

Language, consciousness and the bicameral mind

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The controversial thesis of the bicameral mind (Jaynes 1976) seems not to get the attention it deserves. Even though it is a social constructivist view on consciousness, at the same time the thesis presents a strictly physicalist approach to the mind. Consciousness is not ‘just’ a social construction (whatever that would mean), it is a social construction with very tangible consequences. I will compare his views on consciousness to others and rebut some all-too-easy criticisms.

The basic problem of implausibility with this hypothesis is whether to assume people’s minds in ancient times were exactly like ours, or whether they could have been radically different and that this difference can be inferred from archeological evidence and ancient texts. The idea that the human mind has always been the same is a surprisingly common one, at least as a somewhat implicit assumption. To me this view, on its face value, is just as implausible as the one under discussion here.

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1 Consciousness from language

1.1 What consciousness is *not*

There is much confusion about what consciousness is. It appears that the most frequent reason for dismissing Jaynes's theories is because of a disregard of his definition of consciousness. The misconceptions about consciousness that Jaynes describes are as follows:

Consciousness not a copy of experience Since Locke's tabula rasa it has been thought that consciousness records our experiences, to save them for possible later reflection. However, this is clearly false: most details of our experience are immediately lost when not given special notice. Recalling an arbitrary past event requires a reconstruction of memories. Interestingly, memories are often from a third-person perspective, which proves that they could not be a mere copy of experience.

Consciousness not necessary for concepts That concepts are rule-based reflections of either reason or 'sense data' has long been the received view. Basic-level categories and prototypes have supplanted this view, however. Jaynes defines concepts as 'behaviorally equivalent things' – ie., purely extensional. While this sounds awfully limited, it is precisely the way basic-level categories are studied with children, using preferential looking methods (Mareschal 2002).

Consciousness not necessary for learning Surely some forms of learning occur consciously, but in fact many forms of learning happen automatically and are impeded by conscious monitoring. Examples are conditioning and learning skills. Experiments show that people can be influenced by cues, as long as this happens without their awareness. When learning is construed in purely physicalist terms as plasticity, it becomes obvious that consciousness should not be a necessary condition. Learning does often require attention and concentration, but these are different from consciousness.

Consciousness not necessary for thinking Thinking in the sense of judgment and free association is an unconscious process. This was demonstrated in a word association experiment (Watt, 1905) where subjects were instructed to produce associations with certain constraints. It turned out that of the four stages, instruction, stimulus, search and reply, the search for the word was introspectively blank. The preparatory part, called struction by Jaynes (connoting both *instruction* and *construction*), is accessible to consciousness, and the end result of generating appro-

priate replies – but not the search itself, which is an automatic process. This is of course the very reason that introspectionism failed to take off.

Consciousness not necessary for reason As a remnant of faculty psychology, reason is often conceived as part of consciousness. The kind of abduction so prevalent in daily life often presents us with unjustifiable yet successful conclusions. The mathematical kind of rigorous reasoning is too slow to be of any help in situations that require immediate decisions. And even the highest intellectual pursuit, science, crucially hinges on intuition in the form of hypothesis making. Eureka moments occurred to Archimedes in his bath, to Poincaré while stepping in a bus.

Consciousness ‘not in the head’ The Cartesian Theater, experienced to be somewhere behind our eyes, is a pervasive illusion. In fact, as demonstrated by the writings of Aristotle and expressions such as “follow your heart,” it is rather arbitrary: it has also been experienced as located in the chest. Although it is useful as a reference point to locate consciousness somewhere in the body, the fact of the matter is that it has no real location whatsoever.

Consciousness is not self-recognition Proponents of animal consciousness usually support their case with the results of experiments with primates who come to recognize a dot on their forehead or ears with the help of a mirror. The idea that this is evidence for consciousness is quite absurd, because, as Jaynes argues, it is little different from recognizing a dot on your knee.

