The Palgrave Handbook of Embodiment and Learning

Edited by
Anja Kraus · Christoph Wulf

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"In the Anthropocene, a time when the fate of the planet is determined largely by humans, it has become difficult to differentiate between nature and culture. There is hardly any nature remaining that has not been impacted by humans. In view of this, the body - the place where nature and culture meet - is becoming increasingly important for human identity, our understanding of humanity and the processes by which we live and learn. In our bodies, nature and culture are inextricably interwoven. The body is a clear manifestation of what all human beings have in common, what is different because of culture and what is individual and unique. This is why processes of embodiment and learning are so important both for society and the individual. In the cultural and social sciences, and also in the natural, technological and life sciences, this insight is now widely accepted. This handbook contains contributions by scholars from a variety of academic backgrounds who use different scientific paradigms to examine diverse processes of embodiment and learning. Main references are theoretical and empirical approaches of philosophy, historical anthropology and cultural or social anthropology. In the processes of embodiment and learning, the senses, the emotions and practical knowledge come into their own. Education is seen as the development of the whole person. The handbook makes an important contribution especially to the advancement of educational practice."

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Awareness as a Challenge: Learning Through Our Bodies on a Planet in Crisis

Mariagrazia Portera

As Carlisle (2018) points out, 'habit'—a word coming etymologically from the Latin *habitus* (*habeo*, to have), which is in turn a calque of the Greek *hèxis* (from *echein*, to have, to hold a form through time)—designates a genuinely interdisciplinary concept, extensively used in botany, mineralogy, zoology and of course anthropology and the human and social sciences. As she puts it, "mineralogists refer to the habits of crystals; botanists to the habits of plants; of course, animals, including humans, have habits—and in each case, 'habit' means a shape or pattern of growth. […] Habits are the 'way' in which […] an all-encompassing unity expresses or manifests itself in diverse forms of life" (Carlisle, 2018, p. 105). The last few years have witnessed an impressive resurgence of interest in the notion of 'habit' across a wide range of contemporary fields of inquiry: philosophers turn to the concept to investigate its significance to the historical development of Western thought (Carlisle, 2010, 2018; Sparrow & Hutchinson, 2013); neuroscientists look into the role that habits play in the functioning of the human mind and identify the neural and psychological underpinnings of habitual behaviour (Graybiel, 2008); anthropologists, political scientists and sociologists tap into habits as a key notion to explain social dynamics and collective behaviour (Latour, 2013; Pedwell, 2017). It is a matter of fact that habits pervade our social and mental life to a great extent (see Bargh, 1997): "during much of our waking lives, we act

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according to our habits, from the time we rise and go through our morning routines until we fall asleep," writes neuroscientist Ann Graybiel (2008, p. 360). This centrality of habits to the human individual and social life is notoriously a key point in William James' theory of human behaviour: according to the father of modern psychology, "when we look at living creatures from an outward point of view, one of the first things that strikes us is that they are bundles of habits" (James, 1890, p. 104).

In the wake of this recent rise of the concept, the main aim of this article is to try to figure out what role habits and habitual behaviour may play in tackling complex and multifaceted issues such as the current environmental crisis, with particular reference to the challenge posed by the fact that, as has been argued, the vast majority of our habits seem to unfold beneath the level of consciousness.

Understanding human behaviour is indeed crucial if we are to effectively address issues such as the current environmental crisis. As scholars working in the newly established, multidisciplinary matrix called 'Environmental Humanities' (Neimanis et al., 2015, p. 69) have recently pointed out, "at the heart of global change in the 21st century" there are

> human choices and actions—questions of human behaviour, habits, motivation that are embedded in individual practices and actions, in institutional and cultural pathways, and in political strategies. (Holm et al., 2015; see also Wallenhorst, 2019; Wallenhorst & Wulf, 2022)

But in what sense are human habits relevant to the current environmental crisis? Is it reasonable to expect individuals to change their habits to mitigate the effects of the environmental crisis? And since habits are usually understood as unfolding beneath the level of consciousness, what strategies can be appealed to in order to face the new challenges?

