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Are archetypes transmitted more by culture than biology? Questions arising from conceptualizations of the archetype

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Abstract: The archetype is one of the most important, if not the central concept of analytical psychology. Nevertheless from the beginning the concept was controversial. This paper attempts to review the debate around the term archetype and tries to point out some of the main problems the concept has in the light of contemporary knowledge especially in genetics and neurosciences. It becomes clear that for its use in the practice of Jungian psychotherapy the element of universality in the concept of archetypes is crucial. However, it must be concluded that there is still no firm scientific foundation for the claim that complex symbolic patterns (as for example the myth of the hero) can be transmitted in a way that every human individual has access to them. The paper attempts to show possible ways in which this transmission may be more successfully conceptualized.

Key words: archetype, emergence theory, epigenetics, Jungian psychotherapy, narrative

Introduction

The concept of archetypes is certainly an important one for analytical psychology, if not the most important. The formulation of a theory of archetypes which began in 1912 marks the split with Freudian theory and is the beginning of Jung's independent stream of depth psychology, (albeit Jung's first use of the term 'archetype' was not until 1919). The concept has been controversial from the beginning, one reason being that we find contradictory positions in Jung himself concerning the archetype, which will be pointed out below. In recent years there has been in intensive debate in analytical psychology, especially in this journal, about the state and foundations of archetype theory. In this paper I will try to summarize, at least in part, some of these attempts to reformulate the concept of the archetype, namely approaches from emergence theory, Gestalt theory and the humanities.

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Jung always made great efforts to show that his conceptualization of the archetype was firmly based in biology, via biological inheritance (Jung 1949, para. 1228). However, several authors today agree that the biological foundation of archetypes is in question, a point to which I will add arguments coming mostly from the new field of epigenetics. There have been several impressive attempts to reformulate Jung's concept drawing on recent insights from the life sciences. In this context, I will discuss Jean Knox' (2003) theory of image schemas. In my view, this is the most sophisticated reformulation of the archetype concept to date. I agree with her point that archetypes can no longer be seen as genetically inherited, although I arrive at this conclusion from a different direction.

However, my main point in this paper is a different one: when we go back to Jung's original formulations of the archetype, we do not find a consistent definition. So today we first have to ask the question: to what does the term archetype refer? Despite this inconsistency, we find, beginning with Jung and continuing throughout the practice of analytical psychology, a coherent use of the concept, which is based on an understanding of archetypes as universal patterns producing meaning and guiding development. This is the basis for the practice of Jungian psychotherapy which counts on the fact that, through a special relationship like the analytical one, archetypes will constellate and will guide the process of therapeutic development and that these archetypes can be found in every human being. Seen from this point of view, the defining element of universality becomes the most central for the archetype concept and it becomes clear why Jung made enormous theoretical efforts to secure this element and why he relied on biological explanations to do so. It made sense in his time to understand inheritance via the transmission of genes as being something like a blueprint for development; we can see today that this understanding is no longer supported by modern genetics. Furthermore, the archetypes referred to by Jung and others are generally complex symbolical patterns as we find them in myths, fairy tales, dreams etc.

My main point in this paper is to show that neither in Jung nor in recent approaches can the universality of such complex archetypes be explained in a satisfactory way. Yet the theory and practice of analytical psychology are based on the belief that the whole set of universal archetypes can be found, at least as a potential, in every human being. It is not clear why we should find every of these archetypes in every human being given that they cannot be transmitted genetically and given the enormous differences in the conditions of upbringing throughout the world. Instead, I will argue, we will have to acknowledge that the transmission of archetypes can only be theorized by means of culture and socialization. Rather than formulating a coherent reconceptualization, I will try to point out the problems and questions we are confronted with today when applying the archetype concept. It will then become clear that we have to depart from Jung's assumption that it is a biological phenomenon.

Jung's concept of the archetype

What does Jung mean when he uses the term archetype? In Jung's conceptualization the archetype is an innate pattern of perception and behaviour which influences human perception and action and shapes it into similar forms. Archetypes are unconscious factors, affectively loaded so that, when we experience them, this often has a numinous quality. Archetypes are autonomous from consciousness and, most important, Jung claims that they are universal, which means we will find the same set of archetypes in all human beings. When formulating this concept Jung drew on the findings of behavioural biology, namely the concept of instincts and patterns of behaviour (Jung 1949, para. 1228; Samuels 1985; Samuels, Shorter & Plaut 1986).