So it is clear that large parts of cognition do not require consciousness. Indeed, the account of Tomasello et al. (2005) of the origins of cultural cognition is completely independent from consciousness, instead mentioning such things as shared intentionality and intention reading. In this picture, the development of language is possible without consciousness, and it is conceivable that consciousness is a later development, both phylogenetically and ontogenetically.

1.2 What consciousness is

After having demolished so many preconceptions of consciousness, it might seem tempting to do away with consciousness altogether, like the behaviorists did (although only in a methodological sense, it can be argued). Not so. Consciousness has had a profound effect on human history. The most important features of consciousness according to Jaynes are:

Mind space The experienced space where memories are recalled, imagery is ‘perceived’ and actions can be simulated before performing them. Mind space gives rise to such things as perceiving time as a dimension and introspection.

analog “I” In order to experience this mind space, there has to be an ‘observer’ (or ‘actor,’ depending on the context). The analog “I” is abstracted from the real world.

Narratization “Consciousness is ever ready to explain anything we happen to find ourselves doing” (Jaynes 1976). Anything we experience is seamlessly woven into a narrative, making sense of it through a kind of Peircean abduction.

This description and Jaynes’s account of the role of metaphors can be seen as a precursor to Lakoff and Johnson’s (1980) metaphor theory. Thinking is essentially ‘metaphorizing.’ ‘Introspection,’ for example, literally means ‘looking in’ the mind. In this way all our mental terms are based on metaphors of concrete actions and situations.

The beauty of viewing consciousness as narratization is that instead of anachronistically conflating it with the latest technological metaphor (theater, movie screen, computer), it is associated with the very first metaphor available: story telling. Before consciousness there were only myths, fanciful explanations which were actually believed. Through consciousness it becomes possible to imagine situations in mind space and appreciate fiction in a possibly bracketed context, as well as moving along the temporal dimension through random access to episodic memory.

1.3 The Bicameral mind

“At one time, human nature was split in two, an executive part called a god, and a follower part called a man. Neither part was Consciously aware.”
(Jaynes, 1976)

Before developing consciousness humans had a bicameral mind, a division of two chambers: a man part operating by habit, and a god part occasionally intervening. These interventions were experienced as divine voices (such as from dead leaders and kings, and later, as religion developed, of gods) in cases of stress and unfamiliar situations. Evidence for this is claimed to be in classical texts such as the Iliad and the Old Testament, which contain no introspection, initiative or conscious reasoning, but only divine interventions, prophets in ‘direct contact’ with God and deities speaking in dreams. Rather than being merely a literary or poetic device, this is to be taken literally as a significant feature

of ancient psychology. The dilemma is that we either have to accept this ‘preposterous hypothesis’ (Jaynes’s own words), or we have to explain, one way or another, why descriptions of hearing voices are so common in ancient literature, and introspection absent. Where introspection is seemingly present it has been added in later versions, or imposed by modern translations.

Two texts from the Old Testament form a good demonstration. The first is Amos, from the eighth century B.C. and considered to be the oldest pure text (ie., not a compilation):

3 Thus saith the Lord; For three transgressions of Damascus, and for four, I will not turn away *the punishment* thereof; because they have threshed Gilead with threshing instruments of iron;

4 But I will send a fire into the house of Hazael, which shall devour the palaces of Ben-hadad.

5 I will break also the bar of Damascus and cut off the inhabitant from the plain of Aven, and him that holdeth the sceptre from the house of Eden: and the people of Syria shall go into captivity unto Kir, saith the Lord.

– (Amos ch. 1, 3-5)

Here we witness the familiar angry, vengeful Old Testament God. It is mostly God himself speaking. Amos, an illiterate desert herdsman, is not contemplating life but merely reporting all that he has heard from God, to a scribe because he is illiterate himself.

The second text is Ecclesiastes, from the second century B.C. and considered to be the most recent text from the Old Testament:

14 I have seen all the works that are done under the sun; and, behold, all *is* vanity and vexation of spirit.

15. *That which is* crooked cannot be made straight; and that which is wanting cannot be numbered.

