

Critiques & Responses Part 1: Assad & Shaprio, Block, Corballis, Fernyhough, Johnson, Leudar & Thomas, Klemm, McCarthy-Jones, McGilchrist, Salpolsky, Smythies

by Marcel Kuijsten

“Reflexive rejection of novel concepts is the antithesis of discovery.”
– Michael Persinger, Ph.D. in *Reflections on the Dawn of Consciousness*

Below are a selection of published critiques of Julian Jaynes's theory, followed by brief responses or references to more lengthy responses. For responses to general myths and misconceptions, please see [Myths vs. Facts About Julian Jaynes's Theory](#)

1. Critiques Regarding the Nature of Consciousness

1.1 – “Consciousness is Biologically Innate and Not Based on Language” Misconception (Block; Smythies)

Critique: “Consciousness is an innate biological feature, therefore consciousness cannot be a social construction based on language and learned in childhood” (paraphrasing). – **Ned Block**, Professor of Philosophy and Psychology, New York University, in a book review of *The Origin of Consciousness in the Breakdown of the Bicameral Mind* in *Cognition and Brain Theory* (1981).

Response: This critique essentially takes the term “consciousness” as Jaynes defines it (introspection or reflective self-consciousness), redefines it as sense perception, and then critiques Jaynes as though he were using this definition. This critique has been dealt with exhaustively by Prof. Jan Sleutels in a chapter titled “[Greek Zombies: On the Alleged Absurdity of Substantially Unconscious Greek Minds](#)” in *Reflections on the Dawn of Consciousness* and by Gary Williams in an article titled “[What Is It Like to Be Nonconscious?: A Defense of Julian Jaynes](#)” published in *Phenomenology and the Cognitive Sciences* (2010). See also Daniel Dennett, “[Julian Jaynes's Software Archaeology](#)” (1986).

Critique: “Consciousness is biologically innate and not based on language, consciousness involves a range of more basic mental processes that Jaynes leave out, schizophrenia is due to some form of neurological atrophy and has nothing to do with the bicameral mind, etc.” (paraphrasing). – **John Smythies**, Center for Brain and Cognition, U.C. San Diego, book review of [Reflections on the Dawn of Consciousness](#) in the *Journal of Scientific Exploration*, Vol. 21, Issue 4 (2007).

Response: I have countered each of these criticisms in “[Close-Mindedness and Mysticism in Science: Commentary on John Smythies’s Review](#)” in *The Jaynesian*, Vol. 3, Issue 2 (Winter 2009).

Summary: This critique primarily stems from confusing a very broad definition of consciousness with Jaynes’s more narrow one. The idea that consciousness as Jaynes defines it is based on language has been steadily gaining in popularity over the past few decades. New research in child development supports the idea that children learn consciousness as they learn language.

2. Critiques Regarding the Bicameral Mind & Jaynes’s Neurological Model

2.1. Confusing the Split-Brain with the Bicameral Mind (Sapolsky)

Critique: “[Roger] Sperry rejected the notion that there were two individuals inside anyone’s head, and most agreed.” – **Robert M. Sapolsky**, Professor of Biological Sciences and Neurology, Stanford University, in *The Trouble with Testosterone* (1998), p. 217.

Response: In a brief critique of Jaynes’s theory, Sapolsky confuses Jaynes’s description of the bicameral mind in ancient man with the related but very different debate over the issue of multiple ‘selves’ (one per hemisphere) in modern conscious split-brain patients. In addition to this confusion, Sapolsky’s comments are also misleading. For example, with regard to split-brain patients, Roger Sperry (1964) very clearly states: “Everything we have seen so far indicates that the surgery has left each of these people with two separate minds, that is, with two separate spheres of consciousness.” Elsewhere, Sperry (1974) notes that “both the left and right hemisphere may be simultaneously conscious in different, even mutually conflicting, mental experiences that run along in parallel.” (See also Sperry, 1984.) Sapolsky’s statement clearly

misrepresents Sperry's view on the subject. In addition, Sapolsky leaves out the fact that two of Sperry's colleagues – Michael Gazzaniga, a psychologist, and Joseph Bogen, a neurosurgeon, who both studied split-brain patients for decades – have also argued that the split-brain procedure results in two distinct 'selves', one per hemisphere. Bogen comments that "the data are consistent with the interpretation that disconnection of the hemispheres splits not only the brain but also the psychic properties of the brain" (1973, see also 1983). Gazzaniga notes that after the split-brain procedure, "common normal conscious unity is disrupted, leaving the split-brain patient with two minds" (1972) and "both hemispheres can be viewed as conscious" (2002, see also 1967). The issue continues to be debated. *Summary: Split brain research indeed suggests that the brain hemispheres can operate more independently than was previously known. Research from hemispherectomy patients suggests that the brain hemispheres can operate in isolation. Both of these lines of research offer support for Jaynes's bicameral mind theory.*

2.2. "Not Enough Evolutionary Time for Physiological Change to the Brain" Misconception
(Cavanna, et al.; D.M. Johnson; W.R. Klemm; Fernyhough; S.A. McDaniel)

Critique: "It seems very unlikely that such a dramatic remodeling of extensive neural networks could have come about in the space of three millennia or so – the time taken, according to Jaynes' theory, for the transition from the bicameral mind to the modern conscious mind." (In other words, Jaynes's theory proposes that a dramatic neurophysiological change to the human brain took place that couldn't possibly have happened in such a short time frame.) – **Andrea E. Cavanna, Michael Trimble, Federico Cinti and Francesco Monaco**, in "The 'Bicameral Mind' 30 Years On: A Critical Reappraisal of Julian Jaynes' Hypothesis," *Functional Neurology*, Vol. 22, Issue 1 (2007).

Critique: "I do not think of the Greek intellectual revolution (*a la* Jaynes) as, or as involving, some dramatic, inner, physiological transformation of the human brain." – **David Martel Johnson**, Professor of Philosophy, York University, in *How History Made the Mind*, p. 129.

