

Book Review

*The Essential Child: Origins of Essentialism in Everyday Thought* by Susan A. Gelman. Oxford University Press, Oxford, 2003.

Reviewed by Maria Trochatos

What do we mean when we say of a particular group of people – political correctness aside – that ‘they’re tight with money’ or ‘they’re not very smart’? In describing people this way, we seem to be implying that the named property is a deep, fixed and enduring characteristic of their makeup. Or, when we say that ‘tigers have stripes’, we seem to be suggesting that to count as a tiger a creature *must* have stripes – this is part of what a tiger *is*. These sorts of claims, Susan Gelman suggests, are essentialist. We make (and believe) such claims all the time. Essentialist claims say something about the very nature or identity of things.

In *The Essential Child*, Gelman offers data that may explain why such essentialist thinking is so pervasive in our understanding of the world and the things in it. She focuses on a fascinating phenomenon called *psychological essentialism* (PE). PE applies to our everyday or intuitive thinking about the world, rather than our ‘formal’ or scientific theories of the world (although essentialism is widespread in science [e.g. ‘the essence of water is H<sub>2</sub>O’]). Gelman claims that PE is a pervasive reasoning bias – ‘a habit of the mind’ (p. 290) – that affects human categorisation in various domains and contexts.

*The Essential Child* begins with a general Introduction (Chapter 1), followed by three main sections. In Part I, ‘The Phenomena’ (Chapters 2-7), Gelman presents the evidence for PE. Part II, ‘Mechanisms of Acquisition’ (Chapters 7-9), explores the processes that possibly give rise to PE. In Part III, ‘Implications and Speculations’ (Chapters 10-11), Gelman discusses the implications of her view for theories of concepts and cognitive development, and explores the scope of PE in our understanding of the world.

The Introduction is particularly helpful, laying out the groundwork for what follows. Here, Gelman introduces PE, and specifies exactly what she means by it – basically the view that people believe that certain categories have an un-

derlying nature that governs the observable characteristics of their members. These categories – natural kinds – are discovered rather than invented, natural rather than artificial, and they seem to ‘carve nature at its joints’ (e.g. ‘girl’, ‘dog’, ‘tree’, ‘gold’). Not all categories are natural kinds (compare ‘tiger’, which is a natural kind, and ‘striped things’, which is not). Members of each natural kind share some unobservable property, substance or quality – the essence – that causes them to look and behave the way they do. People also believe that words reflect the structure of the world, mapping directly onto natural kind categories.

PE is a different phenomenon from philosophical or metaphysical essentialism. It is an epistemological view about people’s *beliefs* about the world and the things in it, rather than a (metaphysical) view about the actual or real workings of things in the world. As Gelman goes on to show, these two positions sometimes converge, but more often they don’t. Gelman stresses this point often: the claim that people essentialise is not the same as claiming that essentialism is true.

Much of Gelman’s evidence comes from developmental psychology (although she does also discuss studies carried out on adults). She claims, rightly, that ‘children provide a strong test for psychological essentialism’ (p. 4). Many psychologists, most notably Jean Piaget, suggest that children’s concepts (below six or seven years of age) are perceptually driven and atheoretical. Gelman claims that the exact opposite is the case; children’s concepts look beyond the perceptually obvious, and they privilege unobservable properties. PE is a pervasive and robust phenomenon.

Gelman’s approach is not to focus on *what* is in a child’s category (as other theorists have done), but to test *how* the category functions. While it is difficult to find direct evidence for PE (since essences are unobservable) it is possible to explore a number of related phenomena that point to essences (or essence-like constructs).

In Chapter 2, Gelman provides evidence that children’s concepts are richly structured, and that their category-based inductive inferences are essentialist. This is reflected in their reasoning about unobservable properties, and ‘an appreciation that appearances can be deceiving when it comes to category membership’ (p. 26). Children will make inferences from one category member to another whenever the properties or functions concerned are internal or unobservable. They will group together creatures according to natural kind membership rather than perceptual similarity, based on these non-obvious properties. For example, they will categorise a tropical fish with a shark, but not with a dolphin (which is perceptually similar to a shark), if they believe that the fish and the shark share some hidden property.

