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WHAT SHOULD WE DO WITH OUR BRAIN?  
A REVIEW ESSAY

I.

Catherine Malabou's book can be contextualized in terms of the two broad questions that are indicated in her title.

1. First, it would not be inaccurate to suggest that *What Should We Do With Our Brains?* is a book that, at its heart, is concerned with the philosophical problem of *freedom*. As the title indicates, it approaches this question through a reflection on contemporary science, and more specifically, on contemporary neuroscience.

In this regard, Malabou's project bears a certain resemblance to Kant's critical project (although Kant's name does not appear in the book). Kant's philosophy, famously, was grounded in a reflection on a Galilean and Newtonian universe that had become mathematized and deterministic. Within this universe, Kant's three critiques asked three questions: What can we know? What must we do? And what can we hope for? The second question—What must we do?—animated Kant's analyses, in the second critique, *The Critique of Practical Reason*, of the problematic status of freedom in a deterministic world.

In a sense, Malabou's short book—it is only 82 pages in translation—takes up the baton handed to her by Kant, and once again asks the question, "What Should We Do?" But the conditions of this question have changed since Kant's time. It is no longer a question of locating freedom within a deterministic universe. Quite the contrary, we live in a world that seems to have been reinjected, as it were, with certain degrees of freedom: physics has become nondeterministic; genetics emphasizes the role of chance in biological mutations; capitalism, for all its repressive recodings, is also, in Deleuze's parlance, a vast enterprise of decoding (in neo-liberal language, it is the "freedom to choose"); and neuroscience itself emphasizes the fundamental "plasticity" or freedom of the synaptic connectivity of the brain. Put schematically, one might say that the question of freedom has been inverted since Kant. The question is no longer, How can we consider ourselves to be free in a deterministic world?, but rather: Why are we *not* free in a world in which science itself seems to see indeterminacy, stochastic processes, chance, and randomness at the most basic levels of physical, chemical, biological, and neurological events? As Malabou

puts it, echoing Rousseau's famous phrase, Why is it, "given that the brain is plastic [and] free," that "we are still always and everywhere 'in chains'" (11).

2. Second, this general problem raises the more specific question: Why then did Malabou choose to link her analysis of freedom to the status of contemporary neuroscience? The title of Malabou's book is not simply Kant's "What should we do?" but rather: "What should we do *with our brains*?" Why does Malabou link the question of freedom with the structure of the brain? Malabou doesn't make this explicit, but one can think of three interrelated reasons. First, in Foucauldian terms, the relations between power and knowledge are more evident in the so-called human sciences (linguistics, political economy, psychiatry, and so on) than in the so-called 'hard sciences' such as physics and chemistry. Insofar as it takes 'human beings' as its object, neuroscience can be said to be a human science. Yet at the same time, secondly, neuroscience also aspires (and indeed often claims) to be a hard science: it deals with the biological organism; the chemical communication that takes place within the brain; its structure in physics. But thirdly, neuroscience is also a 'science of the mind,' insofar as it claims to tell us something about the nature of human thought and behavior, the structure of thinking itself, which is seen to be grounded in the neuronal and synaptic structure of the brain. (As an example of the latter, Pascal Boyer's book, *Explaining Religion*, attempts to interpret religious phenomena as corresponding to the innate structures of the brain, in a somewhat Chomskyan manner).

Neuroscience, in short, seems to have a somewhat unique position: it is a human science, but one that claims to be grounded in the hard sciences, and for that reason, it claims to give us a scientific explanation of something that seems to elude science, or of which science itself is an exemplification, namely, human thought and behavior. This is no doubt why evolutionary psychology, anthropology, psychiatry, psychology, and so on, are increasingly based on results in neuroscience, and frequently appeal to it in their analyses—precisely because neuroscience forms the current scientific conception of what Noam Chomsky might call, simply, 'human nature.' In this sense, another form of Malabou's title question might therefore be: How should we use neuroscience? How should we make use of this new science that seems to be becoming the ground of all the other human sciences?