16. I communed with mine own heart, saying, Lo, I am come to great estate, and have gotten more wisdom than all *they* that have been before me in Jerusalem: yea, my heart had great experience of wisdom and knowledge.

17. And I gave my heart to know wisdom, and to know madness and folly: I perceived that this also is vexation of spirit.

18. For in much wisdom *is* much grief: and he that increaseth knowledge increaseth sorrow.

– (Ecclesiastes ch. 1, 14-18)

Here is an account of life filled with introspection and metaphors, and not the voice of God but that of Ecclesiastes himself.

These extremes in the Old Testament, angry speeches versus insightful narratives, are well accounted for by the theory of the bicameral mind.

At first it might seem inconceivable that civilization could have existed without consciousness. But consider ant colonies and beehives, which display very complex and hierarchical behavior, all without the slightest hint of consciousness. For an autonomous group of relatively fixed size this works very well. Because human cities grew larger and through contact with other civilizations, the bicameral mind broke down and consciousness emerged.

2 Criticism

2.1 Generative and descriptive metaphors

Jones (1982) presents a criticism of the bicameral mind in the form of ‘a case study in the sociology of belief.’ He concludes that three ‘cosmological orientations’ are responsible for the persuasiveness of the bicameral mind among its proponents:

1. ‘a bias against gradualism and for discontinuity’
2. ‘a bias against narratization and spatialization’ [in describing the mind]
3. ‘a desire for a sweeping, all-inclusive formula that explains everything [...]’

I can find nothing wrong with the listed biases, such that the critique of Jones seems to be mostly one of hostility. For each of the three biases there is an appropriate rebuttal. Ad 1, it rather seems that Jaynes is in favor of genetic continuity, and prefers to view the discontinuities in question as sociocultural developments (which ironically makes Jaynes somewhat of an adherent to the continuity hypothesis of behavioral modernity). The cultural evolution could well be of the Baldwinian sort: a controversial but enduring theory stating that an aquired character or trait gradually becomes assimilated in the epigenetic or genetic repertoire of an organism. Especially learning as an adaptation is said to be bolstered by the Baldwin (1896) effect. Ad 2, that narratization and

spatialization are not always faithful to reality is generally accepted, Jones's point seems to be an accusation that Jaynes views the bicameral period as superior in some way (more efficiency and transparency because of unquestioned obedience and unequivocal directness of speech in bicameral mentality). Ad 3, this seems to be a valid point, but such synthesizing has its place in science, as Dennett (1986) remarks:

If we are going to use this top-down approach, we are going to have to be bold. We are going to have to be speculative, but there is good and bad speculation, and this is not an unparalleled activity in science.

Now for the actual criticism of Jones. The first criticism is that consciousness is represented as a descriptive metaphor when describing our current condition, but as a generative metaphor when talking of its genesis. The descriptive metaphor supplies us with our mental vocabulary, the generative metaphor allegedly led to the very genesis of consciousness. According to Jones metaphors can only describe similarities already present. But here he is making the crucial and grave error of treating metaphor as a simile (Searle 1979). The evocative power of figurative speech in my opinion flatly contradicts the view that metaphors can only be descriptive.

The second criticism seems to be a misinterpretation of the unconscious state of mind as 'purely signal-bound.' This appears to be a behavioristic straw-man argument. After demonstrating, in the first chapter, that consciousness is not necessary for all problem solving, memory and learning, it is merely a misleading appeal to intuition to say that preconscious man would have to operate only on associations and external signals. The bicameral voices would have intervened precisely because being signal-bound would not suffice in early civilizations. Bicameral man would rather be voice-bound, unable to question the authority of his voices. Bicamerality is a compartmentalized mind with message passing instead of integrative consciousness. As such bicamerality is conceivably a prior and intermediate stage in the development of consciousness.