Jung was not the first to speak of archetypes. Shamdasani (2003) has pointed out that the idea of archetypes was in the air in the sciences around 1900 and Jung was just the first – and brave enough – to form this idea into a psychological concept.

In the years before 1912 Jung arrived at an idea of archetypes in two different ways:

1. In his association studies (Jung CW 2) where he developed the concept of the complexes, he realized that over a large number of participants there were inter-individually similar complexes, for example negative mother complexes. Jung assumed that there must be a prototypical pattern behind these similar complexes shared by all human beings (Jung 1912/1952; Shamdasani 2003). Seen from the viewpoint of empirical science it is very disappointing that Jung did not continue these studies after 1912 as he was on the way to find a scientific proof of inter-individually comparable psychological patterns.
2. The second way that the concept of archetypes developed was as a result of Jung's psychiatric experience with psychotic patients and their fantasies in the Burghölzli hospital. Here he found cases where psychotic patients developed fantasies which were parallel to motifs from ancient mythology. The most important case in this respect is the so called Solar Phallus Man, a patient at Burghölzli who told Jung about a phallus coming out of the sun which produces the wind. Jung was extremely surprised by this since he had just translated an ancient Egyptian text which included exactly the same image (Bair 2003, p??).

In 1912 Jung published his work *Wandlungen und Symbole der Libido* (later revised as *Symbols of Transformation* [1912/1952]) in which he investigated the fantasies of a young woman and, for the first time, described these on the basis of what he later named as archetypal patterns, for example 'the myth of the hero'. This was also the point at which he departed clearly from Freud's psychoanalysis and started to form his own analytical psychology. We can see here how basic the concept of archetype is for analytical psychology.

Already here we can find some conceptual problems, the first being that of cryptomnesia: to state that the archetype is an innate pattern Jung also had to claim for all his cases that there had been no prior contact to the image or idea by the person producing the archetypal image, but of course Jung could not give proof of that in every case (Bair 2003, p.??). Raya Jones (2007, p.??) also makes the interesting point concerning the Solar Phallus case that if the fantasy were really archetypal, it should be found much more often than only in one psychotic case and in a single ancient text.

Other Jungian authors have pointed out the inconsistencies and also contradictions that can be found in Jung's works regarding the concept of archetypes (e.g. Knox 2003, Hogenson 2004; Pietikainen 1998). In analyzing Jung's writings on archetypes several different conceptualizations or explanatory concepts can be found, which partly contradict each other. Knox has previously outlined 'four models that repeatedly emerge in the debate about archetypes', identifying these as biological entities; organizing mental frameworks of an abstract nature, core meanings containing representational content and eternal metaphysical entities (Knox 2003, p.24). Here I would like to give a somewhat different list of four conceptualizations of archetypes that overlap with but also differ from Knox, thus underlining the confusing variability involved in Jung's discussion of his core concept.

1. A biological concept

Here Jung parallels the archetypes to instincts in animals. An archetype works in a human being in the same way as an instinct which, for example, makes birds build their nest in a certain way (Jung 1949, para. 1228). In the first publication where he used the term 'archetype' Jung explicitly speaks of the archetype as 'the *a priori*, *inborn* forms of intuition' (Jung 1919, para 270. Italics added). Jung was apparently very impressed by the works of ethologists and named his concept accordingly as a 'pattern of behaviour':

> the term archetype is not meant to denote an inherited idea, but rather an inherited mode of functioning, corresponding to the inborn way in which the chick emerges from the egg, the bird builds its nest, a certain kind of wasp stings the motor ganglion of the caterpillar, and eels find their way to the Bermudas. In other words, it is a 'pattern of behaviour'. This aspect of the archetype, the purely biological one, is the proper concern of scientific psychology'.
>
> (Jung 1949, para. 1228)

The most important protagonist of this approach in Jungian psychology today is Anthony Stevens (1983, 2003). In this conceptualization, archetypes are genetically encoded and transmitted and this is the explanation for their universality.

2. An empirical, statistical definition

As mentioned previously, Jung found a number of complexes in his association studies which were inter-individually similar and he assumed that these had a common core. This notion is not well known in analytical psychology which is regrettable, since this is one of the few strong empirical findings which support the claim that there must be something like archetypes. This argument has been taken up again recently by Saunders and Skar who say plainly that archetypes are those complexes that fall into the same category (Saunders & Skar 2001, p.312).

