

The Serpent in the Brain: A Neuroscientific Perspective on Archetypes

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Chapter 1

Introduction

Disclaimer: This is a compilation of thoughts that might be someday used in a fictional novel. It does *not* reflect any personal beliefs.

Warning: This is a work in progress, being currently just a collection of unstructured information.

The idea that the mind is deeply organized along universal lines has always been fascinating to me. Although strongly criticized and mostly debunked by science, the notion that cognition is structurally clustered in a similar way across time and space has endured, gradually leaving the prison of scientific psychology to pervade other fields, such as history of arts, literature and anthropology. In fact, the notion of archetypes has become quite popular in the recent years, evidence being “found” within the redundancies of Human behaviours, myths and stories of old. In turn, understanding and acknowledging the existence of archetypes is often presented as a step toward personal development, if not mental health.

But beyond the scent of pseudo-science that emanates from this concept, do archetypes make any scientific sense?

Archetypes, as they are commonly defined and conceptualized (i.e., with a Jungian-based psychodynamic approach), are hardly compatible with the current scientific knowledge. For instance, Jung’s collective unconscious has no place in light of what we know about neurogenesis, neurodevelopment, and functional or structural neuroanatomy. Similarly, research on personality and psychological inter-individual differences does not support the existence of profiles that would resemble commonly described archetypal figures (for example the warrior, the hero or the wise old man). Nonetheless, I think (and hope), that a scientific approach to archetypism (the study of psychological archetypes) is possible and potentially interesting. Thus, the goal of this book is to provide

a new and rational perspective on archetypes, informed by biology, psychology, and neuroscience.

My own journey started as a naive interest for psychoanalysis in general, and a particular appeal for the deeply hidden core(s) of our being. But that original appeal did not last very long. The first blow was given by the *black book of psychoanalysis* (“Le livre noir de la psychanalyse”; Borch-Jacobsen et al., 2005), that superbly and elegantly exposes and deconstructs most of the psychodynamic approach. And yet, my disillusionment was not complete, as Jung’s “Depth Psychology” somehow resisted and maintained some level of magnetism in the back of my mind. Indeed, possibly related to my shared interest for myths and history of religions, or to some other unconscious motivation, I found Jungian mythological and cross-cultural perspective attractive (or, at least, interesting). But as my knowledge grew, I could no longer ignore the evidence. And the evidence is presented on a golden plate through the excellent book titled “Jung et les archétypes. Un mythe contemporain”, in which Le Quellec (2013) casts doubt (if not fire) upon the whole Jungian enterprise. Reading it finally cured from all psychodynamic non-sense. But it left me wondering; what is left of the archetypes in this landscape of burning ashes?

As a phoenix, can this idea be reborn?



Figure 1.1: Phoenix illumination from the Aberdeen Bestiary (12th century).

Chapter 2

History of Archetypes

Placeholder

2.1 Carl Jung (1875 - 1961)

2.2 Philosophical roots

2.3 Archetypal Interpretation of the Tarot

2.4 Joseph Campbell (1904 - 1987)

2.5 Robert Moore (1942 - 2016)

2.6 Carol Pearson (1944 - Present)

2.7 Other Developpments

Chapter 3

A Scientific Archetypism

Placeholder

3.1 From Theory to Application

3.2 A Falsifiable Theory

3.3 Limitations

Chapter 4

Definition

Warning: This is a work in progress, i.e., currently just a collection of unstructured information.

4.1 What are Archetypes?

We define archetypes as the product of the essentialisation of the space created by the fundamental axes that structure a cognitive system. These axes create layers of opposed poles that are tied to important concepts for adaptation and survival. For example, one possible axis would give rise to the concepts (the centroids of the spaces created by this axis) of life and death, a distinction arguably critical to Humans. In this example, the process of archetypalisation would essentialise these spaces (or proto-concepts), for instance to features or symbols (e.g., the tree, the heart, the skull).

But these examples are not necessarily “true” archetypes. Indeed, compared to other results of essentialisation, true archetypes present some specific characteristics. Their ontogenic origin can be traced to the early stages of development (roughly equivalent to children in Humans). They are usually primitive (or “raw”), in the sense that they require minimal cognitive ability to be created. They are efficient, encapsulating and conveying complex meaning in the most effective form. They are important for adaptation and survival, allowing for the easy integration of important notions. They are meta-stable relative to a given spatio-temporal context, meaning that individuals growing in a similar environment (without necessarily communicating between them) should exhibit similar forms of archetypes (as these are essentialised in relation to the interaction between an individual and its environment).

