

The Origin of Consciousness in the Breakdown of the Bicameral Mind

Julian Jaynes, 1976 (Consciousness Summary, D. Carlson, MAY14)

Book I – The Mind of Man

CH1 – The Consciousness of Consciousness

Consciousness is not conscious of consciousness.

Consciousness is not located somewhere in the head. Below depicts the costumes that consciousness has been masquerading in for centuries:

What Consciousness is NOT:

#1: Not a Copy of Experience

John Locke (17th century) viewed the mind as a tabula rasa or 'blank slate'. Locke would say that consciousness is like a camera, a recorder that stores experiences. Recognition vs. Recall says otherwise. Examples: 1) at a stoplight, which is on top, red or green? 2) The door to your room – does it open from the right or left? 3) How many teeth do you see when you are brushing? 4) What letters are associated with what numbers on a telephone?

If any of this changed you would know immediately – which shows that you 'knew', but not consciously so.

#2: Not Necessary for Concepts

Concepts are class of equivalent things. Root concepts are prior to experience. One of the great functions of language is to let a word stand for a concept.

We see a tree, but we are not conscious of a tree. When one says that no one has ever seen a tree, he is mistaking what he knows about an object for the object itself.

Every weary wayfarer after miles under the hot sun has seen a tree. So has every cat, squirrel, and chipmunk when chased by a dog.

#3: Not necessary for Learning

If an organism could learn it seem self-evident that it must be conscious. Not so. I tried to teach plants, protozoa – to no success. I tried species with synaptic nervous systems, flatworms, earthworms, fish and reptiles – they could learn, but on the naïve assumption that I was chronicling the grand evolution of consciousness. I later realized that the assumption made no sense at all – why did the 'esteem' society of psychology equate consciousness and learning? And why had I been so lame of mind as to follow them?

The school of psychology known as Associationism (18th & 19th century) fooled people with this error, which continues today: that consciousness is an actual space inhabited by elements called sensations and ideas. And that learning and consciousness get confused with experience.

There are three (3) kinds of learning:

1) Signal Learning (or Pavlovian conditioning). Consciousness actually reduces signal learning.

2) Skill Learning. Example: learn to juggle three balls. Are you conscious of everything you do? This type of learning is 'organic' rather than conscious (consciousness gives you the goal). Let the learning go on without your being too conscious of it and it is all done more smoothly and efficiently.

The Zen exercise of learning archery is extremely explicit on this which advises the archer not to think of himself as drawing the bow and releasing, but *releasing* himself from the consciousness of what he is doing by letting the bow stretch itself and the arrow release itself from the fingers at the proper time.

3) Solution Learning (operant conditioning). A more complex case.

When one is acquiring some solution to a problem or some path to a goal, consciousness plays a very considerable role in setting up the problem in a certain way. But consciousness is not necessary.

Example: have someone (the subject) say words to you and you write them down. When the words are plural give positive feedback ('good', 'right', smile or repeat the word pleasantly). With singular words use neutral or negative feedback. After a while the frequency of plural nouns will increase. The subject is not aware that he is learning anything at all.

#4: Not Necessary for Thinking

The subject of thinking is a more complicated aspect of mentality. Many will bristle at the notion that consciousness is not necessary for thinking.

Wurzburg Judging-Weight Test: close your eyes and try to judge the weight of different objects ('right' or 'wrong' results). Where is the actual act of judging? The very act of judgment that one object is heavier than the other is not conscious. It is somehow just given to you by your nervous system.

Upshot: Judgment-Thinking, the supposed hallmark of consciousness, is not consciousness.

In word association tests researchers discovered that thinking was automatic and not really conscious once a stimulus word had been given. Another way of saying it is that *one does one's thinking before one knows what one is to think about*.

The important part of the matter is the instruction, which allows the whole business to go off automatically. To illustrate that thinking is not consciousness, I use the term *struction* – the connotation of both instruction and construction.

Upshot: Thinking is an automatic process following a struction and the materials on which the struction is to operate.

Pattern-Series Test



What is the next figure in the series? If you try to introspect on the process by which you came up with the answer you are not truly retrieving the process involved. You are inventing what you think they must have been by giving yourself another struction to that effect. In the task itself, all you were really conscious of was the struction, the figures before you on the page, and then the solution.

#5: Not Necessary for Reason

Logic is distinct from reasoning. The assumption that logic is supposed to be the structure of conscious reason confounded generations of poor scholars who knew perfectly well that syllogisms¹ were not what was on their side of introspection.