2.2 Consciousness and the concept of consciousness

Block's criticisms (1981, 1995a) hinge on the preconception that it is possible to be conscious without having the concept of consciousness, and that Jaynes's thesis has only pointed to the development of the latter. So it comes down to:

“Money is a cultural construction, leukemia is not. In which category does phenomenal consciousness fit?” – Block (1995b)

Ignoring for the moment the insinuation that consciousness might be a disease, we seem to have a valid question here: either consciousness is a social construction, based on concepts (which need not be conscious, as argued before), or consciousness is a natural kind, as Block would have it. In the first case it is generally accepted that it would be impossible to have the social phenomenon without the concept (eg., using money without the concept of money is impossible), as argued by Dennett (1986). So if consciousness is indeed a social construction then Jaynes's thesis is an empirical matter, the only potential pitfall being the off-chance that ancient societies were conspiring to hide their development of consciousness.

Block's position is thus that consciousness must be a natural kind. His strategy is to brand the idea of the recent development of consciousness as 'ridiculous,' 'obviously' false, etc. (Block, 1995a). The appeal to intuition and prejudice is the Achilles heel of his argument, reminiscent of Searle's (1980) Chinese room argument. Sleutels (2005) describes it thus:

"What is most remarkable about Block's argument against the possibility of non-conscious human minds is its absence – the paucity of argument and the proportionate appeal to the reader's intuitions" – Sleutels (2006)

Block's position is that phenomenal consciousness, 'what it is like' to be an animal (whatever that means, see Churchland & Churchland (1997) for a critique), does not depend on culture. Concerning access-consciousness, corresponding better to Jaynes's view of consciousness – but by definition also present in animals according to Block, that it is a basic biological feature:

"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? Could it be that until we acquired the concept of 'poised for free use in reasoning or in rational control of action', none of our perceptual contents were A-conscious? Again, there is no reason to take such an idea seriously. Very much lower animals are A-conscious, presumably without any such concept" – (Block, 1995a, p. 238) as quoted in Sleutels (2006)

This is again reminiscent of Searle's hand-waving biological naturalism viz., look at our special causal powers! The claim that lower animals are A-conscious is empirical,

but not substantiated. Such arm-chair philosophizing by rhetorical intimidation is merely the imposition and extension of modern mental categories to ancient times, of which Jaynes warns throughout his book. There is no reason to take consciousness for granted as a natural kind, however difficult it may be to imagine that this common-sense understanding is wrong. Rather like eternal Platonic species became untenable when Darwin put forth his theory of evolution, consciousness as a given should be eliminated.

2.3 Schizophrenia as vestige of the bicameral mind

Jaynes (1976) presents schizophrenia as one of the ‘vestiges of the bicameral mind’: a partial relapse into the now defunct mentality of the bicameral mind. The argument for this is the nature of the voices heard by schizophrenia patients. These voices often demand to be obeyed, precisely the way bicameral society would have required. Furthermore schizophrenia is accompanied with a breakdown of identity and the analog ‘I’ – which were allegedly formed after the breakdown of the bicameral mind.

This thesis squares well with his archeological interpretations, but not with current views on the origins of schizophrenia. Recent findings (Khaitovich 2008) suggest that schizophrenia is a costly by-product of brain evolution. Specifically, the evolution of brain metabolism, which has been pushed to its limits in order to develop our present cognitive abilities.

I would go as far to say that the views of Jaynes are somewhat anti-psychiatry. He suggests that medication might be given not for the patient, but for the hospital to eliminate the rival control of hallucinated voices. The interpretation that schizophrenia is an adaptation to previous times dangerously relativizes the obviously negative experience of mental illness in general. That patients of mental illnesses are maladjusted to modern society is a truism, but whether a thoroughly disabling mental illness could represent a relapse to other forms of society is a stretch at best.

3 Support

Aside from the classical works on consciousness as a social construction (Vygotsky 1986; Mead 1934), and works on ancient mentality (Snell 1953), there are also some less obvious contemporary connections, which I will now attempt to sketch.

