

Educational Plasticity:

Catherine Malabou and 'the feeling of a new responsibility'¹

Introduction

Plasticity is a deeply educational concept and is at least as old as Hegel's thinking on it. Plasticity surfaced most clearly in relation to education in John Dewey's *Democracy and Education* (1916), itself a text influenced by Hegel.² More recently Catherine Malabou has introduced the neurobiological use of the concept to a philosophical context. Although she has not written explicitly on education or on Dewey, her approach to plasticity greatly extends its meaning. In its simplest formulation plasticity articulates the capacity for the taking on of form, the giving of form and the destruction of form. For Dewey, plasticity decreases with age. He therefore only emphasises its significance in the early stages of life and learning. Malabou, on the other hand, gives no such emphasis. For her, the concept articulates a responsibility towards the forming, self-forming and destruction of identities much more generally. This approach opens a way towards thinking plasticity as being applicable from the earliest conceivable educational settings and also to what might be called re-education for adults. With plasticity it is possible to destroy as well as create, so re-education seems an appropriate term for the idea that plasticity allows us to start a re-conceived notion of education again at any point. In Malabou's understanding, gaining knowledge of plasticity and its social, political and ethical implications, inspires a new responsibility towards our selves ourselves and others. Unless we choose to ignore our plasticity, once we realise that we are plastic we must be responsive to that fact. This would mean rethinking, reinventing and re-educating our identities and our social institutions in terms of plasticity. Plasticity creates a new responsibility because it changes the ways in which we are able to think about ourselves and our societies.

The recognition of another's self-consciousness is a trait of Hegelian dialectics and Malabou takes this further by recognising that self-consciousness is fundamentally plastic. Like Hegel and Dewey, she connects plasticity with good and bad habit forming. Her reading of Hegel is not particularly unorthodox but her emphasis on his use of plasticity and the subsequent connections she draws between his thinking and that of Heidegger and Derrida bring about new ways of thinking which are not simply Hegelian. This is exemplified by the fact that, unlike Hegel and Dewey, she repeatedly engages with the destructive aspect of plasticity and its potential to 'explode' form, or its specific manifestation as bad habits. She does not focus on a linear progression towards absolute knowledge but rather sees plasticity as something which can interrupt rigid and negative ways of being as a form of re-education. In this way, Malabou not only offers a new way back to Dewey, including the opportunity to rethink aspects of his educational philosophy in a contemporary context, but also a means of thinking the interruption or destruction of many of the bad-habit-forming and flexibility-oriented conceptions of education that exist today. This paper will examine her conception of plasticity as not only providing an opportunity but also 'the feeling of a new responsibility' (Malabou, 2008, p. 14) towards the plastic subject in philosophical approaches to education and re-education.

Malabou's Plasticity

Malabou's concept of plasticity is derived from several sources, which inform and extend the meaning of the concept in philosophical terms. There is no stock definition of plasticity and it is arguable that the problems inherent in examining it play a part in demonstrating the plurality and creativity of her philosophical approach: plasticity is itself plastic.³ There are points where seemingly clear definitions are given in her work but these are multiple and not always superficially complementary, as such, the most appropriate introductory definition might be that 'Plasticity refers to *the spontaneous organization of fragments*' (Malabou, 2010, p. 7).⁴ However, she also repeats a

more formal definition of its 'three principal significations' in several of her texts, most lucidly in *The New Wounded*: 'On the one hand, it designates the capacity of certain materials, such as clay or plaster, to receive form. On the other hand, it designates the power to give form – the power of a sculptor or a plastic surgeon. But, finally, it also refers to the possibility of the deflagration or explosion of every form...' (Malabou, 2012b, p.17). After providing an initial overview of the contexts within which this concept is explored, the focus of this paper will be narrowed to allow for a closer inspection of what relationship plasticity has to responsibility. Plasticity will be shown to not only play a part in responsibility towards others and oneself but also, and perhaps more crucially, to demand, inspire or provoke that responsibility. This demonstration, alongside a reading of Dewey's approach to 'habit' and his more limited use of the concept of plasticity, will itself provoke and lay the foundation for an apprehension of how plasticity could be put to work in formal or informal educational contexts as well as in terms of re-education.