The recent resurgence of interest in the notion of habit should not obscure the fact that the concept has a very long and rich history and it is far from being a term of recent coinage. Philosophical analysis of habit dates back as far as the work of Aristotle (particularly his *Nicomachean Ethics*) and the notion cuts across all schools and traditions until the present day, from Descartes and Kant to Felix Ravaisson and the American pragmatists, from Pierre Bourdieu to today's cognitive scientists. As Barandiaran and Di Paolo (2014) have shown, any philosopher over the last 2000 years has commented on or written at least a couple of lines about the concept of habit, recognized as a key term in any attempt to make sense of the human mind and behaviour.

In the second half of the twentieth century, however, habits—particularly in the field of the study of the human mind—gradually lost ground to more recent (at that time) notions such as 'representation,' 'module,' 'information-processing device.' The advent of cognitivism, representationalism and computationalism in the 1950s and 1960s brought about a decline in the academic and scientific interest in habits, which lasted at least until the beginning of the 1990s. Over the last decade, the emergence of the new paradigm of 4E cognition (*e*mbodied, *e*mbedded, *e*xtended and *e*nactive) has led to a re-assessment of the notion as one of the foundations of a new conception of the human mind.

As Alva Noë points out in his 2009 book *Out of Our Heads: Why You Are Not Your Brain, and Other Lessons from the Biology of Consciousness*, "traditional approaches to the mind in cognitive science," such as the computationalist and (hard-) representationalist ones,

> have failed to appreciate the importance of habit, for they start from the assumption that the really interesting thing about us human beings is that we are very smart. We are deliberators, we are propositional, we use reason. (ibid., p. 98)

The intellectualist, computationalist and representationalist stance, the roots of which according to Noë date back to Plato, sees human beings at their best as habit-free. Humans' distinctive nature, in his view, is supposed to reveal "itself precisely in the fact that [human beings]" decide, plan and act relying on pure reason and that they "rise above mere habit and act from principles" (ibid.). Is this approach to human nature able to grasp the specificity of our way of thinking and behaving? According to the proponents of the 4E cognition paradigm, the reverse is true. As Noë argues, we can make deliberations, act and carry out plans not because we are endowed with pure reason, but because we have bodies, that is, because our bodies can learn, which means they can contract habits. In a word, we are *Homo sapiens* because we have (and are) habitual bodies. Even skills so sophisticated such as mathematical expertise and the ability to speak two or more languages would not be possible if we had no habits:

> If I am working on a mathematical problem, I may be pushing my understanding to its limits, but this is only possible because of my confident mastery of the more basic skills (such as counting) on which I depend. (ibid., p. 99)

In other words, solving a mathematical problem is only possible because more basic skills such as counting have become a 'habit,' on which I can confidently rely without paying too much conscious attention to the mechanisms

of its execution. There is a difference, in Noë's account, between an expert and a novice: an expert, e.g. a pianist has habits, which enables her to perform her task in the smoothest and therefore most effective way; a novice—let us think, for instance, of a boy who has just started to play the piano for the first time—must pay attention to every single gesture and movement of his actions, which sound then fairly 'mechanical.' It has been demonstrated (ibid., p. 100) that the level of brain activation decreases in experts (compared to novices) when they engage in the performance of tasks which they master efficiently; in this sense, it may be said that "expertise requires precisely the absence of care and deliberation"—that is, requires habits—"that the intellectualist wrongly takes to be the hallmark of our mental lives" (ibid., p. 101).

The conclusion to which Noë comes sounds very much like William James in its spirit: "Human beings are creatures of habit. Habits are central to human nature […]. Only a being with habits could have a mind like ours" (ibid., pp. 97–98). If we want to understand how the human mind works, why we behave in the way we do and how it is possible to promote more sustainable and pro-environmental behaviour, we need to turn the spotlight on our embodied, embedded, partially unconscious (but not utterly impermeable to cognition) habits. Indeed, our habits have very much to do with our learning bodies.