## II.

Malabou's reflections on freedom and neuroscience are organized around the fundamental concept of *plasticity*. "Plasticity in the nervous system," we are told, "means an alteration in structure or function brought about by development, experience, or injury" (5). In her first chapter, entitled "Plasticity's Field's of Action," Malabou analyzes three "fields of action" in the brain where plasticity plays a fundamental role.

First, there is *developmental* plasticity. During the first six months of life, the brain becomes “progressively sculpted, stabilized, and divided into different regions” and “to the extent that the volume of connections grows, the identity of an individual begins to outline itself” (20). Nonetheless, even though “all human brains resemble each other” (18), there is nonetheless “a certain plasticity in the execution of the genetic program” (20): the “topographic network” of the infant brain is established through the *death* of certain neuronal cells and the *elimination* of useless connections (20).

Second, there is *modulational* plasticity. Here, epigenetic sculpting gives way to “the modulation of synaptic efficiency” in relation to the brain’s external environment (21). Here Malabou discusses the important notions of synaptic potentiation and depression. In modulational plasticity, “the efficacy of the synapse (its capacity to transmit signals from neuron to neuron) either rises, which is called ‘long term potentiation’ (LTP) or diminishes, which is ‘long term depression’” (22). In other words, “synapses can see their efficacy reinforced or weakened as a function of experience” (24). While learning to play the piano, for instance, “the mechanism for depressing entry signals corresponding to incorrect movements (‘mistakes’) makes possible the acquisition of the correct movements” through potentiation (23). Put simply, modulational plasticity is the formation of new neuronal connections in a brain, in relation to its external environment.

Third, there is *reparative* plasticity, which includes not only “the brain’s capacity to compensate for losses caused by lesions” (25), but what is called “neuronal renewal” or secondary neurogenesis” (25), which means that “certain neurons in regions important to the learning process renew themselves continually” (25), such that it “constitutes an additional mechanism of individuation” (27).

Malabou analyzes these three modes to show how plasticity operates at every level of the brain, not only in the development of new neuronal connections in the brain, and their constant repair, but also at the level of the execution of the genetic program itself. It is a very enlightening analysis, especially for someone, like myself, who is an amateur in neuroscience.

Alongside this analysis of the role of plasticity in neuroscience, however, Malabou provides a slightly different *conceptual* analysis of the notion *plastique*, which anticipates her somewhat Hegelian conclusion. On the one hand, the term plasticity—from the Greek *plassein*, to mold—has two basic senses: “it means at once the capacity to *receive form* (clay is called ‘plastic’ and the capacity to *give form* (as in the plastic arts or in plastic surgery)” (5). On the other hand, the French term *plastique* is “an explosive substance made up of nitroglycerine and nitrocellulose, capable of causing violent explosions” (5). Thus, the analysis of the term *plasticity* itself reveals that, in Hegelian fashion, the concept contains within itself two somewhat contradictory extremes: “on the one side, the sensible

image of taking form (sculpture or plastic objects), and on the other side, that of the annihilation of all form (explosion)" (5).

These two types of analyses run side by side throughout Malabou's book: an analysis of way in which plasticity is used in neuroscience, and then a conceptual or etymological analysis of the term along Hegelian (or even Derridian) lines. In my mind, it's not always clear how these two types of analyses link up, or indeed *if* they link up, although Malabou makes the attempt. At the end of the book, for instance, Malabou suggests a Hegelian solution to the problem of the relation between the neuronal and the mental (the neuroscientific variant of the body/mind problem, that is, How can neuronal connections produce thought?), but it is not clear to me how the conceptual analysis solves the neuroscientific problem. I'll return to this in a moment.

