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THE FLINTSTONES FALLACY

ABSTRACT

A leading idea in evolutionary psychology and philosophy of mind is that the basic architecture and dynamics of the mind are very old, presumably dating back to the Stone Age. Theories based on this idea are liable to paint a caricature of our ancestors by projecting our modern self-conception onto earlier minds. I argue that this ‘Flintstones Fallacy’ is an underrated risk, relieved neither by standard biological arguments nor by arguments from psychology and philosophy. Indeed, each of these fields has better arguments for the contrary view that the mind as we know it from present-day experience is not ancient at all.

Keywords: philosophy of mind; ancient minds; evolutionary psychology; folk psychology; Flintstones fallacy; overinterpretation; cultural variation.

1. INTRODUCTION

While theories of mind in the second half of the 20th century have not been particularly keen on questions of history and development, the situation has changed with the rise of disciplines such as evolutionary psychology and cognitive archaeology (see, e.g., Tooby and Cosmides 1992; Donald 1993; Mithen 1996; Noble and Davidson 1996; Deacon 1997; Donald 2001). Theories in these fields generally concentrate on minds in deep history and on the far ends of the evolutionary tree. Philosophers have picked up the trend. They often express concerns about the methodology of evolutionary psychology and its conceptual foundations (as philosophers do), but on the whole they tend to support the project (see, e.g., Gärdenfors 2003; Bermúdez 2003; Corbey 2006). The preoccupation with deep history and distant origins betrays a presumption of psychological continuity, commonly backed up by the idea that the mind is a native asset of the biological brain, which is presumed to be responsive only to pressures on an evolutionary timescale. So, when traveling back in human history one may

expect mind and brain to stay roughly the same during most of the journey. The recent past is by implication uneventful.

Also moral considerations may bear on the issue. According to a long-standing Western tradition, the mind is the seat of human dignity and man's defining characteristic. From that perspective, changes in the nature of conscious minds on anything short of an evolutionary timescale would compromise the moral unity of mankind. Even if animals and early hominids can be excluded from our peer group (to which some would strongly object), drawing the line closer to home is insufferable.

Regardless of the moral concerns at stake, I will argue that deep history is not the right place to start when studying the mind's history. It makes us susceptible of a particular type of fallacious reasoning which I shall call the Flintstones Fallacy (section 2). The fallacy is irredeemable: neither standard biological arguments are helpful (section 3), nor arguments from psychology (section 4) and philosophy (section 5). Indeed, each of these fields has better arguments for the contrary view that the human mind is neither ancient nor a natural asset of the brain.

2. THE FLINTSTONES FALLACY

Fred Flintstone, the Stone Age protagonist in the legendary TV series from the 1960s, was the spitting image of a modern human being. The artists willfully projected modern mentality onto Stone Age man to create a comical effect, and they were very successful at it. Now, the idea that the conscious mind must have been basically the same throughout most of human history makes psychology do much the same thing that is funny in the Flintstones, namely, to project onto earlier humans (as well as hominids, primates, and other animals) the image that we have of ourselves as conscious, thinking creatures, in spite of the fact that this self-image may well contain features that are typically modern and have been acquired only recently. If we knew *which* of these features are specifically modern acquisitions this would not be a problem, of course, for we could then omit them from the image projected onto earlier humans and other creatures. In fact, however, we have no idea how to sort mental features into modern and ancient, or into essential features (which any mind must have irrespective of its state of development) and accidental features (which may or may not be present, depending on the state of development). So, projecting the modern self-image back into deep history is bound to be fallacious to some degree by inadvertently attributing modern mental traits to other types of mind that do (or did) not really possess them. Moreover, once the fallacy has been committed, the misattributions will tend to stick, and it will become more and more difficult to identify and correct them.

To be sure, not all mental features are equally susceptible to the Flintstones fallacy. Basic information processing capacities (e.g., for early vision or senso-

ry-motor coordination) are largely immune to it. These capacities typically involve neural mechanisms that can be directly identified by neuroscientific means in humans as well as in non-human animals. In principle it is no more fallacious to attribute them to earlier humans than to attribute them to present-day animals. Yet even here one should be cautious, both with respect to earlier humans and with respect to contemporary non-humans. Although basic ‘micro-cognitive’ mechanisms can be identified in humans and animals alike, the manner in which they contribute to overall cognitive performance may be quite different. In ordinary, present-day humans the mechanisms are typically described partly in terms of their role in overall mental competency at the personal level (cf. Bennett and Hacker 2003). Now, obviously one should be careful not to transfer these personalist descriptions of neural mechanisms from humans to animals, which would go well beyond the licence of neuroscience, and would indeed expose one to the Flintstones fallacy.