Perhaps no one as effectively and clearly as Maurice Merleau-Ponty has brought to the fore in the twentieth century the relationship between habits and the human body. In his *Phenomenology of Perception* (1945), he understands 'habit' as a 'rearrangement and renewal of the corporeal schema,' an ability to feel 'at home' in the environment by incorporating new motoric significances, that is, by acquiring bodily familiarity with instruments and tools (Merleau-Ponty, 1945, p. 164). If I take up the habit of driving my car or if a blind man takes up the habit of relying on his stick to walk, the car and the stick cease to be seen as "objects with a size and volume which is established by comparison with other objects" (ibid., p. 165) and become an extension of the living body, the more so the deeper the habit of using them. Merleau-Ponty chooses the example of a woman who types so regularly (for work) that she contracts a habit of type-writing: her habit is neither cognitive knowledge (based on representations) nor a Pavlovian involuntary action; rather, it is a non-representational, embodied and embedded 'knowledge in the hands,' a feeling of being familiar with the type-writer as if it were a sensitive extension of her own body. As Merleau-Ponty puts it,

> it is possible to know how to type without being able to say where the letters which make the words are to be found on the banks of keys. To know how to

> type is not, then, to know the place of each letter among the keys, nor even to have acquired a conditioned reflex for each one, which is set in motion by the letter as it comes before our eye. (ibid., p. 166)

To know how to type is instead a habit, that is, a rearrangement of my own body in connection with environmental factors or elements. It is because our bodies can learn, which means because they can be moulded and shaped by experience, that we are able to take up habits. This point is very clearly brought out by William James in the fourth chapter of his *Principles of Psychology* (1890), in which he discusses habits and their role and relevance to human experience. "The phenomena of habit in living beings are due to the plasticity of the organic materials of which their bodies are composed" (James, 1890, p. 68); plasticity, as a defining feature of organic materials, is understood by James as "the possession of a structure weak enough to yield to an influence, but strong enough not to yield all at once" (ibid.).

Now, what have our easily moulded bodies and habits to do with the current environmental crisis? A growing body of recent literature has addressed the question as to how climate change and the current environmental crisis can be mitigated through personal actions and the acquisition of better environmental habits (Howell, 2018; Steg & Vlek, 2009; Farrow, et al., 2017; Knussen & Yule, 2008); there is today

> an urgent need for a robust theory of consumption that addresses how habits form, how they change and how policy can contribute to the formation of new habits that are less environmentally intrusive. (Wilhite, 2015, p. 100)

Examples of simple environmental (bad) habits are: leaving the light on when nobody's in the room; leaving the tap running while brushing the teeth; buying more food than needed (thus increasing the amount of waste); regularly leaving household electrical appliances on standby mode instead of switching them off and other similar patterns of behaviour. Project Drawdown®, a non-profit organization which has emerged in the last few years as one of the leading resources in providing climate solutions, offers lists of actions, to be performed both on the collective-global and on the individual level, that are useful to tackle effectively the environmental and climate issues (https://drawdown.org/solutions/table-of-solutions). It is important to notice that each of these (apparently) minor behavioural patterns (leaving the lights on, leaving household equipment on standby mode etc.), which we perform in most cases automatically, without being completely aware of what we are doing while we are doing it and which are potentially environmentally harmful, reveals a

more general propensity (acquired, not innate) to think of natural resources as if they were infinite and of us, human beings, as if we were the ultimate and only masters of the planet. Each of them, to put it differently, taps into a more general, 'neo-liberal' habit of thinking that is specific to the Anthropocene 'milieu.'

