The brain as an instrument: Comment on Gergen’s “The acculturated brain”

Maarten Derksen
University of Groningen

Abstract
In “The acculturated brain,” his critical analysis of the current brain hype, Kenneth Gergen concludes that we should consider the brain primarily as an instrument for achieving culturally constructed ends, and challenge the determining power of the brain with the question “Could I do otherwise?” In my reply, I point out that the pressing issue is usually “How could I do otherwise?,” not sorting out determined behavior from culturally constructed action. The challenge is to understand the increasing traffic between brain and culture, rather than to keep mechanism and meaning separate. Secondly, the notion of the brain as an instrument needs to be developed in the light of technology studies, in order to avoid both neuro-reductionism and the instrumentalism implied in Gergen’s proposal.

Keywords
brain, instrumentalism, neuro-reductionism, technology

As I’m writing this, the Dutch non-fiction bestseller list has been topped for the last six months by a book titled We Are Our Brain, by the neuroscientist Dick Swaab (2010). Its message is straightforward: From the cradle to the grave, “from the womb to Alzheimer’s” (the subtitle), our lives are determined by what happens in and to our brain. We should now finally accept this, and deal with our individual and social problems in a rational, neuroscientific way. And if neuroscience tells us there is no solution, then it will not help to deny reality and flee in a belief in “free will.” There is no free will; we are after all nothing but our brain.

Swaab’s book and its popularity are a good example of the shift in science and popular culture towards a brain-based understanding of human behavior that Kenneth Gergen identifies in his contribution to the 20th anniversary issue of Theory & Psychology (Gergen, 2010). It is fitting that Gergen takes on this movement in the journal to which he has been
such an important and influential contributor since its first issue. The brain hype runs counter to all that Gergen has stood for in his distinguished career, and *Theory & Psychology* in its 20 years of existence has become the discipline’s main forum for reflection on such fundamental developments. May both author and journal remain with us for a long time to come.

From a critical analysis of the history and current state of neuroscience, Gergen (2010) concludes that the brain is of limited importance for understanding human action, as the brain does not generally determine our actions. Instead we should “view the brain primarily as an instrument for achieving culturally constructed ends” (p. 799). I would like to focus my comments on this proposal, and on the attendant “Could I do otherwise?” criterion for testing the putative determining power of the brain. To start with the latter: Gergen is right to put this question center stage. This indeed is one of the central issues of everyday life, but psychology on the whole seems barely interested in it. My main criticism is that, although Gergen introduces “Could I do otherwise?” as “a rough crucible against which we may assess the power of biological determination” (p. 808) or “the weight of wiring” (p. 807), subsequently power and weight disappear in favor of a dichotomy: either our behavior is determined, or the genetic or otherwise biological influence is “minimal” (p. 811). Between the two, however, there are a lot of possibilities. Some actions are very tempting, some are avoidable only at great emotional cost; some are easily held back when in company, but not when alone; some start as deeply meaningful and gradually turn into mindless automatisms. The space between force and freedom is filled with endless variations. Because of that, the question “How could I do otherwise?” is at least as important in daily life as whether one could do otherwise, and the brain and the mind figure prominently in reflections on this question. If we were only capable of either determined behavior or free action, then we would not have to worry about the way behavior or action is produced: we either could not help behaving a certain way, or we would effortlessly act whichever way we wanted. Either way, the brain and the mind would be irrelevant to us. At most we would look to neuroscientists to discover how the brain works and repair it when it’s broken, and perhaps to priests to tell us what is right. Clearly this is not the case. Because there is so much between determined behavior and free action, people are intensely occupied with the desires that motivate them, with the “wiring” that links their wishes to their actions, and with strategies and tactics for dealing with themselves: avoidance, repression, resignation, discipline, denial, cultivation, meditation, mindfulness—the list of technologies of the self is still growing.