The first chapter – with its analysis of plasticity – concludes by posing the crucial question for Malabou: Is brain plasticity a model of *freedom*, that is, the ability to form new neuronal connections, and ultimately to bring about "transformative effects" on others (31)? Or is it, rather, a biological justification of the manner in which the brain is necessarily molded by the economic, political, and social organization with which it interacts? In effect, Malabou is going to argue that the potential for *both* is inherent the notion of brain plasticity.

This question leads into the second chapter, which is entitled "Central Power in Crisis." The term "central power" refers to the way in which old models of the brain tended to be modeled on technologies of command and control, that is, models that derive their images from the State. Such models of what Malabou calls the "machine brain" can be as diverse as Bergson's image of the brain as a "central telephone exchange" (33), or more recent images of the brain as kind of computer: the brain is the hardware, and thought is its software. In all these models, the brain was understood to be something like a central power in the body, issuing "governing and command functions" (32) from above. The brain was seen as "a machine that works from the top down, that orders movement, controls behavior," and so forth (xi). "In an earlier day," Marc Jeannerod writes in his foreword, "this centralizing and unifying vision truly represented an ideal of governance: one sole leader, one sole head commanding and organizing everything" (xi).

Now the concept of brain plasticity – with its related notions of neural networks and connectionism – has completely shattered this image of the brain as a central power, and no doubt that has been a great step forward in our understanding of the brain. But the strength of Malabou's analysis is to show how this shift in our understanding of the brain was not simply a development that took place in neuroscience. More importantly, it has co-occurred with a radical modification of our economic and social environment, that is, it has paralleled a similar shift in the management structure of corporations, and the organization of the capitalist system in general. What Malabou proposes in this chapter, then, is an analysis of "a similarity of functioning between...economic

organization and neuronal organization" (41), and it is one of the richest and most original aspects of the book. It charts the move away from what one might call a "soviet" (xiii) vision of the brain—a top-down image of the brain as "a rigid, predetermined, directing organ" (xiii)—toward a more "liberal" or even "democratic" vision of the brain as "a supple, adaptable, plastic organ" (xiii).

Malabou's main point of reference here is the 1999 book by Luc Boltanski and Eve Chiapello called *The New Spirit of Capitalism*, which stressed the growing role of "flexible networks" in the management structure of corporations. The central command of the C.E.O has become increasingly replaced by what Malabou likes to call "the neuronal manager" (43), that is, the bureaucrat or executive who "transmits, distributes, and modifies connections by potentiating or depressing them according to circumstances and needs, without being identifiable with or assigned to a fixed post" (44). According to Boltanski and Chiapello, capitalism refers to neuronal functioning both implicitly *and* explicitly: implicitly, because capitalism, as they say, in a somewhat Deleuzian vein, claims "to replace essentialist ontologies with open spaces without borders, centers or fixed points, where entities are constituted by the relations they enter into and alter in line with the flows, transfers, exchanges, permutations, and displacements that are the relevant events in this space" (45). But the appeal to neuronal models is also explicit, insofar as "today's management literature preaches work in 'flexible, neural' teams, and can claim that the manager 'is not [or is no longer] a (hierarchical) boss, but an integrator, a facilitator, an inspiration, a unifier of energies, an enhancer of life, meaning, and autonomy'" (43).

Similarly, at the level of workers (rather than management), Malabou points out that *employment* has now become synonymous with being *adaptable* and *flexible*. "Anyone who is not flexible," she writes, "deserves to disappear" (46). There is thus an almost measurable link between social suffering (such as unemployment) and psychical suffering (or depression)—in effect, unemployed people suffer from "illnesses of flexibility" (47). They have become unemployed because they were not flexible enough: when they lose their job, they are not able to quickly adapt and modify themselves; they lack the flexibility to retrain themselves for a new job. As a result, the unemployed often become depressed and apathetic—an apathy that is characterized in the literature by "a holding back, stiffening, braking, and *suspension of activity*" (48). In other words, lack of social flexibility literally becomes paralleled by a lack of neuronal flexibility in the brain—and the relation between the two is *not* simply one of analogy. In this sense, the workplace can be said to have become "the antechamber of nervous depression" (49).