How plasticity is to be thought of in relation to education and re-education can be considered either in terms of ostensibly philosophical or educational contexts. These two contexts overlap more usually in theory than in practice. The philosophical concepts and positions that Malabou is responding to and transforming have only had limited or peripheral influence on educational thinking. While many texts have been written on the educational significance and applicability of Hegel, Heidegger and Derrida, there is not much evidence of their explicit practical application. The exception might be Hegel, if only indirectly through the influence of John Dewey. As such, Dewey will be given special consideration alongside Malabou for his explicit application of the concept of plasticity to philosophical and educational thinking. Malabou does not seek to give exhaustive readings of Hegel, Heidegger and Derrida – and has seemingly not yet engaged with Dewey's thinking in her writing - only taking what she considers to be the relevant aspects of their philosophies into direct account in the manifestation of her philosophical project. As such, while the specific delineation of her thinking from work done on the potential of Hegelian, Heideggerian or

Derridean educational thinking will not be attempted here, the development of her conception of plasticity will be outlined in her readings of these thinkers. This approach will highlight the applicability of her concept of plasticity to educational thinking generally.

The Plasticity of the Teachable Subject

Malabou began and continues to begin her definition and untangling of the concept of plasticity from Hegel's writings. In her reading, Hegel offers a perspective on the concept which is indispensable, even if it only expresses a few aspects of what she wants plasticity to mean in her own thinking. His offering is that of the self as plastic in its ability to change while still remaining somewhat the same and somewhat robust as a self-identifiable subject.⁵ Her Hegel offers plasticity as a 'reconquering of presence' which is facilitated by the returning of a subject to itself but also for whom 'plasticity signifies the disruption and deflagration of presence' (Malabou, 2010, p. 9). This reconquering would also relate to the Hegelian recognition of others as self-conscious and plastic subjects. Recognition extends the concept of plasticity beyond how we may re-educate ourselves to how we relate with and teach others. The responsibility this engenders would have to acknowledge that Malabou's version of Hegel's dialectic explodes the subject without destroying it and considers it as being in a constant process of transformation: the self appears through the dialectical process of plastic change. Hegel's dialectical fulfilment of history is analogised by Malabou with the plastic in what she calls the image of 'a *plastic* system, a supple form capable of welcoming whatever arrives' (Malabou, 2010, p. 34). He provides her with the means of conceptualising subjective form, in its self-identifiability, as transformable and transformative. To read in a Hegelian manner, which is her preferred application of the plasticity of the dialectic, is to be able 'to see (what is) coming' (Malabou, 2005, p. 184). This is both to be literally able to see what is coming but also to always see

that change is coming. Hegelian plastic reading is anticipatory because it has a history which is located immanently in presence and yet is always undergoing transformation. The impressions that the plastic form of a subject takes on contribute to its individuality and context, making up its history but only ever as a continuously transforming present. Even though a subject is present to itself, it is not primarily defined by what it is at any given moment but rather by its transformability as the 'internal mobility of the system' (Malabou, 2010, p. 68).

The idea of a self-identifiable subject that Malabou's reading of Hegel affords to plasticity is thought at the same time as the plastic inseparability of Being from beings in her reading of Heidegger.⁶ The complete rejection of the transcendental that she finds in Heidegger (and lends to the rest of her thinking) helps Malabou to think plasticity as a connective and transformative quality of Being, which includes beings. For Malabou's Hegel it is the plasticity of the subject that is significant but for her Heidegger the emphasis is on the plasticity of Being. Dasein is inseparable from Being (Sein) and even though it might, in her reading, have the self-identifiable subjectivity that is also found in Hegel, what is more important for Malabou is 'the very movement of being' (Malabou, 2010, p. 68). That is to say, it is Being itself which is fundamentally plastic and constantly modifies itself. There is no inside or outside to Being, no interiority or exteriority, which is why Malabou finds plasticity useful when considering Heidegger. Plasticity allows for the conception of internal structural change without addition or removal. It is not possible to be transcendently or metaphysically outside of presence but rather one is constantly entering it: 'In the end essence does not say presence; it says *entry* into presence, in other words, an originary movement that, again, is the movement of change or exchange' (Malabou, 2011a, p. 136). The originary movement is itself plastic and its action exhibits the qualities of plasticity.