Reasoning and logic are to each other as health is to medicine or as conduct is to morality. Reasoning refers to a gamut of natural thought processes in the everyday world. Logic is how we ought to think if *objective truth* is our goal – and the everyday world is very little concerned with objective truth. Logic is the science of the justification of conclusions we have reached by natural reasoning. For such natural reasoning to occur, consciousness is not necessary. The very reason we need logic at all is because most reasoning is not conscious at all.

Example: a boy sees a particular piece of wood floating on a particular pond. He concludes that another piece of wood will float on another pond. This is sometimes called reasoning from particulars. Nothing particularly extraordinary. It is an ability common to all the higher vertebrates. Such reasoning is the structure of the *nervous system*, not the structure of consciousness.

Our minds work much faster than consciousness can keep up with. Because reasoning is not conscious, we often reach sound conclusions and are quite unable to justify them. And this type of reasoning is what we do about other's feelings and character, or in reasoning out the motive of others from their actions. These are clearly the result of automatic inferences by our *nervous system* in which consciousness is not only unnecessary, but, as we have seen in the performance of motor skills, would probably hinder the process.

The Grand Myth



Then it is spread out in a golden clarity and all the orderly processes of reason go on in a full publicity of awareness we will think that we have arrived at the very empire of consciousness. But this is a myth - the truth has no such grandeur.

The picture of a scientist sitting down with his problems and using conscious induction and deduction is as mythical as a unicorn. The greatest insights of mankind have come more mysteriously. Helmholtz, Gauss, Poincare and many others speak of an inspiration "like a sudden flash of lightning" where the riddle happened to be solved. Where the author was clueless on was the conducting thread which connected his previous knowledge with what made his success possible.

¹ A syllogism is a kind of logical argument in which one proposition (the conclusion) is inferred from two or more others (the premises). Example: "All men are mortal. Socrates is a man. Socrates is mortal".

A famous physicist's greatest ideas came to him so suddenly while he was shaving that he had to move the blade of the straight razor very carefully each morning, lest he cut himself with surprise. Many physicists talk about the three B's: the Bus, the Bath and the Bed. That is where the great discoveries are made in our science.

Stages of creative thought: 1) preparation – the problem is consciously worked over; 2) incubation – little concentration upon the problem; 3) illumination – later justified by logic.

Complex problem have a parallel to the simple problems of judging weights or circle-triangle series: the period of preparation is essentially the setting up of a complex struction together with conscious attention to the materials on which the struction is to work. The actual process of reasoning has no representation in consciousness. It is sometimes almost as if the problem had to be forgotten to be solved.

The Location of Consciousness

Where does consciousness take place? Almost everyone replies 'in my head'. This is because when we introspect, we seem to look inward on an inner space somewhere behind our eyes. But what on earth do we mean by 'look'? Upon what?

We know perfectly well that there is no space in anyone's head. For reasons that have to do with volition and internal sensation, it is better to imagine your mind-space inside you, rather than locate your consciousness in the next room (which is just as valid).

A Civilization Without Consciousness

If the reader at this point is not convinced that a civilization without consciousness is possible, then he will find the rest of this book unconvincing and paradoxical.

CH2 – Consciousness

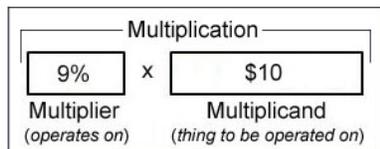
Metaphor & Language

To properly understand consciousness it is important to discuss the metaphor.

A metaphor is a figure of speech that describes a subject by asserting that it is similar to another unrelated object. Metaphor is a type of analogy and is closely related to other rhetorical figures of speech that achieve their effects via association, comparison or resemblance including allegory, hyperbole, and simile.

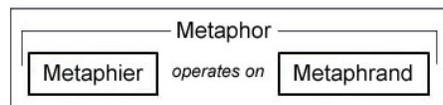
If we want to find 9% tax on \$10, arithmetic uses the terms:

- 1) Multiplier – the thing (the 9% tax) that *operates* on a Multiplicand.
- 2) Multiplicand – the thing to be operated on (the \$10).



Metaphor uses *one term to describe another*. We can borrow the arithmetic vocabulary to describe the two terms that comprise a metaphor:

- 1) Metaphier – the thing or relation used to elucidate a Metaphrand.
- 2) Metaphrand – the thing to be described.