Even more to the point, perhaps, Malabou suggests that it is the Alzheimer's patient who, more than any other, represents "the nemesis of connectionist society, the counter model of flexibility....: errant, without memory, asocial, without recourse" (52). Malabou is here drawing a parallel between illnesses of social disconnection, such as the depression of the

unemployed, and neurodegenerative diseases such as Alzheimer's disease. Both involve *disconnection* from the rest of the network: in the case of the unemployed, reconnection is possible; in the case of the Alzheimer's patient, it is not. "This is how dementia appears as the counter-model of plasticity: the irreparable loss of connections at the core of the cerebral network entails a definitive disconnection from the social network" (xiii). As Malabou asks, "Is the difference really all that great between the picture we have of an unemployed person about to be kicked off the dole and the picture we have of someone suffering from Alzheimer's?" (10).

Conversely, to be "healed" from this social depression essentially means "to reintegrate, to restore flexibility" (51). Malabou suggests that this is one reason why Prozac became such a popular drug: it allowed one to obtain, at a low cost, the type of self or individuality that today's "high-tech capitalism" endorses as its condition of possibility—a form of capitalism in which "confidence, flexibility, quickness, and energy...are at a premium" (51). Whence the complex role of the psychopharmaceutical industry, whose genuine importance Malabou insists upon, but which also tends to operate in the service of the flexibility demanded by the capitalist organization of our society—to a certain degree, this is what guides their research and development programs. "Anti-depressants," she writes, "in their great diversity, all seek to stimulate neurochemical transmission, with the avowed goal of 'restoring and protecting the plastic capacities of the brain'" (48). "To survive today means *to be connected*" (10).

Now in drawing this parallel between the neuronal and the social, one might be tempted to pose epistemological questions to Malabou concerning the exact relationship between the two (questions concerning "social constructionism" and so forth). Is she saying that the shift in our global capitalist economy generated a conceptual shift that has altered, as if by contagion, our view of the way the brain functions? Or is she saying that it is this new "neo-liberal" connectionist brain that has imposed its model on our socioeconomic system? Malabou does not really attempt to answer these questions, apart from saying that "neuronal functioning and social functioning *interdetermine* each other and mutually give each other form" (9). (One might like to know how she thinks this "mutual interdetermination" works.)

But if Malabou does not answer these questions, it is because what she is doing—in this undeniably brilliant chapter—is *not* epistemology or the philosophy of science, but rather a critique of ideology, and more specifically, a critique of "neuronal ideology" (11), that is, "an ideological critique of the fundamental concepts of the neurosciences" (82). What does this mean? "Any vision of the brain," Malabou explains, "is necessarily political" (52). What this implies is that neuroscience has what might be called a "naturalization effect" (9). "We live in a 'connectionist world'"—with its "part-time jobs, temporary contracts, the demand for absolute mobility and adaptability, the demand for creativity" (10)—but what neuroscience does, wittingly or unwittingly, is to

bestow on our connectionist economy “the coherence and immediacy of something natural” (9). This is the form of all effective social legitimation: our social order is legitimate because it is “only natural.”

This, then, is the problem that lies at the heart of Malabou’s book. The brain, she says, provocatively, is “the essential thing, the biological, sensible, and critical locus of our time, through which pass, one way or another, the political evolutions and revolutions that began in the eighties and opened the twenty-first century” (53). And yet, she writes, “at bottom, neuronal man” – that is, we ourselves – “has not known how to speak of himself” (53) or to produce “a consciousness of the brain” (54). The reason: “neuroscientific discourse” has “unwittingly produced criteria, models, and categories for regulating social functioning and increasing daily the legitimation of the demand for flexibility as a global norm” (53). In other words, wittingly or unwittingly, “the scientific description of brain plasticity produces...an extremely normalizing vision of democracy, in that it accords an overly central role to the absence of center, a too rigid prominence to flexibility; that is to say, to docility and obedience” (53).