Let us dwell for a moment on the fact that human beings are never completely aware of their habitual actions as they perform them. According to William James, one of the laws of habit is that it "diminishes the conscious attention with which our acts are performed" (James, 1890, p. 74). As James explains,

> if an act requires for its execution a chain, *A, B, C, D, E, F, G,* etc., of successive nervous events, then in the first performances of the action the conscious will must choose each of these events from a number of wrong alternatives that tend to present themselves; but habit soon brings it about that each event calls up its own appropriate successor without any alternative offering itself, and without any reference to the conscious will, until at last the whole chain, *A, B, C, D, E, F, G*, rattles itself off as soon as A occurs, just as if A and the rest of the chain were fused into a continuous stream. (James, 1890, pp. 74–75; for an insightful discussion of the relationship between habit and attention, alternative to the Jamesian approach, see Magrì, 2019)

This means that, if we start to perform habitually an environmentally harmful behavioural pattern, with one repetition after another the whole action will result in becoming easier and easier, the attention with which it is performed lower and lower, up to the point of it being executed unconsciously. But then, if the current environmental crisis is worsened by our non-environmentally friendly habits, how should we grasp and change them since they unfold beneath the level of consciousness?

On 19 August 2020, *The Guardian* published an article by Damian Carrington featuring climate activists Greta Thunberg, Luisa Neubauer, Anuna de Wever and Adélaïde Charlie:

> "Looking back [over two years], a lot has happened. Many millions have taken to the streets, and on 28 November 2019, the European parliament declared a climate and environmental emergency," Thunberg said. "But over these last two years, the world has also emitted over 80 bn tonnes of CO_2. We have seen continuous natural disasters taking place across the globe. Many lives and livelihoods have been lost, and this is only the very beginning." The young activists pointed out that "when it comes to action, we are still in a state of denial. The gap between what we need to do and what's actually done is widening by the

> minute." It seems, Thunberg and her fellow activists recognized, that the climate emergency is a "fact which most people refuse to accept. Just the thought of being in a crisis that we cannot buy, build or invest our way out of seems to create some kind of mental short-circuit. This mix of ignorance, denial and unawareness is the very heart of the problem."

These last words by the climate activists are relevant: here we are confronted again, as it emerged while discussing the notion of habit in general, with *unawareness* as being at the very heart of the environmental issue. Why does it seem that our minds and habitual bodies are, as it were, 'designed' to refuse or at least to struggle to accept the reality of the environmental crisis?

In a book published a few years ago, *Reason in a Dark Time. Why the Struggle Against Climate Change Failed and What it Meant for Our Future* (2014), Dale Jamieson offers a few answers to this question. First, it seems that a sort of evolutionary bias is at work with the environmental crisis: we, as evolved animals which have passed through the sieve of natural selection, struggle to recognize problems like climate change.

> We have a strong bias toward dramatic movements of middle-size objects that can be visually perceived, and climate change does not typically present in this way. The onset of climate change is gradual and uncertain rather than immediate and obvious. Increments of climate change are usually barely noticeable, and even less so because we re-norm our expectations to recent experiences. (Jamieson, 2014, p. 102)

That is, even less so because we have a strong tendency to habituate ourselves and to get accustomed even to the most extra-ordinary experiences, provided that they are repeated often enough. This is all the more evident today, in a world whose spatial and temporal boundaries have inevitably narrowed and in which, at least in the Western countries, the socio-economic system forces us to be as flexible and fast as possible. Devising good solutions to mitigate the environmental crisis, however, implies a number of time-consuming efforts, the results of which might require many years before becoming tangible.

As Jamieson (2014) points out, other psychological mechanisms inhibit action: "The scale of a problem like climate change can be crippling. When we do not feel efficacious with respect to a problem, we often deny that it exists" (ibid., p. 103). In his view, the problem with climate change and the environmental issues is that they

> must be thought rather than sensed […]. Even if we succeed in thinking that something is a threat, we are less reactive than if we sense that it is a threat. Consider the difference between touching a hot stove and being told that the stove is hot. Scientists are telling us that the world is warming, but we do not sense it and so we do not act. (ibid.)

Here again, the issue at stake is that of 'bodily' unawareness: how is it possible to make our bodies—our habitual bodies—feel and sense the climate change? Indeed, if we do not feel the environmental crisis, and if we do not feel and sense (i.e., if we are not aware of) the harmful impact on the environment exerted by some of our habits, how might we contribute to the mitigation of the current environmental crisis?