The features for which the Flintstones fallacy poses a problem are typically those described by folk psychology. Folk psychology is the collection of practices, principles and conceptual tools that we use for purposes of describing, organizing, and communicating our ideas, beliefs, motives, feelings, and reasons for acting. It is the toolkit that we use for identifying and interrelating types of mental contents (beliefs, feelings, ideas), states (awareness, understanding, agreeing), processes and episodes (reasoning, dreaming), faculties and attitudes (imagining, remembering, perceiving), and so on, with respect to one’s own mental life as well as that of other members of society. Folk psychology in this sense is roughly the ordinary “concept of mind” described by Gilbert Ryle (1949). What the present argument calls into question, is specifically that the familiar concepts of folk psychology can be meaningfully and non-fallaciously applied to ancient minds.

Notice that the Flintstones fallacy may affect our thinking about the mind in opposite ways, one projecting present mentality into the past, the other projecting past mentality into the present. On the one hand, the evolutionary trend invites us to picture Stone Age man as having an essentially modern mind. On the other hand, the same type of reasoning may lead us to picture modern humans as “Stone Age brains acting clumsily in modern environments” (Smail 2008, 149), “Pleistocene hunter-gatherers struggling to survive and reproduce in evolutionarily novel suburban habitats” (Buller 2005, 112), since “the modern mind is adapted to the Stone Age, not the computer age” (Pinker 1997, 42). The two projections are niftily combined in the following passage on the Neandertal mind:

“Much modern thinking is still based on abilities that evolved long ago. It is very unlikely that the advent of modern humans was marked by a total reorganization of the brain; it is probable that much modern thinking still consists of processes that evolved in earlier times. Many modern human activi-

ties place minimal demands on problem solving ability (the overworked driving-to-work example). More likely, the neural change leading to modernity was modest and added to the abilities already possessed by premodern populations [such as Neandertals]. If we can identify and peel away this final acquisition, we should be able to describe the Neandertal mind itself” (Wynn and Coolidge 2004, 468–469).

The passage characteristically emphasizes the vast continuity between premodern and modern humans, whose minds are claimed to be essentially alike except for a “final acquisition.” The driving-to-work example referred to in support of continuity adds a comical note, calling up the image of Fred and Barney getting ready to face another day at the Bedrock Gravel Company.

3. BIOLOGY

The belief that the human mind has developed very slowly over a vast period of time is typically defended by appealing to biological continuity. Assuming (1) that the mind is a product of the brain, (2) that brain structure is determined by evolution, and (3) that evolution works very slowly, it seems logical to conclude (4) that the mind in its contemporary form developed on an evolutionary timescale and must have been roughly the same throughout prehistory.

The validity of the argument is doubtful, however. First, even assuming that it could be established that the basic structure of the brain has been the same since the dawn of humanity, this would reveal little about the way in which that basic structure was *used* by ancient minds. If earlier humans had modern hardware, so to speak, it does not necessarily follow that they were running modern software. The converse is much more plausible: from the software they were running one could make a reasonable estimate of hardware requirements. This second inference, however, offers no relief of the Flintstones fallacy; it relies on a prior insight in the organization of ancient minds (“ancient software”) that cannot be established by biology. Biology may be able to sort brain features into ancient and modern, but it cannot do the same for specifically mental features.

Moreover, the idea that the development of phenotypical traits such as behavioural competencies is determined by slowly working genetic mechanisms has also been challenged from within evolutionary theory itself, among others by Dual Inheritance Theory (DIT) and Developmental Systems Theory (DST). According to DIT the features and competencies sported by normal adults (generally, mature phenotypes) depend on biologically inherited traits as well as on cultural inheritance (Tomasello 1999). Similarly, DST explains how non-genetic factors (such as cultural traditions) may systematically shape biological structures and capacities, including those of the brain, provided that they are reliably present in every generation (Oyama et al. 2001). Because non-genetic

factors can operate on much shorter time scales than genetic factors, psychology's focus on deep history is probably misguided. Relatively recent changes in mental architecture may be consistent with a sophisticated view of evolution.