3. A transcendental concept

Jung compares his concept of archetypes with Plato's ideas in several of his writings. He says they are positioned in no real place but in a transcendental sphere, a position which is strongly connected with his idea of the *unus mundus*. The true archetype is not accessible for consciousness but is of a transcendental nature. The archetype even has an *a priori* knowledge of its aim which comes close to supernatural forces (Jung 1934/54, para. 68; 1947, para. 411). The most important contemporary supporter of this approach to archetypes is James Hillman with his archetypal psychology, where he states clearly that archetypes have nothing to do with physiology of the brain, the structure of language, organization of society or analysis of behaviour but have their place in imagination (Hillman 1983, p.??).

4. A cultural approach

After 1947, when Jung reconceptualized the concept as archetypal image on the one hand and the archetype-as-such which is content free on the other (Jung 1947), he explicitly stated that the content of the archetypal image is culturally influenced. Here Jung stands in a tradition of German philosophy from Leibniz and Kant to Ernst Cassirer (Pietikainen 1998). This line of thought has always assumed that there are *a priori* categories of perception. The human mind contains universal forms which shape human perception and action.

Even more important, in my view, is that what actually Jung did throughout most of his life was to make psychological interpretations of texts, dreams and fantasies. His practical approach to psychology was hermeneutical. So here we find Jung in line with a long tradition of hermeneutics, interpretation and cultural theory, even though his own self understanding was different and more that of a natural scientist. We could even ask if Jung, because of his academic training as a physician, mistook his own analytical psychology as a natural science whereas practically it deals with culture, meaning and interpretation and therefore belongs more to the humanities – something like an 'applied humanity'. The German philosopher Habermas (1968) pointed out the same

for Freud's psychoanalysis and called it the 'szientistische Selbstmißverständnis' (self-misunderstanding as a science) of psychoanalysis.

When we look at these different approaches all present together in Jung's work it becomes obvious that they at least partly contradict each other: a concept that is thought to be transcendental and having no place in this world cannot be at the same time a biological entity and part of the genetic code (see also Knox 2003). Jung mixes up theories that are categorically on different levels and not compatible. There is no consistent theory of archetypes in Jung and, in my view, it is still missing in analytical psychology as a whole. Even more problematic is that Jung never discusses the inconsistencies and contradictions in his theory so that it must be assumed that he was not aware of them. His concept of the archetype-as-such, which he formulated in 1947 to solve these problems, is no real solution: he claims that the archetype-as-such is content free, but if we take any example, e.g. the archetype of the hero, it cannot be seen as free of content. It is difficult to imagine even a single mental concept which carries no content since, as Knox argues, even a pattern or an organizing structure can never be entirely without representational content and the archetypal forms to which Jung refers imply symbolic meanings and therefore mental content (Knox 2003, p.33).

The use of the archetype concept in analytical psychology

Another problem with the theory of archetypes is that in analytical psychology a huge number of things and very different concepts are called archetypal:

- Primitive modes of perception (e.g. the experience of being held or contained)
- Objects and beings (e.g. archetype of the snake)
- Social patterns (e.g. marriage)
- Narrative patterns (e.g. myth of the hero)
- Images (e.g. the cross)
- Rituals (e.g. initiation)
- Religious ideas (e.g. sacrifice)

What I want to point out is the urgent necessity of formulating a consistent theory of what we mean when we call something archetypal. I would like to approach the archetype concept now by looking at the various ways it is actually used in analytical psychology.

In many Jungian publications the archetype concept forms *an explanatory theory* for psychological and cultural phenomena, for example for explaining the similarity between fairy tales from different parts of the world or explaining obviously irrational motives in collective movements. In the aforementioned cases of the Solar Phallus man and the young woman described in *Symbols of Transformation* Jung draws on patterns derived from myth (e.g. the story of the hero) to explain psychopathological fantasies and developments. Even

more crucial for my argument is the importance the concept has for the *clinical practice* of Jungian psychotherapy: at the base of our clinical work is the idea that there are universal patterns of healthy development given to all human beings, at least as a potential, and these patterns can be activated in the process of analysis so that they guide the therapeutic process to a good end, '*deo concedente*'. These patterns show up in symbolic form (e.g. in dreams) and when their content can be translated into psychological language they inform and give direction to psychotherapy.