Critique: "One [problem for Jaynes's theory] is the unlikely possibility that in the short span of a couple of thousand years of recent history, humans switched from schizophrenic-like to conscious beings." – **W.R. Klemm**, Professor of Neuroscience, Texas A & M University, in *Atoms of Mind*, p. 35.

Critique: “It is inconceivable that such a gross structural change could have happened in the human brain within the past three millenia .” – **Charles Fernyhough**, Professor of Psychology, Durham University, in *The Voices Within*, p. 137.

Critique: “The problem for Jaynes’s hypothesis is that, if his hypothesis that early humans were not conscious in the same way we are conscious were true, we would expect to find that the brains of humans up until around 3,000 years ago were structured significantly differently from our own brains.” – **Spencer Alexander McDaniel**, talesoftimesforgotten.com

Response: These critiques reflect a fundamental misunderstanding of Jaynes’s theory. Jaynes never suggests that the shift from bicamerality to consciousness was a neurophysiological one based on biological evolution (see Jaynes p. 122-125). Rather, the same biological brain was used in a new and innovative way based on adaptations to changes that occurred culturally. A child today raised in a bicameral society would be bicameral and a child from an ancient bicameral civilization raised in modern culture would be conscious. Consciousness in the Jaynesian sense is a learned process based on language. To use the computer metaphor, the transition from bicamerality to consciousness was a software change using the same hardware (Dennett, 1986). The change was equivalent to upgrading an operating system, not upgrading the hardware of the brain. Decades of research in brain plasticity shows that the same physiological brain can function in different ways based on changes in the environment, learning, or in the case of damage to the brain.

Studies of brain plasticity show that massive changes can take place in an individual’s brain during their developmental years. For example, if someone is blind, their occipital lobe (normally used for vision) can take on new roles, in some cases processing auditory or tactile information instead. Hemispherectomy patients, who have had one brain hemisphere removed (usually performed during childhood as a treatment for severe epilepsy), also show dramatic changes in the function of brain areas. Language processing can switch from the left to the right hemisphere in cases where the left hemisphere is removed. Musical abilities, motor capabilities, and attention span can switch to the left hemisphere in cases where the right hemisphere is removed (Battro, 2001). If the brain can adapt this rapidly in an individual, we can also imagine changes in brain function over just a few generations due to cultural or environmental factors given the right conditions.

Critiques & Responses Part 1

Having said that, there could have been a slight genetic component to this change, and new research in genetics shows that humans are still evolving and that genetic changes can move through a population much more rapidly than was previously believed. Consider this quote from the anthropologist Gregory Cochran:

“There is evidence that such change has occurred. My anthropologist colleague at the University of Utah Henry Harpending and I have made a strong case that natural selection changed the Ashkenazi Jews over a thousand-year period or so, favoring certain kinds of cognitive abilities and generating genetic diseases as a side effect. The geneticist Bruce Lahn’s team has found new variants of brain development genes: One, ASPM (abnormal spindle-like microcephaly associated) appears to have risen to high frequency in Europe and the Middle East in about six thousand years. We don’t yet know what this new variant does, but it certainly could affect the human psyche ... This concept opens strange doors. If true, it means that the people of Sumeria and Egypt’s Old Kingdom were probably fundamentally different from us: Human nature has changed – some, anyhow – over recorded history. ... Jaynes may have been on to something” (Cochran, 2007).

Cochran also states that recent discoveries have revealed that “...the rate of human evolution over the past few thousand years is far greater than it has been over the past few million years” (Biello, 2007).

Or this from neuroscientist Michael Persinger:

“Within the last five years science has found that single point mutations on genes can produce permanent changes in speech production. There is now evidence that point mutations, whose mechanisms must still be discerned, can diffuse within decades throughout entire populations. There have been approximately 15 million changes in our species’ genome since our common ancestor with the chimpanzee. There are human accelerated regions in the genome with genes known to be involved in transcriptional regulation and neurodevelopment. They are expressed within brain structures that would have allowed precisely the types of phenomena that Jaynes predicted had occurred around 3,500 years ago. Related genes, attributed to religious beliefs, are found on the same chromosome (for example, chromosome 10) as propensities for specific forms of epilepsy (partial, with auditory features) and schizophrenia. ...” (Persinger, 2007).

I address this critique in much greater detail in “New Evidence for Jaynes’s Neurological Model: A Research Update” in Vol. 3, Issue 1 of [The Jaynesian](#).

Summary: The transition from bicamerality to consciousness was largely a cultural change, not an evolutionary one. The same brain functioned in a different way based on changes in culture. To use the computer metaphor, it was a software and not a hardware change. Decades of research in brain plasticity demonstrate the viability of these types of changes in brain function without evolutionary changes to brain structure.

2.3. “Right Hemisphere Not Involved in Hallucinations” Misconception (Klemm; Asaad & Shapiro)

Critique: “Jaynes postulates that hallucinations arise in the right hemisphere and in normal humans are suppressed by the dominance of the left hemisphere ... but there are few modern studies using sophisticated quantitative EEG that address this question.” – **W.R. Klemm**, Professor of Neuroscience, Texas A & M University, in *Atoms of Mind*, p. 36.

Critique: “...It is now well known that lesions of the right-sided areas corresponding to Broca’s or Wernicke’s areas result in expressive or receptive aprosodias ... these areas would thus seem more related to the negative symptoms of schizophrenia (such as restricted affect) than to the positive hallucinatory symptoms.” (In other words, Jaynes’s neurological model is wrong and he was incorrect in his speculation that the right temporal lobe areas are the source of auditory hallucinations.) – Psychiatrists **Ghazi Asaad and Bruce Shapiro**, in response to “What About the Bicameral Mind?” (Letter to the Editor) by H. Steven Moffic, M.D., in *American Journal of Psychiatry*, Vol. 144:5 (1987).