For Malabou's materialist concept of plasticity to operate in the way she intends, Derrida's concept of 'trace' must be overcome. For Derrida, *'The trace is in fact the absolute origin of sense in general. Which amounts to saying once again that there is no absolute origin of trace in general'*

(Derrida, 1998, p. 65). As such, because 'plasticity describes the nature of that which is plastic, being at once capable of receiving and giving form' (Malabou, 2010, p. 67) it cannot accommodate Derrida's trace, which is the erasure of form and the interruption of presence. Derrida would also not be able to conceive of plasticity as being the originary concept under which of this receiving and giving of form occurs because for him there are no such origins. For plasticity to function within the context of the predicates defined by Malabou's readings of Hegel and Heidegger, there is no room for the trace in Derrida's sense and therefore it must be given a 'form' and reduced to presence and her materialist perspective. Malabou herself is clear that 'from the outset, then, the theorization of writing destabilized [her] fragile discovery of the plasticity of presence' (Malabou, 2010, p. 11). Despite this she states without reservation that 'plasticity is now the privileged supplement/schema of our epoch, interrupting the tracing of the trace with the formation of the form' (Malabou, 2011a, p. 63). It is the formation of form and the 'modifiability of concepts' (Malabou, 2011a, p. 64) that plasticity affords which is of primary interest to Malabou.

Malabou also finds another ally in Freud for her interpretation of plasticity. The primary definition of psychological plasticity that she uncovers in his texts is as 'the possibility of being transformed without being destroyed; it characterizes the entire strategy of modification that seeks to avoid the threat of destruction' (Malabou, 2012a, p. 44-45). The second definition is plasticity as the ability of the libido to 'change its object, not to remain fixed, the capacity to change its investments' (Malabou, 2012a, p. 45). Effectively this means the retention of the ability for the libido to remain free. *The Ontology of the Accident* and *The New Wounded* both articulate ways of conceiving plasticity in a negative, destructive sense as well as its more common, positive usage, particularly in the language of neurology. She argues that, 'No one thinks spontaneously about a plastic art of destruction. Yet destruction too is formative. A smashed up face is still a face, a stump a limb, a traumatized psyche remains a psyche. Destruction has its own sculpting tools' (Malabou, 2012a, p. 4). For her, the 'only valid philosophical path today lies in the elaboration of a new

materialism that would precisely refuse to envisage the least separation, not only between the brain and thought but also between the brain and the unconscious' (Malabou, 2012b, p. 211-212). To aid her in this pursuit she introduces the concept of 'cerebrality' (Malabou, 2012b, p. 1) and argues that 'Cerebral activity goes well beyond the mere work of cognition, and even of consciousness, to encompass the affective, sensory, and erotic fabric without which neither cognition nor consciousness would exist.' (Malabou, 2012b, p. 4). This undermines the self-certainty of the self-identifiable subject but also reveals the extent to which plasticity can be considered and applied, where it arises from and where it can be altered or affected. While this perspective illustrates Malabou's somewhat Derridean desire to bring different theoretical languages together, it is perhaps also inspired by the Heideggerian imperative to see the whole of Being as consistent with itself. In this sense, plasticity also acts as an adhesive for Malabou, allowing her to connect different approaches in a productive manner. They interrupt one another and show the malleability and accommodative qualities that plasticity is afforded in her hands. In her *What Should We Do With Our Brain?*, she takes even wider aim, combining neurological literature on brain plasticity with a critique of the ideological implications of not taking this research seriously. Concluding that it is only when we 'grasp the political, economic, social, and cultural implications of the knowledge of cerebral plasticity available today' (Malabou, 2008, p. 82) that we can do anything with it.

Learning Plasticity as Habit

Given Hegel's influence on Dewey it is unsurprising that he applied his own reading of the subject-oriented concepts of plasticity and habit to education in *Democracy and Education*. For Malabou also, the idea of habit is essential to thinking of Hegel as the philosopher who makes it possible to 'see (what is) coming' writing that, 'Human beings are those who, in order to be, must observe that speculative clock which is habit, a clock which makes it possible to 'see (what is) coming', meaning that the *end* can be brought forward and, at the same time, postponed' (Malabou, 2005, p. 76). For

her Hegel, 'Habit is the process whereby the contingent becomes essential' (Malabou, 2005, p. 74).