In this final section of my paper I would like to present two models of answers to the question with which I concluded the preceding one. On the one hand, recently there have been proposals aiming at 'by-passing' the question of the awareness of our (bad) environmental habits, ultimately considering our lack of awareness not to be crucial or decisive in enabling us to grasp and eventually change our habits. On the other hand, a line of research has lately emerged focusing on the development of new, non-intellectualist and non-cognitivist tools that are useful for making people aware of their environmental habits, under the premise that, without awareness, no modification or transformation of our habits would ever be possible. Let us start with the first proposal.

Theories of sustainable environmental habits have been put forward in the last few years. These approaches revolve around the notions of 'affordance' and 'nudge' (see, for instance Lehner et al., 2016; Kaaronen, 2017). It is stressed that in order to steer people towards more sustainable behaviour it is not necessary to make them aware of their, largely automatic, environmentally unsustainable habits, rather it is enough and indeed much more effective to implement minor changes ('affordances,' 'nudges') to the everyday infrastructures and architectures so that people can be pushed into environmentally friendly behaviour. In other words, independently of us being aware or not of our habitual behaviour, a suitably equipped and designed environment will gently 'force' us to make the best choices and to act in the most nature-friendly way. 'Affordance,' as is well known, is a concept coined and brought to the fore by the American psychologist James Gibson in the 1960s and fully developed in his masterpiece *The Ecological Approach to Visual Perception* (1979). Gibson defines 'affordances' as follows:

> The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill. The verb to afford is found in the dictionary, but the noun affordance is not. I have made it up. I mean by it something that refers to both the environment and the animal in a way that no existing term does. It implies the complementarity of the animal and the environment. (Gibson, 1979, p. 127)

Affordances are 'possibilities for action': for example, the curved handle of my breakfast mug invites me to grip it in a certain way; it is, in this sense, an 'affordance.' Less well known is perhaps the concept of the 'nudge,' put forward by University of Chicago economist Richard H. Thaler and Harvard Law School Cass R. Sunstein in a book published in 2008 under the title *Nudge: Improving Decisions About Health, Wealth, and Happiness*. According to the authors,

> A nudge […] is any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates. Putting the fruit at eye level counts as a nudge. Banning junk food does not. (ibid., p. 9)

Nudges are not just affordances: they are affordances designed by someone specifically with the aim of letting people carry out a certain action or take a certain decision. The main premise underlying the theory of the nudge is, of course, that people usually do not make choices and take decisions in their best interests; pushed by ignorance, emotions, feelings and other non-rational factors, humans end up in most cases with reasoning very badly. An example of the application of nudging to promote environmental causes in food consumption (through the modification of the physical environment) are changes in the positioning, accessibility and visibility of products on the supermarket shelves, for instance, to reduce meat consumption (and therefore the huge impact of meat consumption on the environment).

There have been critical voices concerning the idea of applying nudging to promote behavioural change, both on a theoretical and on an empirical basis. As Pedwell (2017) has argued, for instance, the nudge theory focuses on pernicious habits with the idea of getting rid of them without the 'active' and fully aware cooperation of individuals and without addressing the more complex question of how 'intelligent,' malleable and more sustainable habits can be formed; moreover, it targets isolated individuals alone—seen more as consumers than as citizens—instead of communities, groups and their shared

values. In a word, it seems that the 'libertarian-paternalist' approach based on nudging is just another facet of the manipulative, neo-liberal habit of hyper- and quick-consuming that has dominated so far in the Anthropocene. On an empirical basis, a recent study by Hagmann et al. (2019)—among other pieces of research following the same lines—has demonstrated that a nudge-based approach with the aim of promoting the reduction of carbon emissions (instead of a carbon tax, which imposes direct costs on consumers) would be in the long term more detrimental than beneficial to the environmental cause. As the researchers propose, "nudges aimed at reducing carbon emissions could have a pernicious indirect effect if they offer the promise of a 'quick fix' and thereby undermine support for policies of greater impact" (ibid., p. 484). Moreover, nudges risk providing the "false hope that problems can be tackled without imposing considerable costs" (ibid.). Tiefenbeck et al. (2013) have shown, in a similar vein, that people who were nudged to reduce their water consumption ended up with increasing their use of electricity, which is an example of behavioural spill-over that risks undermining the effectiveness of the nudge approach as a whole.