Response: Drs. Asaad and Shapiro’s comment that there is no evidence for the involvement of the right temporal lobe in auditory hallucination was incorrect even at that time (see Buchsbaum, 1982), and an increasing number of studies since that time provide additional evidence for right hemisphere involvement in auditory hallucinations. Beginning in 1999, neuroimaging studies have provided compelling evidence supporting Jaynes’s neurological model, i.e. auditory hallucinations arising in the right temporal-parietal lobe and being transmitted to the left temporal-parietal lobe. This was pointed out by Dr. Robert Olin in *Lancet* (1999) and Dr. Leo Sher in the *Journal of Psychiatry and Neuroscience* (2000). There are now dozens of brain

imaging studies showing a right/left temporal lobe interaction in auditory hallucinations. For a complete discussion of the new evidence for Jaynes's neurological model, see my chapter "Consciousness, Hallucinations, and the Bicameral Mind: Three Decades of New Research" in [*Reflections on the Dawn of Consciousness*](#) (pgs. 116-120), as well as my essay "New Evidence for Jaynes's Neurological Model: A Research Update," and book review of [*Language Lateralization and Psychosis*](#) in *The Jaynesian* (Vol. 3, Issue 1 and Vol. 4, Issue 1).

Summary: Starting in 1999, dozens of brain imaging studies now show that auditory hallucinations do indeed emerge in the language areas of the non-dominant (usually right) hemisphere, and are perceived in the language areas of the dominant (usually left) hemisphere. This "bicameral" interaction in auditory hallucinations offers a great deal of support for Jaynes's neurological model of the bicameral mind.

2.4. Brain Lateralization Misconception (Corballis)

Critique: "Evidence on the evolution of cerebral asymmetry ... suggests that the left cerebral dominance for language may go back to at least *H. habilis*." – **Michael Corballis**, Dept. of Psychology, University of Auckland, in *The Lopsided Ape*, p. 212.

Response: Corballis presents this as a critique of Jaynes's theory but in reality it is not. First, Jaynes never argues that language lateralization could not have occurred prior to the bicameral period, as the hallucinatory commands do not contain the same level of language sophistication as normal speech. Neuroimaging studies over the past decade have confirmed Jaynes's neurological model (i.e. that auditory hallucinations arise in the right hemisphere language areas and are processed in the left hemisphere language areas). Again, see my chapter "Consciousness, Hallucinations, and the Bicameral Mind: Three Decades of New Research" in [*Reflections on the Dawn of Consciousness*](#), and my essay "New Evidence for Jaynes's Neurological Model: A Research Update," and book review of [*Language Lateralization and Psychosis*](#) in *The Jaynesian*. This again brings up the issue of brain plasticity (see my discussion above in response 2.2): in children who have their left hemisphere removed, the right hemisphere language areas take over. Finally, the evidence for language in *H. habilis* is highly speculative at best.

2.5. “Only the Left Hemisphere is Conscious” Misconception (Corballis)

Critique: “We can in any case rule out the idea that only the left hemisphere is conscious.”
– **Michael Corballis**, Dept. of Psychology, University of Auckland, in *The Lopsided Ape*, p. 212.

Response: This reflects a misunderstanding of Jaynes’s theory. Jaynes never states that “consciousness is mediated by the left hemisphere,” as Corballis suggests. Writing decades before the advent of fMRI brain imaging technology in the early 1990s, Jaynes never speculates on the brain areas that might be involved in consciousness (Jaynes, writing on brain plasticity: “... it would be wrong to think that whatever the neurology of consciousness now may be, it is set for all time,” p. 125). Perhaps because the “man-side” of the bicameral mind resides in the left hemisphere and the “god-side” in the right, Corballis took this to mean that after the breakdown of the bicameral mind, consciousness would be predicated on activity in the left hemisphere. There is evidence from split-brain studies that demonstrate that the left hemisphere is associated with one’s sense of self when the connection between the hemispheres has been severed. For example, commands given to the right hemisphere are acted upon outside of the person’s conscious awareness, similar in some ways to a post-hypnotic suggestion. Corballis, who also comments on the split-brain research of Roger Sperry in the same section, may have confused some of Jaynes’s conclusions with Sperry’s. Corballis continues, “There is evidence that patients remain aware of their surroundings when the left hemisphere is incapacitated...” Readers of Jaynes will immediately recognize that “awareness of one’s surroundings” is not evidence of consciousness. If this were the case then all living things with awareness of their surroundings would be conscious, rendering the term practically meaningless. This gets back to the problem of confusing consciousness with more basic mental processes such as sensory perception, addressed in the responses in the first section of this page. In my view the limited language and independent preferences of the right hemisphere (in left hemisphere dominant individuals), documented in the split-brain studies by Sperry, Gazzaniga, and Bogen, provide supporting evidence for Jaynes’s bicameral mental model by demonstrating that the two hemispheres can act in a more independent fashion than they typically do today.

2.6. “Modern Religious People Don’t Hallucinate” Misconception (Klemm)

Critique: “[A problem] for Jaynes’ argument is the fact that billions of today’s evolved humans who do not hallucinate still hold religious beliefs of one sort or another. Mentally normal people still believe at least some of what their prophets may have hallucinated about.” – **W.R. Klemm**, Professor of Neuroscience, Texas A & M University, in *Atoms of Mind*, p. 36.

Response: Here Klemm seems to be confusing the bicameral mind with vestiges of the bicameral mind. According to Jaynes, textual, archaeological, and anthropological evidence supports the fact that first everyone experience hallucinations, then only a select few. First these people were labeled oracles and prophets; today they are labeled mentally ill. Jaynes’s theory does not predicate modern religious belief on the direct experience of auditory hallucinations by each individual believer. While divine revelation in the form of auditory hallucinations was the historical basis for ancient religion, modern religion is a vestige of the bicameral mind maintained through social conditioning, cultural tradition, and some degree of neurological predisposition. Many people suffering from temporal lobe epilepsy, for example, experience sudden hyperreligiosity. To my knowledge, only Jaynes’s theory explains why both auditory hallucinations and hyperreligiosity would be associated with the right temporal lobe.

Summary: Jaynes never suggests that modern religious beliefs are predicated on people experiencing auditory hallucinations. Modern religions began as a longing for the lost “divine revelation” of bicameral hallucinations, but have been sustained for a variety of other cultural reasons.

