In the words of Dan Brock, "[I]t is the nature of the being, not how it is created, that is the source of its value and makes it worthy of respect: Children created by assisted reproductive technologies do not have less moral value." This statement is uncontroversial, and yet it seems to conflict with a conventional wisdom that is deep-rooted in Christian culture. According to the Nicean Creed, Jesus Christ is "*genitum non factum*" ["begotten not made"], and so is man, since many christological reflections that try to make sense of the human nature of Christ have close connections with traditional Western understandings of the human person, its origin, and its specific dignity and status in divine and human law. In contemporary culture, "begotten not made" can be easily naturalized into "begotten by normal sex, not made by biotechnol-

ogy." It appears that such "scientistic" translations of traditional theological and moral views operate in much conservative bioethical thinking on both sides of the Atlantic.

At this point, we have gathered one important insight. Within the general theme of man's shaping of human nature, the sub-theme that links reproduction and self-manufacturing is especially important. Conventional wisdom burdens it with a specific kind of moral disapproval. It is supposed to be especially wrong to manufacture humans rather than to beget them, the latter concept implying an accepting stance towards a gift of nature and God (to express the idea of "having a child," the German language uses the expression *ein Kind bekommen*, literally *to receive a child*). This attitude is also understandable from a historical perspective, because in the European bioethical discussion, the autopoietic *hubris* of man is often summarized under the term "eugenics." But strictly speaking, eugenics only refers to the intentional direction of heritable human nature, which uses procreation as a tool or vehicle of directed change. Furthermore, eugenics basically involves selection within a naturally given diversity of genomes. Historically, eugenic programs always involved the selective breeding of the "good" traits and the weeding out of the "bad," rather than the *de novo* enhancement of human nature. In that sense, the debate on eugenics is necessarily more narrow than the broader issues raised by the program of *homo faber sui ipsius*, the self-engineering of man. Nevertheless, it seems that whenever the issue of technological change of human nature is broached, the notion of eugenics comes to the fore.[a] The broader, and in some sense more interesting, question of whether it is legitimate for mankind to reshape its own nature tends to be reduced to a narrower, genome-centered question, namely whether one should or not allow intentional genomic changes. This illustrates an important strand of current conventional wisdom: that the human genome is increasingly thought of as the "essence" of the human person and that if there is to be a self-shaping of human nature, the genome will necessarily be the principal substrate of this autopoietic endeavour.[b]

[a]Another reason is the rhetorical firepower of the word "eugenics." It comes with such historical baggage that it often functions in public discourse as an operator of moral disapproval, rather than as a descriptive term with a precise historical and/or conceptual reference.

[b]When speaking of an autopoietic program, or of *homo faber sui ipsius*, we refer primarily to anthropotechniques that have collective implications, not just individual ones. An example would be germ-line engineering, which affects not just particular individuals, but potentially an indeterminate number of future people. In contrast, purely personal self-modifying practices that would only be sporadically used (say enhancement psychosurgery, to mention a more or less futuristic example) would be less relevant. Still, it may be difficult to trace a clear-cut boundary between the two. For instance, practices that start as purely individual actions but that gain wide currency later thus become social realities. In addition, even if one considered purely individual self-shaping practices, there would remain moral ambiguities. For instance, American culture highly values the "self-made man," but that conventional approval would presumably not extend automatically to self-improvement by purely biological means,that is, without implying traditional moral qualities such as willpower, self-reliance and the like.

SHAPING THE GENOME, SHAPING THE SELF

What does it mean for mankind to shape "it-Self"? As this symposium shows, there are many dimensions to this question. One interpretation of the Self is predominant in such debates for good and for less good reasons. In previous work which I will now summarize, my starting point has been the following question: according to a widely received view, educating, taming, shaping the minds of human beings by traditional means is okay, but intervening in the human genome is not okay. Therefore, why is neuronal manipulation ethical and genomic manipulation unethical? (Mauron, 2000). Part of the answer lays, I believe, in a social representation of the genome as the ontological core of an organism, determining both its individuality and its species identity (Mauron 2001). In the words of Jim Watson, the human genome is, at least in part, "what makes us *us.*" Expanding this definition, one could say that the human genome is what makes us human, and my genome is what makes me *me* and you *you*. From this point of view, it becomes easy to see how intervening on the phenotypes of humans will be thought of as superficial, whereas intervening on the genotype will be seen as essential and intimate. Thus it becomes apparent how the metaphor that pits the genome against "all the rest" mobilizes highly suggestive conceptual couples such as "inner–outer" or "core–surface." If we add to this the common idea that genomic modifications are permanent, whereas phenotypic changes are possibly transient, it becomes understandable how, as a substrate of directed human change, the genome becomes more controversial. This genomic essentialism has become a permanent component of popular culture, especially in media reports of the results of behavioral genetics. These are rife with discoveries of the violence gene, the homosexuality gene, the alcoholism gene or even the language gene, presented as exciting findings that are both intellectually alluring and socially dangerous. However, contrary to what many critics of behavioral genetics have asserted, the wrongness of such popularizations does not usually come from any basic mistakes of the research that lies behind them, but from the essentialist metaphysics through which these findings are filtered. In this essentialist view, the genome becomes a bag of essential properties and dispositions that make up the typical human as well as its individual variations.