Psychologists generally prefer to think of behavior as determined, but Gergen rightly points out that this is usually an artifact of the way psychological experiments are designed. Many of the results of psychological research are only replicable or true on condition that the participants do not know what is going on. A research participant who has been informed of the results of earlier, similar research, or who has been told of the hypotheses of the study she is participating in, may choose to resist the manipulation. This theme goes back a long way in Gergen’s career (Gergen, 1973). Amazingly, psychologists manage to routinely ignore this, and make others ignore it as well. But the conclusion that Gergen (2010) draws is questionable. Is it really so that “if challenged to do otherwise, children would not model adult behavior, adults would resist responding to helplessness with depression, participants would not respond to hostility
with aggression, and so on” (p. 808)? Apart from the fact that some people may respond by resisting the challenge itself, being informed may not be enough. People also need to be motivated to resist (and to find or accept information), and may need suggestions regarding tactics of resistance. Reading Seligman on learned helplessness is probably not enough to ward off depression. A forewarned participant may resist being obedient in a Milgram-style experiment, but to make the lesson stick and the effect last may require more extensive education and training. Gergen emphasizes that our actions are social constructions, not individual productions, but this makes change all the harder. It’s doubtful that “if we view ... behaviors as cultural creations, transformation is within our grasp” (Gergen, 2010, p. 798). Viewing behavior as a cultural creation is certainly a step towards changing it in “cultural” ways, but transforming culture is not necessarily easier than adapting nature. The question “Could we do otherwise (and how)?” often proves to be difficult to answer.

Vice versa, it’s not necessarily so that “the assumption of brain determination represents a form of neo-fatalism” (Gergen, 2010, p. 798). The problem is rather that neuroscience has extended the envelope of the neo-liberal “obligation to be free,” adding the brain to the list of individual properties and functions that we are supposed to keep fit so that we may be the autonomous individuals that neo-liberal society demands us to be (e.g., Johnson, 2008). There certainly are fatalistic currents in neuroscience broadly conceived—the immutability of gender differences remains a favorite topic—but often enough the claim that “it’s all in the brain” is accompanied by a brain-based intervention (e.g., Brenninkmeijer, 2010). The association between nature and determinism, on the one hand, and culture and freedom, on the other, is fast losing its usefulness in dealing with modern neuroscience. In addition, the brain has become an object around which people are “made up,” in Ian Hacking’s sense (Hacking, 2007; cf. Dumit, 2004): “Brains may become both models of and models for classifications of people, as differences come to seem anchored in brain states” (Roepstorff, 2011, p. 40). But the people so classified are “moving targets” (Hacking, 2007). Neuroscientific theories and classifications are sources of identity that are not only adopted, but also adapted and sometimes resisted by the people they apply to. An “aspie” and his “extreme male brain” are not necessarily identical in the sense that neuroscientists like Swaab (“we are our brain”) intend, even though brains and neuroscience figure prominently in the identity work of “aspies.” The “brain determination” that some neuroscientists preach is subverted in the very process of adoption by the people putatively determined.

What this shows is that the challenge is not so much to separate determined behavior from free action, but rather to understand the way people constantly distinguish, relate, and mix up mechanism and meaning. “Could I do otherwise?” is not a crucible, a test of the power of biological determinacy, but the start of translation and negotiation between self and embodiment. In his article, Gergen emphasizes the gap between biologically determined behavior and meaningful action. Knowing the mechanisms of the former is irrelevant to understanding the cultural meaning of the latter, even when the action concerned consists of exactly those behaviors. Knowing the mechanisms behind a blink does not help in understanding a wink, just like the mechanism of a clock tells us nothing about the cultural meaning of time. Talk of mechanism and talk of meaning are “two functionally distinct discourses” (Gergen, 2010, p. 809). But this analytical distinction
hides all the interesting and confusing things that occur between the two, the increasing traffic between brain and culture. I have mentioned technologies of the self and the “making up” of aspies; Gergen (2010) himself supplies another example when he extols the plasticity of the brain, the way it “absorbs or reflects its cultural surrounds and enables the individual to act more effectively within them” (p. 807).

As an alternative to neuroscientific determinism Gergen (2010) proposes to consider the brain as “an instrument for achieving culturally constructed ends” (p. 799). The critical potential of this proposal is not obvious. It is precisely the fact that the brain is the focus of so much research, reflection, popularization, that fosters its instrumentality. Neuroscience enables and promotes an increasingly instrumental relation with brains: they are inspected to distinguish lies from truth (Littlefield, 2009), and guilt from innocence (Schleim, 2010), medicated to treat ADHD, and “enhanced” to pass exams. It is unclear to what extent such practices fall under the kind of instrumentality that Gergen intends. He wants to shift the focus back to “the pivotal place of culturally created meaning both in directing action and in determining its significance” (Gergen, 2010, p. 810). The brain should be put back in its place as a vehicle, a facilitator, its plasticity enabling a great variety of culturally constructed acts. Many neuroscientists would retort that this is exactly the kind of relation between us and our brains that they want to bring about, where “we” set the goals and our brains are available to facilitate attaining them. They may not think the brain is as plastic as Gergen thinks it is, but they will try to make it so. In the meantime, the rest of us can get on with our culture.