2.7. Confusion Surrounding Schizophrenia as a Vestige of the Bicameral Mind (McGilchrist)

Critique: “The problem with [Jaynes’s view that schizophrenia is a vestige of the bicameral mind] is that all the evidence suggests that schizophrenia is a relatively modern disease, quite possibly existent only since the eighteenth century or thereabouts, and that its principal psychopathological features have nothing to do with regression towards irrationality, lack of self-awareness, and a retreat into the infantile realm of emotion and the body, but entail the exact opposites: a sort of misplaced hyper-rationalism, a hyper-reflexive self-awareness, and a disengagement from emotion and embodied existence.” – **Iain McGilchrist**, psychiatrist, in *The Master and His Emissary: The Divided Brain and the Making of the Modern Western World*, p. 261.

Response: First, McGilchrist states that schizophrenia is a “recent disease.” While the *label* of schizophrenia is certainly recent, the primary symptom of psychosis — auditory hallucinations — is now well documented throughout history among both literate and pre-literate societies. Jaynes’s main point is that the auditory hallucinations that are still frequent today have their roots in the bicameral mind.

Next, McGilchrist overplays symptoms that are sometimes associated with schizophrenia while underplaying the primary symptom of auditory hallucinations in a weak effort to discredit Jaynes’s theory. Again, Jaynes’s main point is that people given the label of schizophrenia often hear voices, and these voices have a previously overlooked historical context.

One of the problems with understanding schizophrenia as a vestige of the bicameral mind is that schizophrenia is used rather broadly as an umbrella term to refer to a variety of symptoms that may in the end have little to do with one another. Indeed, the scientific validity of schizophrenia as an illness has been called into question (Boyle, 2002). For this reason, I rarely use the term and prefer to focus on the *experience* of auditory hallucinations.

An important point that is often lost in critiques of Jaynes’s view that schizophrenia is a vestige of the bicameral mind is the significant difference between

1. A conscious person who lives in modern society, and then experiences commanding auditory hallucinations that don’t have a cultural context (and which often lead to feeling ostracized), and
2. A person that was raised in a bicameral civilization or pre-literate society where hearing voices is the norm and are culturally reinforced.

These two very different scenarios are often erroneously equated. My point is the experience of someone hearing voices today in a society that marginalizes the experience is very different than it would have been for someone in a culture that encourages it, and this distinction is often lost on critics.

McGilchrist likely felt compelled to go out of his way to criticize Jaynes’s theory because McGilchrist is arguing for the exact opposite case as Jaynes: that rather than our brain hemispheres being more integrated today than in the distant past, he argues that they are now less

Critiques & Responses Part 1

integrated, and that our brains have essentially been taken over by our left hemispheres. Further, according to McGilchrist this left hemispheric dominance is the cause of most of the ills of Western civilization. For all of these sweeping claims, he presents shockingly little evidence.

I realize that many people that are interested in the subject of brain hemispheric differences are ardent fans of McGilchrist's book. For those of you who are, I would only suggest that you try summarizing the evidence McGilchrist presents and then reflect on whether or not this evidence seems persuasive. My guess is that many people simply enjoy the book because they like the subject matter or for other reasons, and not because McGilchrist's arguments are particularly persuasive.

My personal take on McGilchrist's *The Master and His Emissary* is he most likely very much liked the initial idea that a left hemisphere dominance is at the root of many of what he perceives to be society's problems, and then set out to hunt for evidence supporting it. When he found very little supporting evidence, rather than abandon the project he continued to write anyway, perhaps on some level thinking that the more he wrote the more compelling his case would be. The result is a 500+ page book containing no persuasive evidence supporting his most likely incorrect, somewhat simplistic idea.

To quote a reviewer of McGilchrist's book,

“Needless, to say, the neuroscience evidence does not support his far-fetched personification of the left hemisphere. Nor is there any evidence that changes in the brain *caused* any of the Western world's travails. Though he denies it, McGilchrist's central thesis is really no more than an extended metaphor that links different philosophical approaches to the West and East and then to the functions of the two brain hemispheres.” (Jarrett, 2014)

Summary: McGilchrist's critique that auditory hallucinations, the primary symptom of schizophrenia, are not a vestige of the bicameral mind lacks substance and seems to deliberately confuse the issue with other less relevant symptoms often associated with the term schizophrenia. The evidence McGilchrist presents for a left brain dominance being responsible for Western society's problems is unconvincing.

3. Critiques Regarding the Bicameral Mind in Ancient History

3.1. On the Alleged Lack of Evidence for the Bicameral Hallucinations in Mesopotamia (McCarthy-Jones)

Critique: “There is *absolutely no evidence* that people routinely heard the voices of the gods [in Mesopotamia]” – **Simon McCarthy-Jones**, Associate Professor in the Department of Psychiatry at Trinity College Dublin, Ireland, in *Hearing Voices: The Histories, Causes and Meanings of Auditory Verbal Hallucinations* (p. 14-17) and repeated in “Silence of the Ancients” (a Dec. 25, 2016 blog post)

Response

Brief Response: Based on cross-cultural comparisons, the gods, idols, visitation dreams, and – as the voices lessened in frequency – oracles, divination, and omens are the evidence. One of Jaynes’s powerful insights was to recognize the origin of god beliefs, ancestor worship, and divine-related practices in auditory hallucinations. Expecting to always see overt, modern sounding references to hearing voices imposes a modern bias on ancient cultures.

Full Response: In a book on hearing voices, McCarthy-Jones devotes a few pages to criticizing Jaynes’ theory, apparently basing most of his critiques on a couple of conversations with Irving Finkle, Ancient Mesopotamian specialist at the British Museum and JoAnn Scurlock, Oriental Institute, University of Chicago. His main arguments are that 1. based on his conversations, there is no evidence for hearing voices in ancient Mesopotamia, 2. Jaynes is mistaken in taking a literal interpretation of the poem *Ludlul Bel Nemequi*, and we should instead take a metaphorical interpretation of the encounter with the god Marduk, and 3. Jaynes is mistaken about the empty throne of Tukulti-Ninurta. I’ll address each of these in turn.