The problem is that this "genomic metaphysics" is flawed. One of the most interesting ways in which the genome-based concept of individuality can be shown to be deficient is when considering the beginnings of personal individuality as they are discussed in controversies on the standing of the human embryo. The traditional conservative position says that the embryo is a fully fledged human individual ever since fertilization. In actuality, the Catholic church says that the early *embryo should be treated* like a person ever since fertilization, without actually asserting that it *is* a person. This reservation is due to the keen awareness of several Catholic theologians of the fragility of

specifically metaphysical assertions surrounding the standing of the early embryo (Ford, 1991).

Although moral condemnation of abortion is very ancient in Christian culture, modern times have seen a change in the reasoning on which this condemnation is based. This is not so much due to knowledge of scientific facts on fertilization and development, but rather to the peculiar way these facts are integrated in a traditional essentialist metaphysical framework. For many theologians subscribing to a conservative position on abortion, embryo research and the like, the old Aristotelian and Scholastic framework of hylomorphism is still valid, although in a revised form that takes on board what many assume to be the results of modern science. Therefore, within that tradition, it is thought that the question of the standing of the early embryo can be resolved straightforwardly by introducing into the classical ontological framework the data of modern biology. The idea is that a novel individual is formed as soon as a new diploid genome is formed at fertilization. In other words, the genome is thought to become the material manifestation of the individual soul. This is yet another example of how conservative bioethical positions often result from a scientistic reinterpretation of classical philosophical or theological positions. The genetic program is made to play the role of the Aristotelian *eidos* or the Scholastic *forma*, which shapes and forms living matter into a specifically human essence. I have examined elsewhere why this conflation of the modern genome concepts with classical ontological categories appears so compelling to individuals steeped in the Scholastic tradition and pointed out the fact that this intellectual familiarity between Aristotelian thought and the informational metaphor of molecular biology was discovered early on in the history of molecular biology (Mauron, 2002). I have also discussed the major failure of genomic accounts on individuality to explain personal identity and this argument is briefly restated here.

The most basic and minimalistic account of the person is contained in the notion of numerical identity. To be a person implies that one is the same person throughout one's biography, that is, that one persists as one and the same individual through time, independently of contingent changes that occur throughout one's life. At first sight, it might be thought that having a genome of a certain kind is a material expression of this numerical identity. This is because a new diploid genome is indeed created at fertilization. This genome is novel in the sense that it results from the contingent reunion of two genealogies, of two independent causal chains that converge onto the new diploid genome. Furthermore, this genome will largely remain the same throughout the possible future individual's life. Nevertheless, the formation of a new genome cannot be equated with the beginning of a new numerical identity and this can be easily shown when considering the case of identical twins. In this case, one genomic individual, namely the zygote, produces two distinctive persons. Because of the principle of temporal continuity mentioned above, asserting that the zygote is a person is equivalent to saying that it is numerically identical

to the person or persons it will eventually become. However, in the case of twins, this is a self-contradictory statement. Indeed, the zygote would have to be numerically identical to each of the two born twins, but because of the transitivity of identity, this would imply that the born twins are numerically identical to each other, which is manifestly not the case. This proves that the "zygote-as-person" thesis is untenable, already on purely logical grounds. One should note that the lack of congruence between genomic identity and personal identity is basically a logical problem and does not depend on the common assertion that "genes are not everything; there is also the environment." The latter statement is largely true, of course, but invoking the issues of gene versus environment, or nature versus nurture, is not necessary in order to conclude that cloning can never produce "the same" individual again. The real reason is that genomic identity does not have the required logical properties to provide the basis for personal identity.

