

1 Foreword

I wish to put in writing some observations on an intellectual matter I deem of special importance. One could perhaps dare to reduce it to the study of brains. In this sense, the matter is circumscribed to the inquiry of what may be termed a “representative instinct” in mankind. Such “instinct”—I use the term loosely for now—is plausibly the byproduct of the emergence of symbolic faculties in instinctive beings. This may not be too precise, but it is also not blatantly wrong, and thus I accept it as a decent preliminary conception. I am speaking of what a peculiar branch of psychoanalysis termed *archetypes*.

The object of this inquiry, I must say, was not originally conceived to be of biological nature, and I do wish to attend to its earlier formulations. Firstly, because in the genealogy of any scientific idea there are large branches of—in general quite illuminating—pre-scientific antecedents. Secondly, because the hypothesis that concerns us goes far beyond the scope of scientific inquiry, raising questions about human nature itself.

As a last preliminary comment, I should wish to say the following: although the psychoanalytic conceptualization of archetypes is partially disregarded, although a considerable amount of empirical work has been set forth by affective neuroscience on this matter, the existence of archetypes is still merely a hypothesis. Only the scientific study of brain functioning can ultimately provide satisfactory evidence in favour or against it. It is probably the case that mind-problems are of the kind where propositions are to be measured only in that way—by the weight of existing evidence, and not by conclusive proof. A love for sharp edges and rigor compels me to limit the scope of my speculation to what I deem to be in line with this evidence and our current scientific understanding of the brain. It is utterly short-sighted to claim that reason can only delve into matters where certain knowledge exists (or could exist). The advancement of science itself must always begin with educated conjectures, and a philosophical attitude towards uncertain matters can *at least*, when executed correctly, reveal the right and the wrong questions to be raised.

2 Archetypes

The term archetype dates back at least to Dionysius the Pseudo-Areopagite, who suggested an echo (*apekhémata*) of the divine essence exists on every sensible object, by virtue of which they may elevate to the immaterial *arkhitypía*. Here, the word expresses the perfect platonic ideal of which each sensible object is an imperfect realization. This is not the sense of the term that interests us—although the notion of *echo* (or *imprint*, *trace*, etc.) will be relevant. In fact, our issue is partly the different meanings the term ascribes to across traditions and contexts. Even the work of Jung, that elevated the term to an unprecedented intellectual dimension, lacks an unequivocal definition, sometimes confronting us with the suspicion that the very author bestows it with different meanings depending on the period of his intellectual life or the object of his exposition.

It is my opinion that this linguistic issue is not as daunting as it may appear at first. A simple reason is that many of the meanings commonly attributed to the term can be readily disregarded as nonsensical. Secondly, some ad-

vances in the field of neuroscience—particularly in the line of research set forth by Panksepp—have contributed a great amount of empirical material to the question. This rich set of facts lays out more plausible—and potentially falsifiable—notions of what may be meant by “archetype”. In other words, though the riddle is far from answered, we have at our disposal a whole domain of reality that the ancient philosophers—or early psychoanalysts—lacked. Thus, the contending definitions, to our surprise, are in the end not very numerous.

It then becomes the question how to penetrate into the essence of the definitions at hand. I intend to follow two general principles for this purpose. First, to assess the amount of presuppositions implied in them. Second, to think of their meaning only as the sensible effects the concept is represented to produce. In the latter lies whatever is to be meant by the concept; in the first, its intellectual economy.

3 Jung

Jung had an explicitly dualistic outlook on the psyche. He endorsed the philosophical stance according to which there is no evidence in favor of the hypothesis that links psychological phenomena to physical and chemical processes, that there is no reason to regard the mind as an epiphenomenon of matter, and that it should be treated as a *sui generis* factor—at least until the artificial creation of a mind can be established as an achievable endeavor. This is explicitly held in the work *Archetypes of the collective unconscious*, written around 1932. The state of evidence at the time may perhaps make this claim understandable. However, at least to my knowledge, he never explicitly relinquished it.

Jung frequently associated the notion of archetype to that of primordial image. This association is particularly present whenever he was interested in drawing the parallelism between mythological motifs and the archetypal phenomena he allegedly witnessed in his clinical work. He also ties the concept of archetype to the notion of pattern of functioning:

Like every animal, he [the man] possesses a preformed psyche which breeds true to his species and which (...) reveals distinct features traceable to family antecedents. (...) We are unable to form any idea of what those dispositions or aptitudes are which make instinctive actions in animals possible. And it is just as impossible for us to know the nature of the preconscious psychic disposition that enables a child to react in a human manner. We can only suppose that his behavior results from patterns of functioning, which I have described as images. The term “image” is intended to express not only the form of the activity taking place, but the typical situation in which the activity is released” — 1959, pag. 78.

This evolutionary speculation is not trivial. It is in line with more recent expositions, such as those elaborated in the work of Campbell. However, it is a rather strange twist of the logical chain to propose an evolutionary basis for an immaterial phenomenon. The process of natural selection affects the course of biological species made up of material elements, all the way down to a rather peculiar acid whose material nature—I should hope—is uncontested. Putting that aside, to claim we do not know the mechanisms that make instinctive actions

possible is false under the present state of science. The neuroscientific findings seem to support, to a certain extent, the Jungian hypothesis of “archetypal” behavioral patterns. We will come to discuss these findings later on.