3.1 Donald

Donald (2001), in his own book on the evolution of consciousness, seems to portray Jaynes as belonging to the representational school: that we can only be conscious of language, or symbolic thought, and that thought is made possible by a language-specific module. But Jaynes stresses that language is responsible for the *installation* of consciousness², after which we can summon completely non-symbolic matters to our mind's I (or ear), such as music and imagery. Language is necessary for the transmission of metaphors construing our concept of mind and self, the mental imagery it makes possible need not be linguistic. His view is further distinguished from consciousness-as-language by the fact that it implies that language is possible without having consciousness.

The second citation of Jaynes is positive, acknowledging his priority over Lakoff & Johnson in defining thought as largely metaphorical. It strikes me that generally Donald's views seem so compatible to those of Jaynes: the strong role of culture, imitation and mythology, and the reliance of external memory (writing) leading to the cognitive explosion of behavioral modernity.

3.2 Blackmore

Blackmore (2003) defends the view that consciousness is an illusion, ie., it exists but is not what it appears to be, passed on through memes, ideas that are replicated through imitation. Only humans have consciousness, because only humans are capable of imitation with high fidelity. The difference with other views such as those of Donald and Jaynes is that in this view consciousness is both parasitic and malign: it is propagated for the survival of memes, and leads humans to egoism, grief etc. Aside from this difference the theory of memetics provides an excellent framework for viewing consciousness as a social construction, with memes as a vehicle for Baldwinian evolution – cultural evolution influencing biology.

3.3 Grounding in naturalism

Although bicameralism seems an exceedingly rare hypothesis, the reluctance to take it serious seems to stem from certain philosophical assumptions, and not scientific counter-evidence. Philosophical accounts of consciousness often attempt to treat it as a subject resisting scientific scrutiny, in order to guard it as the ultimate philosophical question

²It is not without some reluctance that I introduce this functionalist metaphor. I am still unsure whether Dennett's functionalism was shared by Jaynes, the attention to neuroscience seems to speak against this.

and keep it within their own methodological province. Props for this attempt include such monstrous ideas as philosophical zombies, epiphenomenal qualia and non-physical mental realms. Such conceptions (or perhaps contraptions) of consciousness are often radically solipsistic, when in fact it is quite obvious how much consciousness is a social phenomenon intuitively attributed to conspecifics.

In complete opposition to such sophistry stands naturalism, which grants priority to science for all questions. Talk of zombies, qualia and mental realms can be eliminated when scientific results are taken serious and used to form a philosophy continuous with science. A philosophy of mind must grant primacy to the role of the body, the physical vessel for conscious agents. Eliminativism with respect to mind as a category perfectly complements embodiment in stressing the role of the body as physical. By rejecting the myth of the givenness of ‘mental facts,’ consciousness can also be re-interpreted as a phenomenon which, far from being natural and expected in certain organisms, actually demands an explanation for how and why it came to be. Acquired consciousness as a social construct fits well with naturalism, because it requires only minimal assumptions about ‘minds’ and their native capabilities.

By eliminating first-person perspectives as a natural category, their veridicality is stripped away from them. The first-person perspective needs to be constructed on top of the objective and purely physical. The perfect tool for this is language. Language is able to transport the gist of someone’s perspective to others. Even though a story always presents an equivocation to some extent, it presents a huge gain over directly observing uninterpreted physical events.

4 Conclusion

In my opinion consciousness as a social construction is a good compromise between explaining it away or reducing it to sensation, and between denying it and assuming it as a given. Jaynes’s views on consciousness are seen as idiosyncratic largely because of the neurological model and specific dating of the emergence of consciousness. The view that consciousness is based on language and emerged somewhere in time as a cultural phenomenon does not seem as contentious, as it has a variety of proponents defending it.

Jaynes’s views on consciousness stand up well with respect to the findings of modern neuroscience. His hypothesis on the bicameral mind however, seems hard to substantiate neurologically, leaving only the plethora of fragmentary archeological and philological evidence. The claimed vestiges of the bicameral mind invoke hypnotism, hallucinations

and possession – phenomena of which naturalism demands to steer clear. On the other hand the focus on evidence rather than intuitions is a strong point. The speculative interpretations are inevitable, yet predictions about future findings are still open to falsification, or perhaps vindication.

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