FROM GENOME TO BRAIN

If we consider that a proper account of numerical identity is a *sine qua non* for a materialist interpretation of the Self, we see that brain-based accounts of identity have much more relevance. Having a particular brain is much more congruent with having a stable identity through time than having a particular genome. Unlike the genome, the brain changes, and yet remains "the same" in the sense of belonging to the same person, that is, in defining to a large extent one and the same person's identity. The combination of stability and change that characterizes the brain is much like the combination of stability and change for persons. In addition, most of the ethical perplexities raised by genomics are transposable, perhaps with an even higher degree of urgency, to the field of neurosciences and the recent birth of "neuroethics" is a telling sign of that (Roskies, 2002).

If we think of the genome and the brain as two instantiations of the Self and try to summarize their similarities and differences, we come up with the lists in TABLE 1. On any quantitative measure of complexity, the brain far surpasses the genome (Table 1, line *a*). Since the publication of the first working sequence of the human genome, it has become commonplace to point to the modest number of human genes (not much more than 30,000 [Claverie, 2001]) as a kind of narcissistic disappointment for the human species. In fact, no popular presentation of the Human Genome Project is complete without philosophical musings on the fact that we have less than three times as many genes as the fruit-fly, and other such melancholy comparisons. Furthermore, the nature of complexity is relatively easily conceptualized in the case of the genome, as compared to the brain (TABLE 1, lines *b,c*). The informational content of a genetic sequence comes about by a simple combination of 4 nu-

TABLE 1. A comparison of the genome and brain according to complexity and link to the Self

	Genome	Brain
a	Relatively modest complexity	Extremely high complexity
b	Inherent metric of complexity through rules of genetic code	Highly multidimensional complexity
c	Complexity comes about through relatively simple combinatorial rules	Presumably many levels of complex combinatorial rules
d	Genomic identity has no direct link with numerical identity	Some form of brain-based identity has relatively direct links with numerical identity
e	Genomic identity has no direct link with biographical identity	Some form of brain-based identity has relatively direct links with biographical identity
f	Deterministic explanations of complex behavior are structurally incomplete	Deterministic explanations of complex behavior can be complete

cleotide bases and can be given a quantitative expression in terms of information theory. In turn, the DNA sequence is given "meaning" through the simple and explicit rules of the genetic code. This view is actually an oversimplification, since alternative splicing, unknown functions of non-coding sequences, and others processes may provide additional "layers" of complexity to the genome. Nevertheless, as compared to the genome, the brain's complexity resides in many more aspects of its structure and functions. Brain cell types, types of synapses, the wiring of neuronal circuits, and above all the plastic nature of its structure make the brain a developmentally dynamic reality that has many levels of complexity, none of them easily reducible to simple and obvious combinatorial rules. A continuous interplay of "brain events" and "world events" shapes every brain into a unique and irreproducible entity. There lies the fundamental difference with the genome. What I call "my genome" is actually instantiated in every cell of my body by a concrete set of DNA molecules. These are near-perfect tokens of a given type: the genome that was put together at fertilization. In addition, that genome could just as well be someone else's, namely if I had a monozygotic twin. Genomes are inherently replicable. Their structure is ideally suited for self-copying and living cells come with all the biochemical hardware designed to do just that. Brains are precisely the opposite. Because their structure does not come about by merely "unwrapping" some preexisting genetic program, but by the constant interplay of internal developmental processes and external contingent stimuli, they are inherently unique and irreproducible. Except in science-fiction fantasies on teleportation, brains cannot be copied into a second

Self. This is why the brain provides a much better material home for the numerical and biographical identity of persons that the genome does (TABLE 1, lines *d,e*). Every brain necessarily has a history of its own and thus much more resembles the human self "itself," as it were, than the static database represented by the genome.