As a consequence, archetypes (in our definition) are not universal and can present variations in their presentations depending on the geographical and

temporal context. Nevertheless, the proto-concepts that they are attached to might be similar. For example, the essentialisation of the concept of life and death might manifest under different forms: a society where a given animal is the main cause of death may use it as its symbol, compared to another society in which death is best exemplified through something else. That being said, a society where death does not exist (in which the life and death distinction is useless) might not display any (pseudo)archetype for it.

Archetypes are neither collective *per se*. They do not emanate or emerge from some shared memories or history, other than the similarities of our lives. They are deeply and inherently individual, and their collective aspect (as they are usually shared within a given culture) is merely a reflection of the ontogenic and evolutionary redundancies.

4.2 Essentialisation

Essentialisation is the core mechanism underlying the existence and creation of archetypes. Essentialisation is in general achieved either through biomorphism (in particular, anthropomorphism), giving Human or animal-like aspect to objects, or symbolification, reducing a concept to a (usually visual) symbol. The mode of essentialisation might depend on cognitive abilities (abstraction / imagery abilities) and environment (prevalence of natural or abstract objects).

archetype primaire (innés) = génétique, adaptive archetype secondaire (activés) = activés par l'expérience précoces (sur un modèle épigénétique) archetype tertiaires (créés) : crée et entretenues par la culture

Chapter 5

The Main Archetypes

Placeholder

5.1 Masculine and Feminine

5.2 The Two Worlds

5.3 Known *vs.* Unknown

5.4 Time

5.5 Moral

5.6 Order

5.7 Death

5.8 The artist

5.9 The Serpent

5.10 Light and Shadow

Chapter 6

Archetypes and Psychology

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The archetypal framework developed in this book is by essence reductionist, exploring the abstract core features of cognition and essentializing them to concepts of pure abstraction. As such, archetypes do not directly relate to individual psychology, nor to anything tangible.

6.1 Archetypes as the Self

The serpent is as the Self. Always changing, but always the same.

6.2 Archetypes as Personality Clusters

6.3 Archetypes as Heuristics

A more process-based and fluid framework.

One could define an archetype as a basic frame facilitating a basic, instinctive, and intuitive understanding of a concept or a personality. This definition brings it close to a key concept in psychology, heuristics.

Chapter 7

Archetypes and the Brain

***Warning:* This is a work in progress, i.e., currently just a collection of unstructured information.**

Archetypes are a tangible reflection of a neuropsychological proto-structure. But do they have a biological existence?

7.1 Origin

Are the archetypes innate? No, (although they might have been favoured by evolution); they stem out of the redundancies of existence.

7.2 Archetypes as Neurocognitive Invariants

contrary to Jung, these archetypes are not originating from some collective unconscious, but rather are created and maintained by the ontology of the individual, and patterns are crystallised out of the répétition and similarity across individual ontologies (e.g., the presence of a fatherly and a motherly figure, etc.)

7.3 Neurological Substrate

Attempts have been made to map archetypes onto brain structures (Samuels, 2003). For instance, Rossi (1977) suggested that one could locate the archetypes in the right cerebral hemisphere, based on the idea that the left hemisphere would be primarily verbal and associational, and the right primarily visuospatial and apperceptive. In light of the current neuroscientific data, these theories appear as nonsensical and naive.

That being said, if archetypes are engrammed into the cognitive system, a biological basis has to exist. One potential answer is to reframe archetypism under the predictive coding framework. As such, archetypes could be seen as meta-priors.

Chapter 8

Archetypal stories

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Common motives in religions and myths beg the question of the existence or plausibility of archetypal stories.

Chapter 9

The Origin of Religions

Placeholder

9.1 Scientific Theories of Religion

9.1.1 Evolutionary Perspective

9.1.2 Cognitive Perspective

9.1.3 Neuro-ontogenical Perspective

9.2 Proto-beliefs vs. Religion

9.3 Classical Elements

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