Examples for this understanding and use of the concept as one of very complex symbolic structures can be found in many places in Jung's work. An outstanding example I will mention here is given in the Tavistock Lectures of 1935, later published as *Analytical Psychology. Its Theory and Practice* and thought to be a general introduction to analytical psychology. The third of these lectures deals particularly with archetypal symbols in dreams. Among others, Jung refers to the dream of a 40-year-old man with symptoms of vertigo. In his dream a monster appears in the shape of a lobster. Jung interprets this symbol as a message from the unconscious that the cerebro-spinal and sympathetic system of the dreamer rebels against his conscious attitude because a lobster has only this kind of nervous system.

A widespread use of archetypes in analytical psychology is to make a reference from an image, pattern or symbol in the dream of a client to a fairy tale or other mythological story which then informs the further process of therapy (extensive examples for this can be found e.g. in the publications of Marie-Louise von Franz and Edward Edinger; a somewhat more recent example is Kathrin Asper's (1987) book on narcissistic disorders). The general idea, put more technically, is that the unconscious of the client makes a connection to a broader archetypal pattern which is spelled out in the mythological story in symbolical form and *which contains additional information (in respect to the conscious information that client and therapist have)* that is helpful for the therapeutic process. In this sense archetypes are transporters of information which fosters psychological development, information which comes from beyond and has – by definition-never been in consciousness before. This, I hope, makes my point clearer, because here the crucial question arises: Where does this information come from, when it has never been in the experience of the individual? The Jungian therapist relies on the belief that the whole of archetypal information is potentially accessible to any of his/her clients via the (collective) unconscious and can be activated there in suitable circumstances.

This means that a concept of *universal* archetypes is necessary for analytical psychology, since we count on the existence of all archetypes in every one of our clients. If we could not count on this we could not work in the way we do.

It also means that the kind of archetypes with which analytical psychology is concerned are those of a complex and symbolic nature: archetypes that describe process patterns, transformations from a starting point to a solution, patterns which can be translated into narrative form. The 'archetype of the stone', for

example, is theoretically not really necessary for analytical psychology, neither for the explanation of cultural phenomena nor for clinical use. This aspect of archetypes as universal patterns is at the core of what Jung meant by the term archetype, it is at the core of analytical psychology and its clinical practice and none of the theories I will now describe have as yet provided a satisfying theoretical explanation of how this universality comes into existence.

The biological conceptualization

I will now discuss Jung's claims for a biological, genetic transmission of archetypes and how this is supported or contradicted by modern genetics. I am convinced that Jung recognized the theoretical problem I have just outlined and referred to biology and genetics as an attempt to put the universality of archetypal information on a firm scientific footing.

First it has to be said that the parallel Jung made between archetypes in humans and instincts in animals is not supported. Norbert Bischoff, a professor of psychology at Zurich University, has published a very differentiated and sophisticated study of Jung's theory in the light of modern developmental psychology and biology (Bischoff 1997). He points out very clearly that there can be no parallel between instinctive patterns in animals on the one hand and complex symbolic structures like mythological stories or rituals in human beings on the other. He exemplifies this regarding the 'archetype of the child': in animals the instinct is a fixed pattern of behaviour, which is activated by certain cues ('angeborener Auslösemechanismus'); here, for example, licking is activated by certain facial features of the animal's young, whereas the symbol of the child in culture can activate a rich field of meanings and connotations, which are entirely on a symbolical level. Concerning actual mothering behaviour, a meta-analysis of cross-cultural studies showed that there is no universal pattern of childrearing in human beings (Ahnert 2010). Jung mixes up things that are on two different epistemological levels. Unfortunately this differentiated work by Bischoff has never really received attention in analytical psychology as has happened to a number of important scientific findings which could have changed views on some of our major concepts.

Modern genetics

The scientific understanding of human genetics has changed fundamentally in the last two decades with a great influence coming from the Humane Genome Project. To put it simply Jung and many analytical psychologists today still base the biological conception of archetypes on a view of genetics that could be called the *'blueprint model'* (Knox 2003). Like Jung, many people today still think that the genes are something like a blueprint, a plan of the human being to be, which is realized step by step in prenatal and early life development without any influence from outside. This is parallel to a main line of thought we

find in Jung that the human being in its true nature is somehow preformatted and therefore more or less independent from societal and parental influences. This blueprint model was at the heart of the decades long debate over nurture vs. nature. On this basis it was very easy for Jung to assume that something that is as universal as the archetypes must be genetically encoded. However, this opposition between genetics and developmental influences has become obsolete through the findings of modern genetics, especially via the new field of epigenetics.