Similarly, Dewey's plasticity

is essentially the ability to learn from experience; the power to retain from one experience something which is of avail in coping with the difficulties of a later situation. This means power to modify actions on the basis of the results of prior experiences, the power to *develop dispositions*. Without it, the acquisition of habits is impossible. (Dewey, 1916, p. 44)

It is perhaps also unsurprising that it is within the context of the thinking of the learners' plasticity that Dewey develops his conception of learning to learn, wherein, 'the human being acquires a habit of learning. He learns to learn' (Dewey, 1916, p. 45). Therefore, the same kinds of thinking which have been applied to the idea of 'learning to learn' might be applied to the plasticity of the learner. For Dewey, plasticity is entirely analogous to the 'power to learn', writing that, 'Plasticity or the power to learn from experience means the formation of habits' (Dewey, 1916, p. 52). Learning to learn might even be conceived of as learning to be aware of plasticity and its potential consequences for (our) existence. This perspective is assisted by Dewey's critique of 'fixed habits' (Dewey, 1916, p. 47-49), which could just as easily be a critique of rigidity and flexibility. For him, 'Routine habits, and habits that possess us instead of our possessing them, are habits which put an end to plasticity' (Dewey, 1916, p. 49).

This idea of being possessed by habits is also helpfully analogous to Malabou's thinking on habits as haunting the psyche which she articulates alongside readings of Ravaissou and Derrida. In her preface to Felix Ravaissou's *Of Habit*, Malabou outlines two 'basic ways of speaking about habit' (Malabou, 2008, p. vii). For Aristotle, Hegel and Ravaissou, habit is 'a primary ontological phenomenon...the law of being' (Malabou, 2008, p. vii). This is opposed to the definition of habit she attributes to Descartes and Kant, which sees it as 'the epitome of inauthenticity, a simulacrum of being, an imitation of virtue' which 'stifles the voice...of the categorical imperative' (Malabou, 2008, p. vii). Dewey's critique of fixed habits and Malabou's insistence on the destructive aspect of

plasticity demonstrate their alignment with the former school of thinking but also their desire to untangle themselves from the problems posed by the latter. Malabou parses the content of Ravaisson's 1838 essay in contemporary philosophical language, returning again to the reduction of the trace to presence that was found in her critique of Derrida, writing that

The trace has inscribed in being the very possibility of changing. With habit, the memory of change is one with the possibility of change in general. If being was able to change once, in the manner of contracting a habit, it can change again. It is available for a change to come. Certainly, change generates habit, but in return habit is actualized as a habit of changing. Being is thus habituated to its future. It *has* a future. (Malabou, 2008, p. viii)

Malabou does not mention plasticity here but it is clear that her interest in habit follows from her thinking on it. Plasticity would incorporate or accommodate all of the qualities which are also afforded to habit in Aristotle, Hegel and Ravaisson's thinking. A being which is 'habituated to its future' might also just as easily be a learner who, like Dewey's, has learned to learn, itself an actualization of the habit of changing.

Malabou extends her reading of Derrida's relationship to Ravaisson's thinking by turning Derrida's own reading of Ravaisson from *On Touching – Jean-Luc Nancy* on its head. She argues that although Ravaisson formulates the principle of the 'psyche as always haunted...badly, or clumsily' (Malabou, 2008, p. xviii), this should not undermine the fact that he does manage to conceive of a haunted psyche at all, and should therefore not be subject to Derrida's critique. This is important because Derrida's dismissal of pure auto-affection is thought in terms of 'a *pharmakon* that already having at its disposal a dwelling in this place inhabits one's heart of hearts as a ghost' (Derrida in Malabou, 2008, p. xix). For her, habit is this *pharmakon*, 'at once poison and remedy' (Malabou, 2008, p. xix). She implies that the rejection of habit, alongside the deconstruction of presence might itself have become a *pharmakon*-like habit or tic. To counter this she implores the reader to prepare themselves to 'get out of the habit of rejecting habit, to habituate yourself to habit!' (Malabou,

2008, p. xx). Learning would then be the learning of habits and, first and foremost, the learning of the habit to learn. However, alongside this more 'positive' aspect of plasticity would also be a destructive unlearning of negative habits.