To Jung, primordial images are contentless, structural patterns—just like an instinct, taken by itself, is also strictly formal. This is an important point to make wherever we find those delirious babblings mumbled by the sadly numerous followers of the new age philosophy, who distort Jung’s theories to fantasize about a world of actual images, where this or that archetype “appears as” this or that other figure and contains some form of sacred message. Granted, at times the author made it easy for such misinterpretations to be drawn out of his work. But it is also true that Jung asserted above all *a.* the affective tone of these “primordial images”, and *b.* that they should be understood not by virtue of an essential content but by their teleology—*id est*, the specific behavioral disposition induced by them.

But we only arrive at the meaning of a physical organ when we begin to ask teleological questions. Hence the query arises: What is the biological purpose of the archetype? —1959, pag. 161.

It continues to be unclear in what way the biological conception of the archetype and the immaterial notion of the psyche may theoretically harmonize. But we shall leave this question aside for the moment to discuss a bit more deeply about these primordial images, or patterns of behavior.

With regards to their teleology, one mustn’t too hastily convince himself that it exists. A fair number of biological traits are nothing but the byproduct of others. In other words, there are traits that arouse even when no selective pressure favoured their existence. A general idea is that the phenomenology of archetypes—the specific behavioral dispositions that are understood to be archetypal—is the induction of an affective state by stimuli to which we were once selected to respond affectively, or stimuli resembling other to which we were selected to respond affectively, even when at the present state of history such response is unwarranted. To rephrase: In the same way the fact that sucrose was once scarce makes us feel a compulsive appetite for it even today, other stimuli are also imbued with, so to speak, archaic affect. In this regard, we find a clarifying and mundane example in *The Masks of God: Primitive Mythology*, by Campbell.

Chicks with their eggshells still adhering to their tails dart for cover when a hawk flies overhead, but not when the bird is a gull or duck, heron or pigeon. Furthermore, if the wooden model of a hawk is drawn over their coop on a wire, they react as though it were alive—unless it be drawn backward, when there is no response.

Here we have an extremely precise image—never seen before, yet recognized with reference not merely to its form but to its form in motion, and linked, furthermore, to an immediate, unplanned, unlearned, and even unintended system of appropriate action: flight, to cover. (...) Furthermore, even if all the hawks in the world were to vanish, their image would still sleep in the soul of the chick—never to be roused, however, unless by some accident of art (...). With that the obsolete reaction of the flight to cover would recur; and, unless we knew about the earlier danger of hawks to chicks, we should find the sudden eruption difficult to explain.

‘Whence’, we may ask, ‘this abrupt seizure by an image to which there is no counterpart in the chicken’s world? (...)’.

It is not difficult to observe what is being suggested in this passage. Namely, that there were now non-present stimuli imbued with affect by virtue of evolutionary archaic systems; that the responses elicited by these stimuli were arguably propitious to survival; that these archaic responses can be evoked by “accidents of art”, provoking seemingly unwarranted responses in people. The psychologist that risks to say this draws his attention, of course, to all those affective motifs deemed universal in human experience: patterns suspected to be ubiquitous even across different religious contexts and times, appearing with equal strength in uncommunicated cultures as in the spontaneous production of individual people.

The scope of this alleged universality is not altogether clear. Some have proposed general practices but not particular images to fall within it. Shamanism may be a good example. Others have drawn their attention to particular imaginations: for example, that of the universal flood. I do not wish to discuss this point, for I cannot see a way to circumscribe the speculation within a limiting frame. And where there is place for unbounded speculation there is no place for truth. So, having presented a general overview of the more or less pre-scientific conception of *archetypes*, I should wish to proceed with the equally interesting—but more epistemologically promising—attempts of neuroscience at tackling this question.

4 Archaic affect

We follow here Panksepp’s terminology. By *emotion*, we mean any affective, cognitive, behavioral or physiological change in the organism. In this sense, the word is more tightly linked to its etymology than to its conversational meaning. By *affect*, we mean any subjective and experiential feeling. In this sense, there can be emotion without affect—or non-affective emotional processes—as well as non-emotional affects—for example, taste, touch, etc.

Emotional affects—this is, the experiential component of internal organic changes, such as the that which accompanies thirst and hunger, fear, the pleasure associated to sucrose consumption—is generally associated to external events. When compared to external inductors of affect, internal ones are rather few. Even so, every affect is an internal function of the brain. Here, the traditional concepts of *valence*, *arousal* and *surgency* are the tools used by psychologists to describe different aspects of the affective experience.

The essential thesis of affective neuroscience as a field, to my view, is the following: that affective experience “reflects a primitive form of consciousness which was the evolutionary platform for the emergence of more complex forms of consciousness” (Panksepp, *Affective consciousness: Core emotional feelings in animals and humans*, 2005). Here, *consciousness* refers to “brain states that have an experiential feel to them, and it is envisioned as a multi-tiered process that needs to be viewed in evolutionary terms, with multiple layers of emergence.” (*idem*).

The evidence in favour of this thesis is close to overwhelming and, to my eyes, at least in essence, little doubt remains about its truth. I refer the reader primarily to the work of Panksepp and Damasio. There are, of course, disputes concerning technical matters—the manner in which different ways of consciousness evolved, the neurobiology modulating certain aspects of consciousness¹—but the essential claim remains untouched. Not only is the experiential component of emotion common to, at least, all mammals, but it represents a primitive form of consciousness that is still present in the human brain. This presence is attested by the fact that the systems from which such form of consciousness emerges remain very well preserved and highly homologous across mammal species.

¹Compare, for example, the work of Damasio with that of Panksepp