1. To understand the basis of McCarthy-Jones’s critiques, we first have to understand the nature of the *Presentist Fallacy*. Described by David H. Fischer in *Historians’ Fallacies*, the presentist fallacy involves imposing a modern viewpoint upon the historical past. This kind of approach emphasizes the relevance of history to the present, so things which do not seem relevant receive little attention, and this results in a misleading portrayal of the past. With regard to the present question, we frequently see accounts of ancient people clouded by the ideas that because ancient people looked like us, they must have been psychologically similar to us, and the

Critiques & Responses Part 1

belief that ancient religion is similar to modern religion. Because of the presentist fallacy, much of the evidence for bicameralism is ignored, viewed in isolation, or given modern interpretations by scholars. Furthermore, ancient texts are frequently translated to sound as modern and as readable as possible, instead of making a literal translation. The presentist fallacy, in conjunction with the overspecialization of academic fields, in large part explains why Jaynes's insights remained undiscovered by previous scholars.

In my view, McCarthy-Jones's commentary on the lack of evidence for bicameralism in Mesopotamia follows a common pattern seen in many of the critiques of Jaynes's theory:

1. The person starts with an existing false premise, in this case, the presentist fallacy that modern and ancient man are psychologically more or less the same,
2. This is followed by a skeptical reaction to the theory because it challenges the existing false premise,
3. Next there is a narrow focus and the attempt to contradict a few pieces of evidence, rather than looking at the overall pattern of evidence that Jaynes presents,
4. Finally, no alternative, more parsimonious explanations are offered for the many phenomena Jaynes's theory explains.

Starting with the perspective that the ancient Mesopotamians were psychologically similar to modern people, McCarthy-Jones appears to be expecting to see overt, modern-sounding descriptions of voice-hearing. While this type of evidence does exist in the *Iliad* and the Old Testament, the evidence in Mesopotamia is often more subtle.

McCarthy-Jones's going to the "experts" and asking "did the Mesopotamians hear voices?" may initially seem like a perfectly reasonable approach. Asking the supposed experts for their insight on a topic one is unfamiliar with seems like the obvious thing to do. We might even congratulate him for going out of his way to investigate this issue. In reality, if individuals this entrenched in the mainstream view were already onboard with this aspect of Jaynes's theory, the ideas would already be mainstream. Jaynes is very upfront that his analysis is not in accord with the traditional views on these subjects. Scholars who are deeply invested in the standard tradition

that the ancients were psychologically similar to us are very unlikely to change their views when confronted with new evidence. Looking at the history of science, we know this to be the case.

(Imagine your own reaction, if you spent your entire career at a museum, with the evidence for bicameralism quite literally staring you in the face, but never questioned any of the existing views on the subject. Would you be an enthusiastic supporter of an idea that challenges everything you've believed your entire life, even if presented with compelling new evidence? Unfortunately, as the history of science clearly shows, the vast majority of people in this scenario choose to dig in their heels.)

To use an analogy, McCarthy-Jones asking Finkle to comment on whether or not the ancient Mesopotamians heard voices is like someone reading Richard Dawkins' *The God Delusion* and then asking a devout priest or theologian, "Is belief in God a delusion?" While technically an "expert," there will most likely also be a great deal of bias in the response. (I'm only slightly exaggerating in my comparison. Far from the objective rationalists they are often portrayed to be, when it comes to new ideas that challenge existing paradigms, academics and scholars can often be just as dogmatic in their beliefs as religious zealots.)

If the evidence for hearing voices in Mesopotamia was so overt, such that one could call a museum curator and ask, "Did the Mesopotamians hear voices?" and get an answer in the affirmative, then others would have made this connection more than a century ago. One of the reasons that no one saw the pattern of evidence before Jaynes is that traditionally, psychologists and psychiatrists have only concerned themselves with present-day psychology and historians and archaeologists have displayed little interest in psychological phenomenon. Understanding Jaynes's theory relies on a broad perspective and the ability to connect the dots between a large pattern of evidence.

The bottom line is that historians, while often having a great deal of knowledge about their subject matter, frequently demonstrate little interest in the psychologically-related issues relevant to their field of study. Presumably if they were interested in things psychological, they would have become psychologists and not historians. The degree to which psychological phenomena in ancient civilizations has been ignored by historians borders on the bizarre, and this over specialization is in large part why Jaynes's theory was so original and insightful: *taking a broader view and a more objective (less presentist) view of the past, Jaynes was able to see the*

connection between present-day psychological phenomena such as auditory hallucinations and the origin of god beliefs, ancestor worship, and divine-related practices in ancient civilizations.

(To be fair, we don't know if Finkle or Scurlock have read Jaynes or are familiar with his theory, to have even had the opportunity for objectivity. If not, the question posed by McCarthy-Jones of whether or not the ancient Mesopotamians "heard voices" would be completely out of context.)

To understand the evidence bicameralism in Mesopotamia, one has to in some cases "read between the lines" as well as make connections with similar practices in other civilizations. The evidence for hearing voices/the bicameral mind in ancient Mesopotamia includes:

- The large number of gods – indeed the entire culture is infused with gods. Jaynes's theory shows us that where gods or the worship of dead ancestors exists, voices likely are present.
- The ubiquity of idols – as Jaynes shows, these were likely used as hallucinatory aids.
- The fact that they cared for, fed, and wrote letters to the gods – practices that would be difficult to sustain for generations if there were no hallucinatory feedback.
- Written accounts that the gods were responsible for many major decisions.
- Written accounts of being neglected or abandoned by the gods – it's hard to feel abandoned by someone you never heard in the first place.
- The prevalence of oracles, divination, and omens as the breakdown of the bicameral mind began.
- Clearly documented visitation dreams where the commands of the gods were received. Visitation dreams in other cultures are accompanied by voice hearing during wakefulness, and thus are indirect evidence that they likely heard voices during wakefulness as well. In Greece for example, the birth of consciousness coincides with a transition from bicameral visitation dreams to modern, conscious dreams (see Jaynes, 2012 and Dodds, 1951). Drawing on evidence from cross cultural comparisons, waking bicameral hallucinations and visitation dreams can be seen as two sides of the same coin.