A metaphor is always a metaphier *operating* on a less known metaphrand. It is by metaphor that language grows. The common reply to the question "what is it?", when the reply is difficult or the experience is unique, is "well, it is like".

When asked to describe nonsense objects to others who cannot see them, children and adults will use extended metaphiers. Over time and with repetition the extended metaphiers become contracted into labels. This is the major way in which the vocabulary of language is formed.

The human body is a common metaphier:

- The *head* of an: army, table, page, bed, ship, household, or nail, or of steam or water.
- The *face* of a clock, cliff, card, or crystal.
- The *eyes* of needles, winds, storms, targets, flowers, or potatoes.

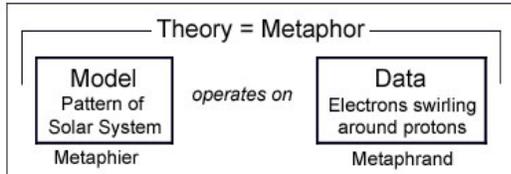
Understanding as Metaphor

We are trying to understand consciousness, but what are we really trying to do when we try to understand² anything?

The terms *theory* and *model* are sometimes used interchangeably, but they really should not be. A theory is a relationship of the model to the things the model is supposed to represent. For example, Bohr's model of the atom (electrons swirling around protons) was *like* the pattern of the solar system (the metaphoric source). Bohr's *theory* was that all atoms were similar to his *model*. With more recent discovery of new particles and complicated interatomic relationships, Bohr's *theory* turned out to be not true. But the model remains. A model is neither true or false; only the theory of its similarity to what it represents.

A theory is a metaphor between a model and data:

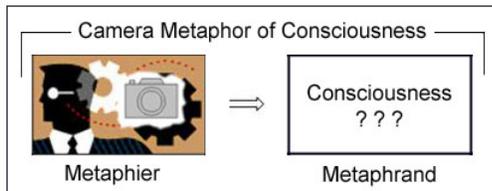
- 1) Metaphier – The model: the pattern of the solar system.
- 2) Metaphrand – The data: 'electrons' swirling around protons.



If understanding a thing is arriving at a familiarizing metaphor for it, then we can see that there always will be difficulty in understanding consciousness. There is not and cannot be anything in our immediate experience that is like immediate experience itself. There is therefore a sense in which we shall never be able to understand consciousness in the same way that we can understand things that we are conscious of.

Most of the errors about consciousness are about the errors of attempted metaphors.

For example, Locke's 'camera' was the explicit metaphor of the notion that consciousness is recorder that stores experiences. But of course no one really meant consciousness copies experience; it was as if it did.



Analog

An analog is a special type of model. A map is a good example. It is not a model in the scientific sense, not a hypothetical model like the Bohr model to explain something unknown. It is made from something well known like the landscape. So the relation between an analog map and its land is a metaphor. If you point to location on the map you are really just using a shorthand system that gives distance relationships (ie, the map is not the territory). If someone sees a road sign on a map and literally attempts to drive up a signpost, he is terribly confusing the map with the territory.

The Metaphor Language of Mind

Subjective conscious mind (the 'map') is an analog of what is called the real world (the 'land'). It is built up with a vocabulary or a lexical field whose terms are all metaphors or analogs of behavior in the physical world. Its reality is of the same order as mathematics. Like mathematics, subjective conscious is an operator rather than a thing or repository. And it is intimately bound up with volition and decision.

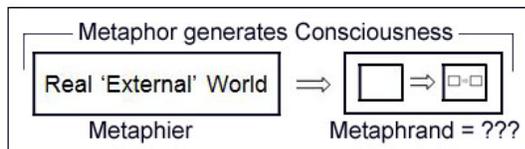
The most prominent group of words to describe mental events are visual. We 'see' solutions to problems; the best of which may be 'brilliant' and the poor are 'obscure'. A person as 'brighter' and 'clear-headed' as opposed to 'dull' or 'fuzzy-minded'. These words are all metaphors and the mind-space to which they apply is a metaphor of actual space. It's as if we need a 'viewpoint' to seize together or 'com-prehend' parts of problem.

² The origin of the word 'understand' comes from the days of Roman architecture. Before the scaffolding was removed from a newly built bridge, the designer/engineer was required to stand under the bridge.