Thus, the political question posed by the many advances in neuroscience is this: Can the *plasticity* of the brain resist the *flexibility* demanded of it by capitalism? Can brain plasticity avoid simply reproducing the flexibility of it required by capitalism? As Malabou says, “our brain is...essentially *what we do with it*” (30), yet this plasticity of the brain can move in one of two directions: *either* “brain plasticity [can] constitute the biological justification of a type of economic, political, and social organization in which all that matters is the result of action as such: efficacy, adaptability – unfailing flexibility” (31). *Or* “brain plasticity, taken as a model, [can] allow us to think a multiplicity of interactions in which the participants exercise transformative effects on one another through the demands of recognition, of non-domination, and of liberty” (31).

This, then, is the substance of Malabou’s critique “neuronal ideology” (11). Her claim is not that neuroscience, as a form of knowledge, is simply a reflection of its social conditions. Her thesis is much stronger: the discovery of the plasticity of the brain *both* reflects the structure of capitalism *and* points the way for a conception of the production of the *new*. In Deleuze’s parlance, neuroscience is a vast enterprise of recoding *and* decoding.

### III.

This brings us to Malabou’s third and final chapter, which is entitled “You are Your Synapses.” The problem she now needs to address is: if we *are* our synapses, how do we prevent the plasticity of the brain from falling back on the mere flexibility demanded of it by capitalism?

Malabou begins to formulate a response to this problem by tackling the traditional brain/mind problem, and by putting into question “the certainty that there exists a perfect continuity between the neuronal and the mental,” that is,

between the biological structure of the brain and what one might call the neurological structure of thought. One can see why: Where, in this relation between the brain and the mind, between the neuronal and mental, is there space for what one might call...*freedom*?

The presumption that there is a continuity between the neuronal and the mental, as Malabou perceptively notes, “is at once the strongest and the weakest point of neuroscientific discourse in general” (56): strongest, because it has indeed allowed us to approach phenomena such as memory, perception, learning, and even psychical and behavioral problems, more and more precisely and objectively. But it is also the weakest point, she says, because “the certainty of the continuity between the neuronal and the mental can obviously never be a strictly scientific postulate. It necessarily constitutes a philosophical or epistemological position...[that is] not always clearly articulated” (56).

So Malabou’s strategy is to interrogate the transition from the neuronal to the mental, and to challenge the idea that there is a continuity from the biological to the cultural, from the natural base of the mind to its historical, political, and social dimension. She wants “to unsettle the very concept of continuity, and in so doing to perturb flexibility” (56). “If we do not think through this transformation [from the neuronal to the mental], or this plasticity,” Malabou writes, “we dodge the most important question, which is – precisely – “that of *freedom*” (69).

Now in undertaking this challenge, Malabou turns to the work of the well-known neuroscientist, Antonio Damasio, the author of *Descartes’ Error* and *The Feeling of What Happens*. In his own attempt to see how we get from the neuronal to the mental, Damasio was led to posit what he calls a “proto-self” (57). What Damasio means by this term is that “the essence of who you are is stored as synaptic interactions in and between the various subsystems of your brain” (58, quoting LeDoux), that is, the self, at its most basic level, is simply “a syntheses of all the plastic processes at work in the brain” (58). Second question: “Why don’t the systems learn different things and pull our thoughts, emotions, and motivations in different directions? What makes them work together, rather than as an unruly mob?” (58). Answer: because the proto-self indicates the way the brain represents the *organism* to itself – “the state of the internal milieu, viscera, vestibular system, and musculoskeletal frame” (59). Third question: Where does my core consciousness come from, and even my autobiographical consciousness? Damasio claims that they emerge from this proto-self in a progressive manner, without rupture, through a *modification* of the proto-self (59). Consciousness is, in effect, an extensive “re-representation of the nonconscious proto-self in the process of being modified” (61). It is precisely *this* process – the movement from the proto-self to the conscious self – that corresponds to the translation of neuronal patterns into mental patterns (61), and this re-representation of the proto-self takes place in what Damasio calls “images” or “signs”: “visual images, auditory images, tactile images, and so forth” (61). Taken together, these images constitute “the elementary life of the



three domains of cognition, emotion, and motivation" (61). Such, in essence, is Damasio's thesis on how we get from the neuronal to the mental.