Specific examples of the pattern of evidence for bicameral hallucinations in Mesopotamia include:

- In Assyria, wars were all started at the gods' command: "The preamble to the account of a campaign always contains the statement that it was undertaken **at the command of the god [Ashur].**" (Contenau, 1966)
- "The Mesopotamians believed the **ear**, not the brain, to be the seat of intelligence." (Jacobsen, 1977)
- "The basic estate, the main temple with all its lands, was owned and run by the city god, **who himself gave all important orders.**" (Jacobsen, 1977)
- "The Mesopotamians viewed authority as a power inherent in commands, a power which caused a command to be obeyed, caused it to realize itself, to come true." (Jacobsen, 1977)
- "[Only the gods] were truly citizens in the political sense." (Jacobsen, 1977)
- "The *ensi* [manager of the god's estate] ... was expected to **consult the god and carry out any specific orders which the god might wish to give.**" (Jacobsen, 1977)
- "The *ensi* would go to the temple at night, sacrifice, pray, and lie down to sleep. **In dreams the god might then appear to him and give him his orders.**" (Jacobsen, 1977)
- "The gods communicated with the king most directly in dreams." (Frankfort, 1978)
- **Each person had a "personal god or goddess."** (Bottéro, 2004)
- "The **gods constantly intervened everywhere and participated in everything.**" (Bottéro, 2004)
- "The gods expressed their will through their '**words**' (*amatu*) and their '**commandments**' (*qibítu*)." (Bottéro, 2004)
- "The Mesopotamian is constantly admonished: '**Pay heed to the word of thy mother as to the word of thy god.**'" (Jacobsen, 1977)

Critiques & Responses Part 1

- “A man must truly proclaim the greatness of his god; A young man must wholeheartedly **obey the command of his god.**” (Chiera, 1934)
- “**Mesopotamians frequently wrote letters to their gods.**” (Jacobsen, 1977)
- “What came **out of the mouths of the gods** was ‘sublime’ (*síturu*), ‘powerful’ (*gasru*), ‘imposing’ (*kabtu*), and, above all, ‘**impossible to modify and even less suppress**’ (*sa la inennu, la uttakkaru*).” (Bottéro, 2004)
- “A man’s **personal god** was always ready to bring his dependent ... before the great god ... he would watch over him and keep him from evil influences.” (Contenau, 1966)
- “But if, by reason of sin, the believer ceased to be ‘the son of his god’, then the latter would turn his face from him and ... one of the demons would enter into the place left empty by the god.” (Contenau, 1966)
- Jacobsen (1977) describe what can be viewed as the breakdown of bicameralism and the silencing of the voices: “**All omens and signs became confused, the gods gave no clear answers to man’s questions, no orders were transmitted, sinister portents appeared, and with fear and foreboding man awaited the catastrophe.**”
- “A portent presages that “**at the command of his god or goddess** he will build the house he is yearning for.” (Jacobsen, 1976)
- “In Akkadian there is only one term to describe luck and good fortune: ‘**to acquire a god**’.” (Jacobsen, 1976)

These quotes are from a few of the books I happen to have on hand at the time of this writing. I will add additional quotes later, but I think a clear picture emerges. To get the full appreciation for the role of gods in Mesopotamian culture, I would encourage you to read the books cited. Do any of these characterizations make sense if we take McCarthy-Jones’ view that “There is *absolutely no evidence* that people routinely heard the voices of the gods [in Mesopotamia]”? I would argue that, despite the “expert” opinions of Finkle and Scurlock, the above examples make a strong case that ancient Mesopotamians indeed very likely did frequently hear the voices

of the gods, both during wakefulness and in dreams. If one takes an objective view, the above descriptions are nearly impossible to reconcile otherwise.

Finally, this pattern of evidence should be placed within Jaynes's overall [pattern of evidence](#), i.e., the observation of behavior suggestive of hearing voices in many ancient cultures as well as pre-literate societies; the large percentage of people worldwide today that continue to hear voices, many who experience hallucinations that command or direct their behavior; the frequent occurrence of imaginary companions in children that often involve hallucinations; etc. Everywhere one looks in ancient history, one sees gods as well as evidence for the divine revelation that sustained those beliefs (i.e., auditory hallucinations). Indeed, once we are familiar with Jaynes's theory, it is almost common sense that some form of regular feedback would be necessary to maintain such an elaborate and close relationships with the gods over such an extended period of time.

The evidence does point to fascinating differences between bicameralism in Mesopotamia, Greece, Egypt, Mesoamerica, and the Far East. For example, why did divination begin much earlier in Mesopotamia than in other places? Why the greater emphasis in texts on visitation dreams over waking hallucinations? Was there a longer transition period in Mesopotamia that began earlier than elsewhere in the ancient world? Did certain features of consciousness parallel the bicameral mind for a longer period in Mesopotamia than we see elsewhere, such as in Greece? We may never know the complete answers. However a more literal, non-presentist re-translation of many of the ancient texts may still shed light on these and other questions.

Summary: With so much evidence for hearing voices in the ancient world, among tribes, among children, and among everyday (non "schizophrenic") people worldwide today, why would we assume that a culture entirely infused with gods and idols and with strong evidence for visitation dreams be exempt from voice hearing? This makes no sense.

3.2. The encounter with the god Markduk in *Ludlul Bel Nemeqi* should be taken metaphorically rather than literally. (McCarthy-Jones)

The poem states:

Critiques & Responses Part 1

“My god has forsaken me and disappeared
My goddess has failed me and keeps at a distance,
The good angel who walked beside me has departed.”

McCarthy-Jones highlights the fact that later in the poem the author states that the god Marduk “pulled me from the river, and took my hand.” Given the characterization of Mesopotamian psychology above, I see no reason to take a metaphorical interpretation of any of their encounters with gods. In my view, this is once again the presentist fallacy at work... an unwarranted imposing of our modern psychology on the ancient Mesopotamians. To give another example of an encounter with a god, albeit from Greece, we see in Herodotus that: “According to the account he gave the Athenians on his return, Pheidippides met the god Pan on Mount Parthenium ... Pan, he said, called him by name and told him to ask the Athenians why they paid him no attention...” ... **“The Athenians believed Pheidippides’s story, and ... they built a shrine to Pan.”** In other words, the Athenians took the encounter with the god literally, not metaphorically. So should we.