In Chapter 3, Gelman discusses the importance of unobservable or non-obvious properties in children’s categories. By four or five years of age, children recognise that category membership (or identity) based on internal properties is

stable despite radical outward transformation. ‘A lion in a tiger costume is still a lion’ (p. 63). Similarly, children as young as five years of age recognise that biological transformation (e.g. metamorphosis, growth) does not change a creature’s identity. However, if a creature’s ‘insides’ (the hidden properties) are removed, category identity and category-typical functions are lost.

Children’s categories incorporate beliefs about innateness. Nature/nurture conflicts and ‘innate potential’ are discussed in Chapter 4. These are explored via ‘switched-at-birth’ or adoption scenarios. Will a kangaroo raised by goats have a pouch? Will it be good at hopping or climbing? Will an apple seed planted into a flowerpot grow into an apple tree or a flower? In these studies, and from as early as four years of age, nature clearly wins out over nurture (p. 91). Similar nativist beliefs emerge in studies of race and gender.

Children’s concepts incorporate beliefs about causality; the role of causation in children’s categories is discussed in Chapter 5. Children believe that the ‘insides’ of living natural kinds are causally responsible for their ‘outsides’, for their appearance and behaviour. They believe that these causally meaningful properties are more central to category identity, and that they maintain the discreteness of natural kind boundaries. In Chapter 6, Gelman defends her account of PE from alternative interpretations of the data presented in the previous chapters.

It might be suggested that children simply learn essentialism from the way their parents speak about or describe things, or from books and other media. Chapter 7 focuses on parental speech to children. Here Gelman presents evidence showing that parents do not explicitly talk about essences to their children. The ‘language children [hear is] sketchy, incomplete, and...incapable of teaching children essentialism’ (p. 164). Where ‘insides’ *are* mentioned, it is in relation to artefacts (e.g. batteries) rather than living kinds. Parents do talk about kinds and emphasise categories (e.g. they group individuals under a kind, and discuss generic categories). However, they do not make any further comments about non-obvious properties being responsible for observable similarities. Yet children have ‘a rich set of beliefs about insides, teleology, and animal origins’ (p. 175). They seem to make these further assumptions on their own.

Chapter 8 focuses, in considerable detail, on the relationship between language and essentialism. Language is not essential for forming categories (e.g. pre-linguistic infants can form categories). Language is not the source of essentialism, but it *is* related to essentialism. Gelman points out two functions of language – conveying membership of a kind, via naming, and expressing the scope of a proposition, via generic noun phrases – which are relevant to PE. However, these capacities only indirectly inform essentialism. Gelman claims that it is children’s *beliefs* about the category being named that gives particular words their power (p. 235). Language is one cue (among many) that contributes to children’s essentialising.

In Chapter 9, Gelman offers a developmental account that incorporates PE. Her view is that PE is a component of a framework theory that informs these childhood competences. Children are naïve theorists – that is, their categorisations are theory-based. The opposing view is that their abilities result from ‘dumb attentional mechanisms’ (p. 248-249): children construct complex concepts from basic perceptual, verbal and other input (i.e. they are similarity-based). However, the most compelling evidence for the theory view is that children rarely attend to perceptual features alone, they often ignore perceptual evidence, and they form categories that include unobservable, theoretical properties such as ontology, causation, function and intention.

PE is not a ‘historical accident’ arising from Western philosophy, culture or politics. Children essentialise, but they don’t know anything about philosophy or science. Nor is PE a consequence of naming. According to Gelman, PE seems to result from the convergence of several psychological capacities such as the appearance/reality distinction, induction from property clusters, causal determinism, and tracking identity over time. It applies mostly to natural kinds (plant and animal living kinds, and substance kinds), and to social kinds, but not to artefacts. This account of PE also rejects a number of alternative views – for example, that all concepts, or only biological concepts, are essentialised. PE is embedded in ‘folk theories’, theories that embody our commonsense understanding about different domains (e.g. biology, psychology). It is an early-emerging bias; it is innate, not taught. PE appears to be a domain-general (global) predisposition, but domain-specific in application.

In Chapter 10, Gelman considers whether we need to posit PE over and above the component phenomena (she answers ‘yes’). She also speculates about how PE can inform our understanding of the nature of concepts. The role of PE in children’s categorisations ‘overturns assumptions about what is simple or basic and what is complex. Abstract is not always hard, and concrete is not always the starting point’ (p. 292). She also discusses how PE is related to developmental change, what implications individual variation poses to PE, and what would be required to disconfirm PE.