The Educational Responsibility to Plasticity

What Should We Do With Our Brain? is a title which attempts to inspire a call to response as well as simply pose and answer a question. Malabou's approach in this book is to convey research on neurobiological brain plasticity alongside her own philosophical thinking so as to facilitate what she considers to be a liberatory perspective on the brain. The danger she perceives as the counter to the liberation potentially afforded by brain plasticity is that without an awareness and desire to utilise knowledge of it, brains will default to the dominant ideological system, i.e. neoliberal capitalism.⁷ If individuals do not take responsibility for their own brains then they are not being as responsible as they could be with their own lives. The problem for Malabou is that most people do not realise the plasticity of their brains are therefore unable to be responsible to it. However, once plasticity is recognised, that knowledge itself presents a responsibility. For Malabou, the question of what we should do with our brain seems primarily to be one of responsibility, arguing emphatically that it is a 'question *for everyone*' with which she 'seeks to give birth in everyone to the feeling of a new responsibility' (Malabou, 2008, p. 14). She opposes the concept of plasticity to the concepts of rigidity and flexibility. Rigidity implying that we cannot change or adapt but are almost fatalistically fixed in our brains and their predeterminations; flexibility implying that we cannot change our brains but we can adapt them to different contexts and stimuli, grasping only one aspect of the concept of plasticity, 'that of receiving form' rather than 'giving form' (Malabou, 2008, p. 12). The problem for Malabou is that it is not just that most social or educational contexts are organised in line with an acceptance and perpetuation of the rigid or flexible rather than plastic, it is that even within the neurosciences 'many descriptions of plasticity are in fact unconscious justifications of a flexibility

without limits' (Malabou, 2008, p. 13). For her it is not an evaluation of the brain as it is that is of particular interest but rather to anticipate or bring about the possibilities of the brain afforded by the concept of plasticity (Malabou, 2008, p. 10). She wants her readers to 'construct and entertain a relation with their brain as the image of the world to come' (Malabou, 2008, p. 82). For Malabou, changing our brains means changing our future and to be responsible to ourselves and others means to take on the challenge and opportunity of plasticity. The concept of 'resilience' is helpful to her in her definition of neuronal plasticity as 'a logic of self-formation starting from the annihilation of form', appearing as 'a psychical process...of reconstruction and self-reconfiguration, developed simultaneously against and with the threat of destruction' (Malabou, 2008, p. 76). Here again, the destructive component of plasticity is important in revealing its difference from flexibility. A flexible form cannot be destroyed and remade, it can only be impressed upon, including in terms of damage. Plastic forms can be remade or reimagined, even as parts of them are destroyed. The responsibility she is concerned with, then, is not just to what is, but to how what is can shape and even become what can be.

In *Counterpath*, written with Derrida, Malabou discusses Derrida's concept of responsibility in relation to the futurity of the self and the other. In her reading, 'Being responsible involves letting the other come, making their voyage finally possible' (Malabou & Derrida, 2004, p. 240). The 'other' is most usually thought of as another being but for both Malabou and Derrida, the other that comes could also be the other of oneself, oneself as other. For Derrida the self cannot be present to itself and there is no pure autoaffection, only heteroaffection. So where Malabou might see futurity as the possibility of the changing of oneself, for Derrida this would be conceived of as accounting for the excess of (im)possibilities that cannot be brought to consciousness. For Malabou it is the possibility of changing oneself while still remaining the same - thanks to her agreement with Hegel on his idea that there is a somewhat consistent self-identifiable subject - that plasticity allows for and that one is made responsible towards. This remains 'possible' for Malabou in her reading of Derrida because,

'To be possible means to be undeniable. In this sense, what is possible appears as the pure and simple impossibility of being denied' (Malabou & Derrida, 2004, p. 258). Another self is possible and undeniable, meaning that one's responsibility towards this other self is equally undeniable. So, if plasticity is possible, and especially one's own plasticity, there is an undeniable responsibility towards it and the change in oneself it facilitates. As such, re-education would, first and foremost, be an education in one's own plasticity and, if Dewey and Malabou were read more widely through the lens of plasticity, education at all levels could be thought of in the same way. Learning that there are things it is possible to change in oneself through a re-education is itself a responsibility. To teach plasticity is to teach the way out of rigid or flexible ways of being generated by social and institutional teachings and practices. We learn to be rigid and flexible which means we can also learn to be plastic. However, this process of learning implies a re-education not just of the subject but of education itself. Re-education, then, is not just about transforming and liberating the individual subject who happens to fall upon and learn about the concept of plasticity; it also has the potential to effect significant social and institutional change. Detailed consequences of this thinking for policy and practice are beyond the remit of this paper but pointing the way towards re-education – and a re-education in how we think about education - is the only way to begin to inspire a responsibility towards it.