Finally, advanced imaging technologies in cognitive neuroscience point up the importance of neuroplasticity for understanding the cognitive functions of the human brain, in particular that of the neocortex (for an overview, see Pascual-Leone et al. 2005). Human brains are intrinsically able to reconfigure themselves in dynamic response to changing environmental pressures, notably including cultural conditions. How this relates to specific features of our self-understanding as thinking creatures is still unclear, but it seems likely that the modern mind to some degree exploits the bandwidth of cortical plasticity, synaptically adapting itself to prevailing social, cultural and technological conditions. Research in the field of situated cognition strongly suggests that the human brain dynamically interacts with structural features of its cognitive ecology, which act as scaffolds for many of our mental capacities and processes. Changing cognitive landscapes will thus accommodate differently tuned brains, which in their turn provide for different sorts of mental capacities and processes (Clark 2008; Robbins and Aydede 2009). At the very least this is a possibility that cannot be ruled out a priori.

Summing up, biology offers no relief from the Flintstones Fallacy. Indeed, new insights rather suggest that many traits of the modern mind may have been acquired in recent cultural history. It would certainly be mistaken to project these onto Stone Age ancestors.

4. PSYCHOLOGY

The risk of "overinterpretation" is widely acknowledged among scientists working on ancient minds. With regard to prehistoric tools, for example, archaeologist Thomas Wynn called for caution when bringing modern conceptions of tool production to bear on the production of stone handaxes:

"It would be difficult to overemphasize just how strange the handaxe is when compared to the products of modern culture. It does not fit easily into our understanding of what tools are, and its makers do not fit easily into our understanding of what humans are" (Wynn 1995, 21).

Notwithstanding the appreciation of the risks involved, there is widespread confidence that our present conception of the mind can reliably be used as a starting-point for modeling earlier humans and hominids. Biological considerations aside, can psychology offer a basis for this confidence?

Conjectures about the mental traits and capacities of early hominids typically take the form of a 'minimal' psychological model. The model is minimal in the sense that it contains only those psychological competencies that are strictly necessary for explaining specific behavioural traits such as producing handaxes,

hunting and gathering, or generally coping with specific ecological and social conditions. The aim of minimalism is to reduce the risk of inadvertently attributing to premodern minds traits that are specifically modern, i.e., to avoid the Flintstones fallacy.

Is the minimalist strategy an effective measure against the Flintstone fallacy? There are three reasons for doubting this. First, for minimalism to be successful against the Flintstones fallacy it should be able to describe the behaviour that needs to be explained in a sufficiently “neutral” way, i.e., without implicating our modern self-understanding as mindful beings. This is the point made by Wynn in the above quotation. By describing relics from the past as “tools,” for example, a host of connotations about modern production and use of tools is implicated, including expectations about the user’s consciousness, instrumental rationality and imagination. It is not at all clear whether sufficiently neutral descriptions can be given; the Flintstones fallacy looms large here.

Secondly, for the psychological model of ancient minds to be truly ‘minimal’, it must assume that it makes sense to isolate specific mental traits and competencies and lift them from the ordinary context in terms of which we commonly understand human psychology. We have a relatively clear grasp of what specific competencies (e.g., imagination, memory, or communication) amount to in present-day peers, but what is left of these competencies when taken in isolation and projected onto an alien past? Without the socio-cultural backdrop of modern folk psychology the attribution of isolated competencies seems to make little or no sense. For example, what would it mean to ascribe a minimal capacity for communication to our ancient forebears? Is this supposed to involve also a capacity for having beliefs and desires, for thinking, reasoning, self-expression, imagination, and other mental aptitudes that we routinely associate with communication in ordinary life? If not, then what is left of the notion of communication? In both cases minimalism defeats its own purposes: first by allowing modern self-understanding to paint in the model of the ancient mind (which is to commit the Flintstones fallacy), secondly by attributing mental traits that are void of meaning.

A final worry about the prospects for psychological minimalism concerns the implicit assumption that we can reliably tell which mental traits and competencies are needed for an agent to display certain types of behaviour. We are indeed fairly dexterous in assessing the relationship between competence and performance in present-day, normal, adult peers performing under normal conditions; that is the essence of folk psychology. Turning to abnormal conditions, however, or to abnormal humans (infants, seniles, people suffering from mental disorders and brain lesions), folk psychology soon ceases to be a reliable guide. It is to be expected that the same is true *a fortiori* of ancient minds, which are both abnormal and acting under abnormal conditions (as seen from our present-day point of view, of course).