I do think the technological perspective on the brain that the metaphor of the instrument implies has critical potential, but it needs to be developed in the light of recent empirical and philosophical studies of technology. Taking the brain seriously as an instrument, as technology, points away from the technological determinism inherent in the “we are our brain” discourse. But at the same time, it makes the instrumentalism that is its mirror image equally dubious. As scholars like Latour (e.g., Latour, 2002) and Verbeek (2005) have emphasized, technological objects are neither irresistible forces determining our fate, nor passive, reliable, and ever ready-to-hand instruments of our will. Both technological determinism and instrumentalism see technology as essentially predictable, either from the internal logic of the artifacts, or from the intentions of their users. Instead, empirical studies of technology point to the relational nature of the technical. As such, the characteristics of the elements of a technological network—engineers, producers, artifacts, users—are not objectively given facts. Relations are always under construction. Gergen himself has done more than anyone else to press home this point. “Facts” about the partners in a relation (of any kind) are not antecedent to the relation, but emerge from it. This applies to brains as well. Kevin Moore (2006) has proposed a technological perspective on the brain as an alternative to the engineering framework beloved of evolutionary psychologists. “The essence of design” is not engineering, but “social relations” (p. 286) and “[i]f natural selection is a process of designing and producing technologies, then evolutionary biology should be analogous to the discipline of technology studies rather than engineering” (p. 289). We should be looking at the larger system that the brain is part of, rather than “reverse engineering” the specifications of its modules pretending they are its essence. Andy Clark develops a similar perspective in his
extended mind theory. A technological conception of the brain leads away from neuro-reductionism rather than toward it, as long as one keeps an eye on the relational nature of the mechanisms that make up the mind, and one is willing to see the extension of the mind beyond the “skinbag” into a growing network of tools (Clark, 2003, 2008). We are “natural-born cyborgs,” forever expanding and changing our human nature by extending the mind with new tools and creating new environments.

On the other hand, a technological perspective on the brain does not imply the control that the term “instrument” suggests. Instruments, as empirical studies of technology show, do not simply bend to our will. “[T]he image of a human being at the helm manipulating inert objects to achieve ends through the intermediary of ‘efficient action on matter’ appears increasingly muddled” (Latour, 2002, p. 248). In Latour’s view, the technical is an event that has “nothing to do with mastery” (pp. 250–251). Technologies displace, modify, translate, and betray the intentions of their makers and users. If we want to treat the brain as an instrument, we may therefore have to grant it more agency than is implied in Gergen’s emphasis on its plasticity.

One might resist this technological perspective by arguing that the brain isn’t really an instrument, a technological artifact. That would be a pity, not because the brain really is a technological artifact, but because taking the idea of the brain-as-instrument as far as we can may provide us with new perspectives on the relation between people and their brains. Modern neuroscience has constructed a paradoxical brain that is simultaneously external to us—an object of knowledge and intervention, visualized for inspection—and identified with us. The mind-boggling effect of this paradox (“look, this is you!”) is played out with great success in the many books, websites, and television documentaries devoted to the brain. But there are also serious problems associated with it. Gergen is right that the brain hype, the undeniable advances and benefits of modern neuroscience notwithstanding, seriously threatens a more nuanced approach to psychology that takes into consideration the social and cultural embedding of human action. Reconsidering the brain as an instrument in the attainment of culturally constructed ends may indeed be a productive way to further such an approach, but not if it turns the brain into a passive, pliable tool of our designs. We need to avoid both neuro-reductionism and instrumentalism, and find other ways of thinking about the relation between people and their brains. A technological perspective on the brain, informed by empirical studies of technology, may help us achieve this.

Funding
This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Acknowledgements
I’m very grateful to Anne Beaulieu, Jonna Brenninkmeijer, Jess Cadwallader, and Felix Schirmann for their helpful comments on an earlier version of this paper.

Note
1. A broader program of applying technology studies to the social sciences is described in Derksen & Beaulieu (2011).
References


Swaab, D. (2010). *Wij zijn ons brein: Van baarmoeder tot Alzheimer* [We are our brain. From the womb to Alzheimer’s]. Amsterdam, The Netherlands: Contact.


Maarten Derksen is a lecturer in Theory & History of Psychology at the University of Groningen, The Netherlands. In his work he addresses issues in the theory and history of psychology using concepts and frameworks developed in science studies. He has written about psychology and common sense, the history of clinical psychology, and evolutionary psychology. In his current project, together with Anne Beaulieu, he explores the distinctiveness of social technology. Address: Heymans Institute, Grote Kruisstraat 2/1, 9712 TS, Groningen, The Netherlands. [email: m.derksen@rug.nl]