The adjectives to describe physical behavior in real space are analogically taken over to describe mental behavior in mind-space when we speak of our minds as being 'quick', 'slow', 'agitated', 'nimble-witted', 'strong-' or 'weak-minded'.

When we say mind-space is a metaphor of real space, it is the real 'external' world that is the metaphier. But if metaphor generates consciousness rather than simply describes, what is the metaphrand?

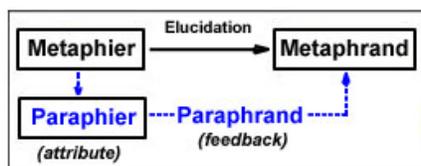
- 1) Metaphier - The real 'external' world.
- 2) Metaphrand - ???



Paraphiers and Paraphrands

If we look more carefully at the nature of metaphor we find that it is composed of more than a metaphier and a metaphrand. At the bottom of most complex metaphors are various associations or attributes of the metaphier which I am going to call *paraphiers*. And these paraphiers project back into the metaphrand as what I shall call the *paraphrands* of the metaphrand.

- 1) Paraphiers – attributes of the metaphier.
- 2) Paraphrands – paraphiers that project back into a metaphrand.



I realize that the above discussion is becoming fairly dense, but before we come out into the clearing, it is absolutely necessary if we are to be crystal clear about our referents.

Consider the metaphorical statement "the snow *blankets* the ground".

- 1a) Metaphier: the blanket on a bed.
- 1b) Metaphrand: the completeness and thickness with which the ground is covered by snow.
- 2a) Paraphier: pleasing feelings of a blanket: warmth, protection, slumber.
- 2b) Paraphrand: the idea of the earth sleeping and protected by the snow cover until its awakening in spring (automatic association).

Other generative metaphors:

- 1) 'the brook *sings* through the woods'.
- 2) that love '*lives* in the sun', '*smells* sweet', 'has *thorns* when grasped', and '*blooms* for a season only'.

Of such poetry is consciousness made.

The metaphrand is obtaining the solution, the metaphier is sight with the eyes, and the paraphiers are all those things associated with vision that then create paraphrands, such as the mind's 'eye', 'seeing the solution *clearly*', and most important, the paraphrands of a 'space' in which the 'seeing' is going on, or what I am calling mind-space, and 'objects' to 'see'.

I do not mean this brief sketch to stand in for a real theory of how consciousness was generated in the first place. That problem we shall come to in Book II. Rather I intend only to suggest the possibility that I hope to make plausible later, that consciousness is the work of lexical metaphor.

Features of Consciousness

The Analog 'I'

A most important 'feature' of this metaphor 'world' is the metaphor we have of ourselves, the analog 'I', which can 'move about' vicarially in our 'imagination', 'doing' things that we are not actually doing. It is not your physical behavioral self that tries to 'see' where a theory 'fits' into the array of alternative theories. It is your analog 'I'.

If we are out walking, and two roads diverge in a wood, and we know that one of them comes back to our destination after a much more circuitous route, we can 'traverse' that longer route with our analog 'I' to see

if its vistas and ponds are worth the longer time it will take. Without consciousness with its vicarial analog 'I', we could not do this.

The Metaphor 'Me'

The analog 'I' is, however, not simply that. It is also a *metaphor* 'me'. As we imagine ourselves strolling down the longer path we indeed catch 'glimpses' of 'ourselves', as we did in the exercises of Chapter 1, where we called them auto-scopic images. We can both look out from within the imagined self at the imagined vistas, or we can step back a bit and see ourselves perhaps kneeling down for a drink of water at a particular brook. There are of course quite profound problems here, particularly in the relationship of the 'I' to the 'me'. But that is another treatise. And I am only indicating the nature of the problem.

Narratization

In consciousness, we are always seeing our vicarial selves as the main figures in the stories of our lives (eg, walking along a wooden path). It is not so obvious that we are constantly doing this whenever we are being conscious, and this I call narratization. And it is not just our own analog 'I' that we are narratizing; it is everything else in consciousness. A child cries in the street and we narratize the event into a mental picture of a lost child and a parent searching for it. Or the facts of mind as we can understand them into a theory of consciousness.

Closing

This has been a difficult chapter. But it is enough to return now to our major inquiry of the origin of it all. If consciousness is based on language, then it follows that it is of a much more recent origin than has heretofore been supposed.

Consciousness comes after language!

The implications of such a position are extremely serious.