Being fully aware of our behavioural patterns, including our environmental habits and the energy- and time-consuming efforts required to modify them, seems then to be crucial if we are to promote *truly effective* pro-environmental change. This is why in recent years—with the current resurgence of interest in the concept of habit—a stimulating body of research has emerged addressing alternative ways to make people aware of their habits. I stress the term 'alternative,' since a purely cognitive, in a broad sense intellectualist or rational approach to our embodied habits is assumed not to be enough to grasp them and eventually change them. As Carlisle (2010, pp. 141–142) has argued,

> Awareness of habit has to be cultivated at the level of sensations, feelings, and involuntary thoughts […]. Developing the faculty of awareness of passive phenomena […] can gradually enable a person to discriminate between habits in order to choose which to maintain and which to resist.

In this sense, an interesting path that environmental scientists have started to explore has to do with the possible interconnections between policy-making, the behavioural sciences and mindfulness, understood as a practice through which individuals are invited to develop 'sensitive awareness'—awareness on the level of the body, see Shusterman (2008)—of the present moment through meditation techniques (see Lilley et al., 2014; Armstrong, 2015; Amel et al., 2009). In the contemporary consumer culture, in which "we are constantly separated, even at the most basic sensory level, from the very

systems we rely on, such that many of us do not even know we are in the middle of environmental crises" (Amel et al., 2009, p. 14), that is, we do not even feel or sense the crisis and how our habitual behaviour impacts on it, cultivating awareness and gaining 'sensitive attention' through mindfulness training might be useful if we are to increase sustainable behaviour.

This proposal has, however, its lights and shadows. In this final part of the section, I would like to draw attention to the target of the two proposals—the nudge-based and the mindfulness-based: in fact, both target isolated individuals.

While the nudge theory sees individuals as consumers unable to choose what is in their best interest and who must, therefore, be gently forced or nudged towards certain options or actions, mindfulness-based approaches try to make individuals fully aware of the impact, effects and consequences of their own (habitual) behaviour, with particular reference, in this case, to environmental and sustainability issues. But are we sure that, on the one hand, maintaining individuals in their condition of unawareness, through nudging, or, on the other hand, burdening them with the full awareness of the whole chain of environmental consequences of their acts are the only two options available to tackle the environmental crisis effectively? Let us consider, for instance, the various plans and projects aimed at promoting pro-environmental behaviour which have been carried out in the UK over the last few years by the Department for Environment, Food and Rural Affairs (DEFRA) (see Shove, 2010). The vast majority of these projects were inspired by the so-called ABC approach, where A stays for 'attitude,' B for 'behaviour' and C for 'change.' As Shove (2010, p. 1274) argues, "the popularity of the ABC framework is an indication of the extent to which responsibility for responding to climate change is thought to lie with individuals whose behavioural choices will make the difference."

The point with approaches like this is that they place "responsibility squarely on the individual CO2 addict and in the same move [deflect] attention away from the many institutions involved in structuring possible courses of action and in making some very much more likely than others" (ibid., p. 1280). This is, in my opinion, a criticism worth considering which can be applied not only to a nudge-based approach to climate change but also, at least to some extent, to certain mindfulness-based approaches. Indeed, these new, embodied, sensitive, *habit*-based strategies (such as nudges and mindfulness) can be much more beneficial for the environmental cause if we bring to the fore their potential to contribute to a *sense of community* and *political belonging* (broadly understood), rather than just individualist thinking. Let us consider, for instance, experiences such as the international Councils on the Uncertain

Human Future (https://councilontheuncertainhumanfuture.org), launched in 2014 at Clark University, USA, and now internationally widespread, which are initiatives of collective reflection relying on mindfulness techniques, meditation, storytelling and the sharing of scientific data, with the aim of building collaborative insight on climate change and the ecological crisis. Experiences like these might help people truly share in the *joint* effort towards a more sustainable way of living.

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