In the final pages of *The New Wounded* Malabou suggests that the concept of responsibility must be thought of in terms of the experiences of those she terms the 'new wounded' or those 'with brain lesions' (Malabou, 2008, p. 17). For her it is important to establish that the "'subject supposed to know'" has been deposed in patients who do not want either to know or not to know' (Malabou, 2012b, p. 215). While this has many consequences for psychoanalytical and neuropsychanalytical thinking, what is most interesting in an educational context is her statement that, 'To gather the other's pain is not to take his place, but to restore it to him' (Malabou, 2012b, p. 215). What is facilitated here is the learning, or relearning, one's own pain and the possibility for that pain, which

is also the restoration of place and identity. For her this is not a marginal issue as we are all always 'susceptible to becoming *new wounded*, prototypes of ourselves without any essential relation to the past of our identities' (Malabou, 2012b, p. 213). More broadly speaking, to know is to be responsible, which is an idea not only relevant in terms of the 'new wounded' but to everyone in terms of their own plasticity. Responsibility can here be thought of as a part of plasticity and our ability to take on form and give form as well as a sensitivity towards destroying form or having it destroyed accidentally. To be restored to one's pain is also to be made responsible to it. It is not possible to improve our lives if we cannot first diagnose and accept what is wrong with them. Clearly this is not an objective process; however, *it is* a plastic process. Again, this restoration of pain is not simply limited to individual subjects and can also be thought on a broader social and institutional level. What are society's pains? How can they be restored to it so that they can either be overcome or responded to plastically?

Clearly a concept which articulates a responsibility towards the forming, self-forming and destruction of identities and social spheres is one which can be thought of as being germane for educational thinking. To see knowledge as responsibility is not a new idea but the extent of the effect that the knowledge of our own plasticity might afford us takes that idea to another realm of significance. Malabou has herself learned and taught the concept of plasticity. The first section of this paper explored how Hegel, Heidegger, Derrida and Freud were all able to teach her different things about this concept and its variable applicability, as well as its possible limitations or the limitations its conceptualisation implies for other ways of thinking. Her own articulation of this learning process reveals how her theory is implicated in her writing practice. Her writing is presented always as a 'reading' and in *Plasticity at the Dusk of Writing* she returns to the concept of 'plastic reading' that she introduced in *The Future of Hegel* as 'a new, transformed type of structural approach' (Malabou, 2010, p. 51) and further that 'The figural structure that we must try to reveal in texts...is a matter of causing the form that comes *after presence* to arise in works' (Malabou, 2010, p.

57). In this sense it is profoundly metamorphic rather than deconstructive. What is interesting to her is how forms can change and the agency that we have in being able to change them, as well as, perhaps more crucially, how our very form of agency can be changed. This is why she is, with the text of *Plasticity at the Dusk of Writing* itself, 'trying to show how a being, in its fragile and finite mutability, can experience the materiality of existence and transform its ontological meaning' (Malabou, 2010, p. 81) while also being a 'brain that changes itself' (Malabou, 2010, p. 82).

Conclusion

Malabou's concept of plasticity has implications for the learner and the teacher as well as social and institutional practice more broadly. Of course, the learner themselves would be considered plastic. This would mean that they had the ability to take on form, give form and destroy form. The process of learning would be the metamorphosis of forms. The learner themselves would change and so would the forms that they conceive of. The process of education would perhaps be considered a more delicate affair in many contexts because what would be at stake would not just be the forms that are impressed on the learner but also how they themselves are formed. However, the opposite might also be true, wherein, because of the possibility of re-education, mistakes can afford to be made. Plasticity allows for a thinking of education as the formation of the learner in a way which reveals several points of access and outcomes to this process. The becoming conscious of plasticity, or, the capacity to shape one's own form and ability to give and receive form, would itself have to be learned. Here it might be possible to see a bridge between Aristotle's hylomorphic thinking and Deleuze and Guattari's anti-hylomorphic thinking. While Malabou does not explicitly write on this topic it is useful to align her thinking with hylomorphism because of what the concept of plasticity can do for it. While being a proponent of form and materialism, Malabou's plasticity offers the tools to be able to destroy, create and change forms rather than simply accepting them. In her hylomorphic thinking forms are not rigid or flexible, they are plastic. Educational systems which

think of the learner as either rigid in their capacities or simply flexible in their ability to adapt to different stimuli are not sensitive enough to their plasticity. An educational system which perceived the learners as rigid might, for example, be predisposed to early streaming or a separation between academic or vocational learners. A system which attempted to account primarily for flexibility might be less inclined to specialise as aggressively as the rigid system but would still imply a prioritisation of taking on forms rather than giving them. The agency of the learner is limited to their ability to adapt to a preordained system of education and socio-political life, rather than to conceive of themselves as active in its formation, as well as active in their formation (and potential for re-formation) of their own self.