A telling example is the interpretation of prehistoric cave art such as found in Chauvet and Lascaux, France. The received opinion has long been that the ancient artists of these paintings must be credited with “essentially modern minds” boasting sophisticated capacities for symbolization and communication; how else could one make sense of their beautiful, strikingly naturalistic paintings? This interpretation has been contested by Nicholas Humphrey (1998), who drew attention to resemblances between typical cave drawings and artwork produced in the early 1970s by a virtually languageless, autistic girl named Nadia between the age of 3 and 6 years. Nadia is obviously not a paragon of the modern mind with sophisticated capacities for symbolization and communication. What is more, Nadia’s drawing abilities actually deteriorated once she had acquired a modicum of language. Hence, Humphrey argued, the attribution of advanced communication capacities to these ancient minds may have been jumping to conclusions.

What the example shows is that common intuitions about mental competency and behavioural performance are quite unreliable outside of their ordinary context. When we bound down into deep history convinced of these intuitions, we are prone to paint a caricature of our ancestors.

5. PHILOSOPHY

Modeling ancient minds on the basis of present self-conception poses a hazard, but that in itself does not prove the modeling wrong. It takes specific evidence in specific cases to falsify specific proposals for reconstructing ancient psychology. Understood as an empirically defeasible principle, then, it may still be warranted to work from the assumption that ancient and modern minds are substantially continuous. Indeed, there seem to be a priori reasons for thinking that this is the appropriate way to proceed. I shall consider a number of arguments to this effect. If allowed to stand they take a bite out of the Flintstones fallacy: painting ancient minds in modern colours would not be fallacious until proven otherwise. Yet I think that a closer look at the arguments actually supports the opposite conclusion, viz., that ancient minds are substantially different from modern minds unless proven otherwise.

First, it may be argued that the conceptual apparatus of folk psychology is logically indispensable for describing and explaining ancient minds. Studies that are not couched in these terms are not doing psychology at all: their subject is not the ancient mind but something else instead, for instance ancient anthropology. Hence, it is self-contradictory to claim that the vocabulary of present self-understanding does not apply to ancient minds.

This argument is well-known from discussions of eliminative materialism (cf. Von Eckhardt 1984). In the context of contemporary minds it makes good sense: not even cognitive neuroscience can do without folk psychology as a continuing constraint on what counts as an adequate explanation of properly

psychological phenomena. In a historical context the argument is much less convincing, however. If *present* folk psychology is supposed to apply *necessarily*, a wildly implausible form of psychological essentialism ensues. It would be logically impossible for the human mind to have undergone any substantial change at all, which is unacceptable both from an evolutionary and from a developmental point of view. Moreover, given the special role of contemporary folk psychology vis-à-vis understanding contemporary minds, it seems plausible to argue by parity of reasoning that the indicated frame of reference for understanding ancient minds is ancient folk psychology rather than present one.

The first argument is obviously too strong, but it is possible to settle for a weaker claim to achieve the same result. Even though it is not logically necessary that ordinary folk psychology suits earlier minds (which allows it to be empirically defeasible), it is still intuitively highly probable. Conversely, it is intuitively reprehensible to believe that earlier humans did not sport the same basic mental features that we have. A typical example of this line of thought is Ned Block's reply to the suggestion that earlier humans did not have conscious access to their own thoughts:

“Could there have been a time when humans who are biologically the same as us never had the contents of their perceptions and thoughts poised for free use in reasoning or in rational control of action? Is this ability one that culture imparts to us as children? (...) There is no reason to take such an idea seriously” (Block 1995, 238).

For Block it is intuitively quite unlikely that humans “just like us” could be different from us with respect to basic mental traits such as consciousness. Hence, until evidence to the contrary is found, it is safe to assume that our present-day conception of conscious creatures applies to earlier humans as well as it does to us.