Chapter 11 poses the question of *why* people essentialise. A number of related phenomena are discussed (e.g. contagion, contamination, fetishes). Here, Gelman provides evidence that humans can’t *not* essentialise – we are innately prone to this powerful cognitive predisposition. (But this is not to deny the role of external input such as language.) While PE assists us in some ways (such as allowing us to make reasonably good predictions about the world much of the time), it does not always converge with the actual structure of reality, and often misleads us.

I have to admit straight up that I agree with Gelman’s interpretation of the data. However, it seems to me that Gelman is cautious about granting too much power to PE. In response to the question ‘is essentialism in the world, the mind,

language, or culture?’ (p. 323) Gelman claims that all of these have an influence (although PE ‘could not emerge without powerful cognitive predispositions’ (p. 323)). A strongly nativist interpretation would paint a very deterministic picture of our world, a world where we really don’t have an influence on what happens, and where we are at the mercy of our biological makeup. Not many people would feel comfortable with such a view. But, if anything, my own view would be much stronger than Gelman’s. I would venture that cognitive biases such as PE have a much greater influence on our beliefs about the world than we suppose.

Gelman clearly distinguishes between PE as an intuitive cognitive bias or predisposition, and metaphysical or scientific essentialism. In the past, however, the distinction between these two views was not quite so clear. Before our modern scientific and technological age, many theories were based on an intuitive understanding of the world. Philosophers such as Aristotle and Locke offered essentialist explanations of a number of phenomena, including species. It was not until Darwin’s theory of evolution by natural selection that these essentialist accounts were shown to be inaccurate.

Of course, scientific enquiry has to originate somewhere, and intuition is a good a place as any. But our intuitive theories, while acting as a starting point for scientific enquiry, often seem to constrain or limit that enquiry – and perhaps not only in the past. In the domain of folk physics, for example, commonsense reasoning about the motion of objects seems to rely heavily on a naïve impetus theory, similar to the medieval impetus theory (this is the idea that physically setting objects in motion will imbue them with an internal force – impetus – that will maintain their motion). Even students who have completed physics courses appeal to impetus theory. Further, information presented in the classroom may be reinterpreted so that it *complies* with the impetus theory. ‘[Many] students emerge from physics courses with their impetus theories largely intact.’<sup>1</sup>

Perhaps this sort of constraint occurs in the accounts of species presented by Aristotle and Locke: their ‘scientific’ theories were limited by their intuitive theories of the biological domain. Their intuitive theories, and consequently their ‘scientific’ theories, misrepresent reality. But, is it possible that any of our modern sciences might follow this same pattern? If innate biases such as PE have a stronger influence than Gelman suggests, I think this is a real possibility.<sup>2</sup> However, this remains a question for future enquiry.<sup>3</sup>

But this disagreement with Gelman about the strength of PE is only a minor one. While some of the evidence that Gelman presents is speculative, it is nevertheless convincing. We do seem to be habitual classifiers (we do classify things into natural kinds), and we do search for the ‘true nature’ (essence) of things in order to better understand them. PE also seems to offer a reasonable explanation for many phenomena in our world (consider stereotyping, or ethnic or racial discrimination).

*The Essential Child* is a captivating read. Gelman’s writing is extremely

clear, making her work accessible to anyone not familiar with the subject matter. Her presentation of the material is well structured and systematic. Some of the studies described are quite complicated (especially those exploring the relationship of essentialism and language), but to her credit Gelman makes a point of summarising the studies and re-stating their relevance to her overall arguments about PE.

I would highly recommend *The Essential Child* to anyone interested in the working of the human mind. At the very least, it will make you think about how you think about the world.

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### Notes

1. McCloskey, M. (1983), 'Naïve Theories of Motion', *Mental Models*, D. Gentner & A. L. Stevens (eds.), Lawrence Erlbaum Associates, Inc., p. 318.
2. This position is consistent with the view, espoused by researchers such as Alison Gopnik, which describes babies and toddlers as 'scientists in the crib'. See A. Gopnik, A. Meltzoff & P. Kuhl, *How Babies Think: The Science of Childhood*, Weidenfeld and Nicolson, 1999.
3. Some of this work is already underway. See P. Carruthers, S. Stich & M. Siegal, *The Cognitive Basis of Science*, Cambridge University Press, 2002.