The plastic learning and the learning of plasticity would be a re-education as well as an education. This would particularly be the case if Malabou is correct in assuming that we have little or no conscious or unconscious awareness of our own plasticity. If Dewey's *Democracy and Education* was perhaps the unfulfilled (and conscious) formulation of a plastic education, what kind of programme would be required to interrupt or even destroy the bad-habit-forming and flexibility-oriented conception of education that exists in its place? To learn of plasticity is, in a sense to become responsible to it. Of course, that responsibility can be ignored and rejected but the combination of a scientific and philosophical argument for its existence and relevance might increase its perceived validity.

The potential of the concept of plasticity to be utilised in conventional educational contexts (particularly schools) would, I argue, best be served by a return to Dewey and an exploration of the relevant influences his educational ideas have had, both in terms of their failures and successes. However, thinking the concept of plasticity and its educational significance in terms of *re-education* has the potential for a different set of applications. Leaving the philosophical implications and problems of the concept to one side, its interruptive potential is significant. It is, in many ways, what might be considered an 'empowering' or, to stay with Malabou's terms, a 'liberatory' concept. It

offers the knowledge of a re-forming of oneself, either in terms of giving form, taking on form or destroying form. It implies a certain confidence in the ability to perhaps recover from depression, reform from criminal behaviour or retrain for a different career. It offers all of these possibilities without disarticulating beings from themselves or from the world. It is not a 'postmodern' concept, it is a materialist concept and as such situates itself firmly in lived experience. It provides the possibility for facilitating what might be called a controlled metamorphosis. It is also, as Malabou argues, a concept of resistance and in many ways this might provide its primary function as well as what extends its educational value beyond a return to Dewey. For him, plasticity is only particularly significant in terms of growth and only the young are particularly plastic, for him 'there can be no doubt of the tendency of organic plasticity, of the physiological basis, to lessen with growing years' (Dewey, 1916, 49). That is not to say he would not have been open to other ways of articulating plasticity, it is simply that he did not.

In contradistinction to Dewey's growth oriented notion of plasticity, Malabou answers her own question of *What Should We Do With Our Brain?* with the response that, 'To cancel the fluxes, to lower our self-controlling guard, to accept exploding from time to time: this is what we should do with our brain' (Malabou, 2008, 79). This is not so much about growth as a positive form of self-destruction and a delegitimising of a rigid conception of self. This perspective might help to formulate a response to the problem of 'fixed habits' that Dewey raises but does not offer a solution to. It is here that Malabou's thinking of plasticity offers something original to education: a neurologically and philosophically grounded way in to thinking self-directed re-education.

¹ Malabou, C. (2008) *What Should We Do with Our Brain?*, S. Rand, trans, in: M. Jeannerod (New York, Fordham University Press), p. 14.

² For extensive evidence in support of this claim, see in particular Good, J.A. (2006) *A Search for Unity in Diversity: The "permanent Hegelian deposit" in the philosophy of John Dewey* (Oxford: Lexington Books).

³ Malabou does herself use some dictionary definitions of plasticity as a part of her examination of the concept but these only provide a very small part of her exposition of it.

⁴ All emphasis given in citations in this paper are present in the original texts.

⁵ Although Malabou examines a huge spectrum of Hegel's work in *The Future of Hegel*, the texts best suited for further exploration of the context for the concept of plasticity in his work are probably *Phenomenology of Spirit* (1977), *Science of Logic* (1989) and *Aesthetics* (1975). I have hesitated from reciting Malabou's citations, given that it is her being read here rather than Hegel, and instead list the references for these texts in the bibliography, while recommending a close reading *The Future of Hegel* as a primary introduction.

⁶ As above, *Being and Time* (1996) provides the best context for Malabou's interpretation of Heidegger's philosophy as a means to her conceptualisation of plasticity.

⁷ It is almost certainly possible to align Malabou's thinking on the liberation of brain with the ideas contained in Paulo Freire's *The Pedagogy of the Oppressed*, but because he does not (unlike Dewey) explicitly engage with the concept of plasticity, an examination of this here would be beyond the remit of this paper. However, this paper hopes to open a way towards thinking plasticity as a concept which can begin to contribute more broadly to liberatory thinking in educational philosophy.

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