Yet, as Malabou points out, "no one today is in a position to prove that all cognitive, emotional, or practical activities are the reformulated and re-systematized equivalents of neuronal configurations" (62). Why? Because *not all* of the neuronal patterns become images or signs, not all dispositions become schemas (64). "If we are from the start a non-conscious proto-self always 'in process of being modified,' how is this modification effected?" (65). It is precisely at this point, in the transition from the neuronal to the mental, that the political, economic, and social questions reappear. For example, one answer to this problem is the theory that has come to be known as "mental Darwinism," which states that "only those neuron configurations capable of survival, thus, those capable of being the 'best,' the highest 'performing,' would be converted into images. Only the most 'useful' synaptic connections would be modulated or reinforced" (65). What this would mean is that the transition from the neuronal to the mental would proceed solely by natural selection (or cultural selection, which amounts to the same thing)" (65). One can easily see how such a "natural selection" of neurons would easily lead back to the capitalist ideal of flexibility: "there would seem to be at the heart of the [proto-] self a selection oriented toward efficacy" (65).

But might there not be another answer to this question (concerning the transition from the neuronal to the mental)? One that would not have brain plasticity simply reproduced in capitalist flexibility? If "personality is [indeed] reformable" (68), then Malabou's suggestion is that it might be possible to envision a fourth type of plasticity—in addition to the developmental, modulational, and reparative plasticities analyzed in the first chapter—an *intermediate* plasticity situated between the proto-self and the conscious self.

What would this "intermediate plasticity" be? Here, Malabou performs a movement similar to Freud's later turn toward a meta-psychology in *Beyond the Pleasure Principle*. This is the text where Freud, having posited the pleasure as the guiding principle of our psychic life, notes that there are in fact numerous exceptions to this principle—such as soldiers who constantly repeat painful wartime traumas in their mind (repetition compulsion). To deal with this problem, Freud had to turn to philosophical speculation: he posited the "meta-psychological" existence of an unseen death instinct in the unconscious, operating alongside the erotic drives toward pleasure.

For her part, Malabou, in her own speculative turn, instead of speaking of a meta-psychology, instead proposes a kind of "meta-neurobiology" (70) that in the end, for her, is fundamentally—and perhaps not surprisingly—Hegelian and dialectical in nature. (Malabou's earlier book was entitled *The Future of Hegel: Plasticity, Temporality and Dialectic*, which was translated into English by Lisabeth During). To be sure, Hegel did not express himself in the idiom of the neuronal and the mental, but he was nonetheless preoccupied with the transformation of

the mind's natural existence (the brain, which he calls the "natural soul") into its historical and speculative being. "But this transformation," as Malabou notes, "is the dialectic itself. If there can be a transition from nature to thought, this is because the nature of thought contradicts itself. Thus the translation from a purely biological entity into a mental entity takes place in the struggle of the one against the other, producing the truth of their relation. Thought is therefore nothing but nature, but a negated nature, marked by its own difference from itself" (81). In this way, Malabou thinks she can avoid the alternative between reductionism (the possibility of an absolute naturalization of thought processes) and anti-reductionism (an assertion of the transcendental character of thought, irreducible to biological determinations). These are the two options represented, respectively, by Changeux and Ricoeur in their well-known and fascinating book, *What Makes Us Think?* "A reasonable materialism," Malabou writes, "would posit that the natural contradicts itself and that thought is the fruit of this contradiction" (82).