3.3. Jaynes mistakes the king kneeling before an empty throne of Tukulti-Ninurta. First, it is an altar, not a throne, and second, it contains either a clay tablet with a stylus or a hinged writing board, rather than being empty. This, according to Finkle, can be understood to represent the Nabu, the god of writing. (McCarthy-Jones)

A response to this has already been written by Bill Rowe in *Gods, Voices, and the Bicameral Mind*. Rowe writes:

“In the summer of 1995 the Tukulti altar was part of an exhibition of ancient Assyrian artifacts at the Metropolitan Museum of Art in New York City. Robert Steven Bianchi, Chief Curator of the Gandur Foundation for Art, writing a review for *Minerva* magazine said: “Among the most enigmatic objects in the exhibition is a cult pedestal of the god Nusku, who was both a god of light and an intercessor, praying in this case on behalf of king Tukulti-Ninurta I (1243-1207 B.C.).” Bianchi goes on to say that, “Some interpret the object on the pedestal as the two leaves of a shrine’s door; others as a rod or ray of Nusku’s against a background of some sort; and others still as a stylus and tablet on which the king’s fate is to be recorded.”

The inscription at the base of the altar suggests a representation of the god Nusku. It reads, in part:

“Cult platform of the god Nusku, chief vizier of Ekur, bearer of the just scepter, courier of the gods Assur and Enlil, who daily repeats the prayers of Tukulti-Ninurta, the king ...”

However, referring to the alter as a socle, the archaeologist Oscar White Muscarella commented that “... it remains unclear just what is depicted on the socle ... Whatever is represented, however, it is not a deity itself but rather a symbol.”

In an essay on the continuities between Babylonian and Assyrian art, the archaeologist Henri Frankfort says: “But it is different in the case of the altar of Tukulti-Ninurta I. ... The relief on the front shows a rite performed before the very object it decorates. The king bearing a scepter is first shown as he approaches, then as he kneels before the altar, carved with the emblem of the god Nusku. The almost intimate meeting between king and god which was depicted on steles from the time of Gudea down to that of Hammurabi is not considered possible in Assyria. Both in art and literature the gods appear withdrawn from the world of men ...”

The gods have withdrawn from the world of men. Their symbolic stand-ins appear on carvings instead of direct representations. And even these are now acting as couriers to even more abstract and remote gods.

Before the weakening of the voices by writing at about 2500 B.C.E., Jaynes tells us that there was no hesitancy regarding what to do, and thus no need for prayer or intermediaries. But as civilizations became more complex toward the end of the third millennium, we see evidence of personal and household gods that act as go-betweens with higher city or state gods. And by the end of the second millennium a dramatic change occurs. “First, the major gods disappear from such scenes, even as from the altar of Tukulti-Ninurta. There then occurs a period where the individual’s personal god is shown presenting him to the god’s symbol only.”

Critiques & Responses Part 1

McCarthy-Jones has rightly called our attention to the ambiguity regarding what is depicted on Tukulti's altar. But in focusing on this detail he overlooks the point that Jaynes is making. Whether it is an empty throne or an empty writing board, the message is the same, the gods have left us, and now we must implore, kneel, and pray to them to discover their will. (Rowe, 2016, pgs. 72-75)

[END ROWE QUOTE]

To this I would add the following, which again emphasizes the theme of departed gods replaced by symbols. Harper, et al. (1995) note that

The human figures make it clear that the socle or what rests on it, or possibly the ensemble, is being worshipped. But it remains unclear just what is depicted on the socle. Interpretations suggest that a door of a temple is represented; or that the rod is the bright rod of Nusku; or that, inasmuch as something about fate is preserved in the inscription, the rod is a stylus, the rectangle a tablet, and thus it is there to record the king's fate. Whatever is represented, however, **it is not a deity itself but rather a symbol.** ...

Previously a king in prayer before a deity depicted on a relief or a cylinder seal was shown walking, and **this is the first time in such a portrayal that he is represented kneeling.** Moreover, **representations of the symbol of a deity, rather than the deity itself, as the object of worship seems to occur first in this period.** Supporting this view are two contemporary Assyrian seal impressions from Ashur that depict socles exactly like the present example (see cat. no 68). Depicted above the socle on one of the seals is a seated dog, the symbol of the goddess Gula, and flanking the other are symbols of Ea. (p. 113)

Bahrani (2003) also provides a somewhat Jaynesian-sounding interpretation of the image: The tablet and stylus object, whether or not it is a tablet and stylus ... stands as an enigma in the Tukulti-Ninurta relief. ... [I]n our relief Tukulti-Ninurta awaits the signs ... Tukulti-Ninurta's gaze is directed at the blank tablet and gestures at it as if it were a void in the real, an opening or space in the real through which the representation ... can appear. (p. 200)

Summary: Interpretations of the object depicted vary, and include an altar, a seat ("nemedu") (Langin-Hooper, 2014), throne, and cult pedestal. The altar, seat, throne, or cult pedestal has

been interpreted as either being empty, showing a door to a shrine or temple, or containing a tablet, rod, or stylus. The notion that it contains a stylus representing the god Nabu contradicts the text beneath the image, which indicates it belongs to the god Nusku. The image remains open to a great deal of interpretation and conjecture and the exact meaning is far from settled. What is widely agreed upon is also what is most relevant to Jaynes's theory: that, as noted by Harper and others, this is the first time in history that we see "representations of the symbol of a deity, rather than the deity itself." This corresponds with written accounts from the same time period of being neglected by the gods and the gods departing.