Can intuitions succeed where logic failed? I frankly admit that I share Block's intuitions and that I find them quite strong. Yet I think we should be critical of them; uncritical reliance on intuition breeds parochialism. Now, the argument hinges on the reliability of our common intuitions about the features that mindful beings can be credited with. As pointed out in the previous section, these intuitions spring from our present self-conception as mindful creatures, i.e., from modern folk psychology. It stands to reason that they can be trusted with regard to present psychological peers, i.e., with regard to those members of community with whom we share a common folk psychology. However, as we move to the fringes of that circle of peers (e.g., when considering pathological cases and infants), these intuitions tend to break down rapidly and cease to be reliable. It is quite unlikely that our intuitions perform any better with respect to ancient minds, taking into account that these are even further removed from the compass of present community. Indeed, modern intuitions seem to be quite inappropriate here. Given the fact that intuitions springing from modern folk

psychology work well for modern peers, it is to be expected that intuitions based on ancient folk psychology work well for ancient minds. If folk psychology has changed in the course of history (which can hardly be ruled out a priori), it follows that modern intuitions do not fit ancient minds. Of course it remains to be seen whether ancient folk psychologies can be meaningfully reconstructed, especially when the empirical evidence is scarce and ambiguous as in the case of prehistoric minds, and how much cultural and historical variation can be found. These strike me as empirical questions, however, not to be decided a priori (cf. Sleutels 2006).

That last suggestion can be contested. One may doubt on hermeneutical grounds that it is possible to find evidence of folk psychologies that are substantially different from our own. All interpretation is to some extent translation into one's own conceptual scheme. Any purportedly alien folk psychology will get translated into our own conceptual scheme, and will be assimilated to modern folk psychology in the process of interpretation. Even assuming for the sake of argument that there actually were folk psychologies substantially different from our own, these would be hermeneutically inscrutable. Only upon translation would it be possible to understand them as being instances of folk psychology at all, but then they would no longer appear substantially different from our own (cf. Davidson 1984; Rorty 1972).

It is admittedly hard to keep our present self-image from obtruding itself when interpreting other cultures (Winch 1964). As Jerry Fodor once put it,

“there is, so far as I know, no human group that doesn't explain behavior by imputing beliefs and desires to behavior. (And if an anthropologist claimed to have found such a group, I wouldn't believe him.)” (Fodor 1987, 123).

Yet, the hermeneutical argument seems to overshoot itself by making deviant psychologies impossible to detect in principle. In practice, however, disciplines such as developmental, cultural, historical, and abnormal psychology are quite able to identify deviant folk psychologies, for which there is evidence in abundance. For example, autistic persons and young children can be diagnosed with an inability to attribute false beliefs to others (the so-called Sally-Anne test), indicating that they do not command the “theory of mind” used by the rest of us (Baron-Cohen et al. 1985). Work in ethnopsychology suggests that there is considerable cross-cultural variation in how people parse the mental domain, conceptualize their peers, and explain their behaviour (Lillard 1998). Studies in developmental and cultural psychology indicate that ordinary Western folk psychology is imbued with literacy; both pristinely oral cultures and pre-literate children show a manner of type-identifying and interrelating mental contents that is different from standard folk psychological practice (Olson 1994). As a final (and provocative) example, ancient Achaeans described their actions as being inspired by alien voices (‘voices of the gods’), which raises questions about their ability to consciously control their own behaviour on the basis of

rational deliberation (Jaynes 1976). The hermeneutical challenge in all of these cases is not to let expectations from ordinary folk psychology overrule the empirical evidence. This may be difficult (Block and Fodor could not resist), but it is not impossible.

6. CONCLUSION

The Flintstones fallacy is an underrated risk in evolutionary psychology and philosophy. There is widespread confidence that we are by and large able to avoid the fallacy, even when projecting our conception of the mind back onto ancestors in deep history. If the differences between ancient minds and modern minds were well-understood, or if one could be sure that they are small, this confidence might be defensible. Neither of these is true, however. Standard biological arguments fail to establish that the basic structure of the mind is ancient. Standard procedures in psychology, based on our modern self-conception as mindful creatures, systematically downgrade putative differences between ancient and modern minds. A priori arguments from philosophy do not warrant the presumption that ancient minds were substantially like modern minds unless proven otherwise. Indeed, each of these fields has better arguments for the contrary view that the mind as we know it from present-day experience is not ancient at all, but was contrived in relatively recent history as a product of contingent cultural practices exploiting the considerable bandwidth of human neuroplasticity.

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