But it is not clear to me that this "Hegelian reading of the neurosciences" (as Žižek gleefully dubs it in his blurb for the book) is actually Malabou's ultimate position, which seems closer to Foucault and Deleuze, both of whom make appearances in the book, and in fact seem more suited to Malabou's purposes.

With regard to Foucault: Malabou herself writes that "the transition from the neuronal to the mental presupposes negation [Hegel] *and* resistance [Foucault]" (72). Foucault, of course, talked about the difference between *subjection*, which is our subjugation to forms of knowledge and power, and *subjectivation*, which is self-affectivity, auto-constitution, and self-fashioning (71)—something which Damasio, in his own language, calls the "transition from 'homeostasis' to 'self-generation.'" Malabou herself describes auto-affectation, using Bergsonian language, as a kind of "ontological explosion" (72), that is, a series of "creative bursts that progressively transform nature into freedom" (74). So there seems to be a Foucauldian tone to Malabou's characterization of the neuronal self as "structured by a dialectical play of the emergence and annihilation of form" (72). Indeed, Malabou concludes her book by answering the title question in a Foucauldian vein: "*Creating resistance to neuronal ideology is what our brain wants, and what we want for it*" (77).

With regard to Deleuze: Malabou herself notes that Deleuze was "one of the rare philosophers to have taken an interest in neuro-scientific research as early as the 1980s" (36), and indeed his entire work on the cinema was grounded in neuroscience. Bergson held the interesting position that the brain was simply an interval or gap opened up between stimulus and response, between perception and action. In an amoeba, a stimulus produces an immediate response; but in more mobile animals with nervous systems, the brain introduces a gap between the two, which allows *reflection* and *memory* to intervene in the response. Each element produces an image in the brain, in almost exactly

Damasio's sense: images of my perception, images of possible responses, images of my being affected, which in turn opens up temporal images of recollection and memory. And indeed, these are the fundamental categories one finds in Deleuze's cinema books: perception-images, action-images, affect-images, time-images, recollection-images, and so on. In other words, as Malabou herself notes, "the plasticity of the brain" – with its various images – "is the real image of the world" (39). For Deleuze, the circuits and connections in the brain – or rather their cuts and interstices – are never given in advance, but must themselves be traced out in it; and they constitute the condition for the production of the new, the genesis of the heterogeneous, and the creation of differences that resist the very flexibility demanded of us by the capitalist organization. After reading Malabou, it is clear that it is now time to reread Deleuze's cinema books, not from the viewpoint of film studies or Bergson studies, but from the neurological problem that Malabou has so brilliantly highlighted in this book.

#### IV.

So this, then, is Malabou's answer to the question, "What should we do with our brain?": we should not allow the plasticity of our brains to simply replicate the current economic demand for flexibility – which is what she calls "neuronal ideology" ("a capacity to self-modify at the whim of fluxes, transfers, and exchanges" [78]) – but rather should understand plasticity as the production of the new. It is in this spirit that Malabou concludes by admonishing her readers, in a Derridaean vein, to "construct...a relation with their brain as the image of a *world to come*" (82).

Malabou's problem with the neurological revolution is that it has revolutionized nothing *for us*" (68). "The only real view of progress opened by the neurosciences," she suggests, "is that of an improvement in the 'quality of life' though a better treatment of illness" (68), or an adaptation of the brain to the flexibility demanded of it by our capitalist social formation. As yet, "the fascinating discoveries of the neurosciences...are [as yet] incapable of unleashing possibilities, of unleashing new ways of living" (67). And this is what Malabou is calling for in this book, an "awakening of a consciousness of the brain," that is, an awakening of a comprehension that "the brain is our work *and we do not know it*" (66). And this work done *on* the brain *by* the brain, the production and constitution of the new, is nothing other than the movement of the problem that seems to animate this entire book – namely, the problem of *freedom*.