All this does not imply that genomic explanations have nothing to do with the Self—far from it. On the contrary, behavioral genetics may well have even more intriguing philosophical and ethical implications, once a brain-based perspective is taken on board. For one thing, the neurosciences are increasingly involved directly in expanding and explaining results from behavioral genetics (Hamer, 2002). In addition, this link-up of genetics with the brain may shed a new light on some old controversies. Let us take just one example, the issue of free will and responsibility. Current behavioral genetics is increasingly assertive in proposing explanations of complex behavior that involves moral agency. For instance, recent data about violent behavior towards children in families where child abuse is prevalent suggest an interesting genetic effect (Caspi, McClay, Moffit et al., 2002). It is not that abusive behavior is genetically determined, but rather that in specific families, a genetic factor seems to be predictive of whether an abused child will eventually go on to display some form of abusive and antisocial behavior. In this case, a gene is not thought to cause a behavior all by itself, but partially specifies how an individual will react to a particular set of environmental and biographical circumstances. Without being reductionistic in a naïve sense, this and similar findings do affect received understandings of free will, moral deliberation, and agency. This is beginning to be recognized in the bioethics community. A recent report by the London-based Nuffield Council of Bioethics (2002) reviews the ethical implications of behavioral genetics. Of interest, it suggests that genetic variations that influence antisocial behaviour do not exculpate offenders, but should nevertheless be taken into account by judges, on a par with "environmental factors, such as poverty or an abusive childhood."

The truly "shocking" implications of the recent findings of behavior genetics only appear when their implications are worked out at the neural level. Let us ask how this particular finding about genetic determinism and child abuse looks from a "brain-based" perspective: First, note that the genetic polymorphism identified by Caspi et al. explicitly points towards a neurobiological explanation because it affects MAOA (monoamine oxidase A), an enzyme that metabolizes several catecholamine neurotransmitters. Thus the complete explanation of this particular instance of genetic determinism requires an understanding of the biochemical and neurophysiological mechanisms underpinning mood and emotions. Now, for a bearer of the variant MAOA gene to display antisocial behavior certainly requires other psychological dispositions, as well as specific external inputs from that person's experiences and social environment. But it is none other than the brain that provides the locus of integration of the affective dispositions that are influenced by this particu-

lar gene with personality, character, and other cognitive and motivational idiosyncrasies of the individual in question, as well as with the perceptive and experiential determinants resulting from this person's biography and environment. The genetic influences on affective states and tendencies are necessarily mediated through the brain. So are any other psychological features of the individual. So too are all experiences and environmental influences upon that person's subjective states and behavior. There is no other place than the brain in which all contributing causes to a person's behavior can act in a causally efficient manner. Unlike "genetic determinism," brain determinism cannot be refuted by pointing to some additional exogenous element of reality that participates causally to the behavior to be explained. Faced with a genetic explanation of moral agency, one can always answer: "ah! but there is the environment!"; but if the explanation is in terms of brain function, there is nowhere else to turn to (TABLE, line *f*). Thus brain-based explanations of behavior have the potential of being complete in a sense in which genomic explanations must forever remain partial.

When looked at the gene level, what looks like "soft" determinism ssmay be equivalent to "hard" determinism when taking the brain on board. The arguments traditionally used to defuse the "shocking" aspects of genetic determinism, such as the importance of the environment and incomplete penetrance of genetic factors, no longer seem to work when one looks at "brain determinism." Unlike genetic determinism, the philosophical merits of brain determinism seem largely identical to those of philosophical determinism itself, and that is a much harder nut to crack.

Genetics and genomics have provided a fertile ground for many ethical speculations on the autopoietic powers that accrue to mankind through its increasing mastery of the biosciences. This has been a powerful influence in making specific topics such as eugenics and genetic control central issues in such debates. On the other hand, the link between genes and personal identity is rather indirect, unlike the link between the brain and the Self. This suggests that many of these controversies are actually more pressing and closer to present and future realities when recast in the terms of neuroscience. As compared to genomics, recent discoveries in neuroscience are more likely to bring turbulence to such classical philosophical concepts in ethics as free will, intention, moral deliberation, and ascription of responsibility. Furthermore, once the ontological privilege wrongly attributed to the genome is toned down, the prophetic *gravitas* that accompanies many public debates on genetic engineering may soften up to some extent. For although genetic manipulation is especially striking to public opinion on account of its permanent and irreversible effects, these characteristics actually apply to brain-based manipulation as well. Changing the brain is changing destiny, and if that involves new social practices, this amounts to changing human destiny just as surely as changing human genes. Indeed, more attention could be devoted to the troubling implications of willfully shaping the human brain. At that point,

we may find ourselves in a predicament similar to Sloterdijk's: hunting for the hard-to-find moral difference between the technological fine-tuning of brain states (for instance, by a new generation of psychopharmacological agents) and the more traditional brain-shaping tools wielded by educators, prophets, and politicians. And we may well conclude that moral ambivalence is to be found everywhere.

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