4. Critiques Regarding the Dating of Consciousness (The Iliad and the Old Testament)

4.1. "The Presence of Consciousness in the *Iliad*" Misconception (Leudar & Thomas)

Critique: "There are instances that show introspection in the *Iliad*, therefore Jaynes's theory must be wrong" (paraphrasing). – **Ivan Leudar**, Professor of Analytical and Historical Psychology, University of Manchester, and **Philip Thomas**, Consultant Psychiatrist with Bradford Community Trust and Senior Research Fellow at the University of Bradford, in *Voices of Reason, Voices of Insanity* (2000).

Response: According to Greek scholar Richmond Lattimore (1951), the events that led to the legend of the *Iliad* probably took place somewhere around 1250-1150 B.C., and were recounted via singer-poets until written by Homer around 850 B.C. These dates are only speculative and based on statements by Herodotus (484 B.C.-ca. 425 B.C.) and others. Also, tradition holds that Homer was blind and that the poems were not actually written down by him, but may have been dictated to a scribe. This is also a matter of debate. Very little is known about Homer and some scholars question whether he actually existed. Also questioned is whether or not the *Iliad* and the *Odyssey* were composed (or even transcribed) by the same person, with the majority of scholars now concluding they were not, simply referring to them as "Homeric literature."

Of particular relevance to the current discussion, Lattimore notes that "it is quite possible that the text was edited at Athens in the time of Peisistratos" (~560 to 528 B.C). Jebb (1887) writes that "The poems were handed down by oral recitation, and in the course of that process suffered

Critiques & Responses Part 1

many alterations, deliberate or accidental, by the rhapsodes. After the poems had been written down *circ.* 550 B.C., they suffered still further changes.” The neoclassicists also argue that the *Iliad* is made of older and more recent layers. An example of evidence for this is the armor of Ajax, which is from a much earlier time period (Cline, 2006).

Later editing and additions to the *Iliad* are highly relevant, yet are not even mentioned by Leudar & Thomas in their criticism of this aspect of Jaynes’s theory. It is likely that the *Iliad* is made up of various older and more recent layers, with the older layers reflecting a more bicameral mentality and newer layers showing evidence of consciousness. Jaynes discusses the issue of later additions on page 77 of *The Origin*, as well as in subsequent lectures. Perhaps he did not emphasize it enough. For more on the issue of later additions to the *Iliad*, see Leaf (1886), Lawton (1905), Jebb (1887), and Cline (2006).

When evaluating the evidence for consciousness in *Iliad* (and contrasting it with the *Odyssey*), we must keep certain facts in mind (Weissman, 1993):

1. The *Iliad* was recited orally for centuries before being written down (or dictated) by (most likely) someone named Homer. It was not immediately written down in the manner someone would compose a poem today.
2. The *Iliad* only tells us about the end of the bicameral period, not the beginning.
3. Large parts of the *Iliad* show bicamerality, i.e. when the characters receive clear commands from the gods similar to command hallucinations experienced by schizophrenics.
4. Parts of the *Iliad* show instances of consciousness, i.e. when the gods are speaking to each other and are not issuing commands. The discussion of the gods with one another show things like planning and deceit, seem to reflect a later mentality, and may indicate a later addition to the poem.
5. Different parts of the poem reflect different stages in human consciousness. It is difficult to know which sections of the *Iliad* reflect specific time periods, i.e. what were the later additions to the oral poetry of previous centuries.

6. The use of prayer and omens in the *Iliad* shows that people were no longer entirely bicameral, or these sections were added at the time it was written down, or sometime thereafter. Furthermore, the omens are sometimes ignored.
7. The *Odyssey* contains important differences from the *Iliad*, including less reliance on direct commands from the gods, a growing dependence on prayer, omens, and divination, increased use of deception, the possibility of disobedience to the gods, an increased awareness of time, and less rules and more freedoms for both men and women.

It should be pointed out that evidence for consciousness in the *Iliad* relates primarily to Jaynes's second hypothesis, or the dating of the emergence of consciousness, and would not necessarily impact hypotheses one, three, and four (see [Myths vs. Facts](#)). In other words, even if this critique were accurate, it does not contradict the many instances of human behavior directed by gods found in the *Iliad*, and the entire process Jaynes describes could theoretically have taken place at an earlier date.

Summary: The Iliad shows clear evidence for the auditory hallucinations of gods directing action rather than introspection. This likely reflects their actual experience, rather than being a "literary device." The Iliad is one piece of evidence for Jaynes's bicameral mind theory which should not be viewed in isolation but rather within the larger context of the overall pattern of evidence, which includes evidence of auditory hallucinations in other ancient texts, behavioral commands experienced by modern voice-hearers, historical linguistics (the evolution of words used for 'mind' in ancient Greek and Chinese), idols, oracles, divination, split-brain research, the psychology of pre-modern tribes, etc. As is so often the case with critiques of Jaynes's theory, none of these other areas of evidence are addressed by Leudar & Thomas.

4.2. "The Presence of Consciousness in the Book of Daniel" Misconception (D.M. Johnson)

Critique: "In the Book of Daniel, thoughts are attributed to individuals and not just to the gods" (paraphrasing). – **David Martel Johnson**, Professor of Philosophy, York University, in *How History Made the Mind*, p. 122.

Response: The Book of Daniel is estimated to have been composed sometime around 160 B.C. – *well into the conscious period*. Jaynes did not assert that the entire Old Testament was purely

Critiques & Responses Part 1

bicameral in nature. What he states is that in comparing the oldest books (i.e. Amos, ~750 B.C.) with the more recent books (i.e. Ecclesiastes, ~200 B.C.) we can see the transition from bicamerality to consciousness. All of the prophets were living in the post-bicameral era – it was the fact that they were still operating in a partially bicameral manner (i.e. regularly experiencing trance states and auditory hallucinations) that made them of interest. The Book of Daniel – again, one of the most recent books of the Old Testament – does include a series of hallucinatory visions. For an in depth discussion of the evidence for bicamerality and the transition to consciousness in the Old Testament, please read James Cohn’s [The Minds of the Bible](#) (2013).

Summary: It is important to remember Jaynes’s timeline for the transition from bicamerality to consciousness when evaluating literary (or other) evidence.