One of the most surprising findings of the Humane Genome Project was the fact that there are only 24,000 genes in the humane genome (Bauer 2008). Originally it was assumed that there must be far more. This means that the space for information that can be transmitted via the genes is extremely limited. Furthermore, we must take into account that genes can only encode the information for building certain proteins. The biologists are very clear about the fact that symbolical information cannot be encoded genetically. Even if it were possible, it would take an enormous space on the genome to encode something like the myth of the hero pattern. Another fact that we have to realize is that when the human infant is newly born there are as yet no mental structures for the representation of symbolical information-these develop only later in the course of the first year of life (Dornes 1993). Taken together, these insights mean that archetypes that carry symbolic information cannot be transmitted genetically.

We know today that there actually are some innate mental patterns: research on emotions has proved that there are basic emotions that we find in every human infant and which can also be decoded by humans from all cultures (Ekman et al. 1987); there are innate mental systems for language acquisition (Markmann 1988); and there are primitive perceptional and behavioural programs, for example face recognition (Dornes 1993). These are important findings since they show that Jung was right and the behaviourists of his time were wrong in their assumption that the human infant is a *tabula rasa*. But all these innate mental capacities are on such a primitive level that they are far from the archetypes that we are talking about here.

Epigenetics

Jung based his biological theory of archetypes on the rudimentary insights of his time in genetics. A field that has produced many new insights in genetics and how genes interact with environmental factors is called epigenetics (Bauer 2008): it describes the functioning of genes as a complex interaction of genetic information and environmental factors.

One of these mechanisms of interaction is called demethylation, another is histon-modification (Buiting 2005; Doerfler 2005). To understand this, it is important to see how genes are built. They do not consist merely of an information carrying unit, but also possess a unit which works like a switch,

and this so-called 'promoter' switches the gene on and off, depending on environmental cues. This means a gene is not just activated once and has then done its job but is switched on and off depending on the information the promoter receives from the environment of the cell and also from the environment of the organism – this is called gene-expression.

In the beginning of development, the promoter of a gene can be packed into biochemical structures (methyl-groups) which inhibit the promoter from switching the gene on. Depending again on specific environmental cues, the promoter of the gene can become unpacked and start to switch the gene on. A comparable structure is the so-called histon, which means that the DNA is wrapped around certain biochemical structures which inhibit reading of the gene.

The most interesting finding of epigenetics for psychology is that psychological experience in early relationships with caregivers can also lead to demethylation and activation of gene promoters. A well investigated example is the modification of the reaction towards stress in early childhood (Bauer 2006; Meaney 2010). Motherly care in the first months of life leads, through several steps, to demethylation of the promoter of the glucocorticoid-receptor-gene. This activates reading of the gene and results in a permanent change of the receptor. The level of anti-stress-hormone is therefore permanently higher in humans that have received enough motherly care in the first months of life and this is the psychological equivalent of a buffer against stress.

To sum up the implications of these findings: of course human beings are carriers of genetic information, but this information is activated only in interaction with environmental factors, especially through experiences in relationships with primary care-takers. Experience and relationships play a much bigger role than was assumed for a long time. The key term of modern Developmental Systems Theory is not blueprint, but interaction. The nurture-nature debate has become obsolete. It is therefore vital that any modern theory of archetypes takes account of the fact that genetics can no longer be used to claim that there are genetically fixed mental patterns universal to all human beings – even if there were genes like that, the differences in early experience between individuals would lead to very different patterns of gene expression. So the theorized existence of universal patterns can no longer be explained by genetics. These insights are in contradiction with a major line of thought we find in Jung concerning the autonomy of the individual. It is the idea that the individuality of the person, their own true nature, is somehow preformatted and independent from exterior influences.

An interactional theory

Several Jungians have already pointed out the implications of these new findings for archetype theory (Knox 2003; Hogenson 2004; Merchant 2006) and have formulated a new conceptual framework for the explanation of archetypes

based on the principle of emergence. The most outstanding example of these ideas is to be found in the work of Jean Knox (2003), whose argumentation I will follow here: Newborns are equipped with rudimentary, genetically coded programs for perception and behaviour. For example, cognitive biologists describe a gene which makes the infant attend to structures that resemble the human face for a longer time than other structures (Johnson & Morton 1991; Knox 2003, p.50–51). This does not mean that the infant has a knowledge of the human face or of a person since this pattern is on a very primitive, even reflex level of functioning. But the effect of this pattern on the care-taker is enormous: the caretaker takes the gaze of the infant as an initiation of communication, and starts to communicate with the infant. This attracts the attention of the infant and leads to activation of neuronal structures that foster neuronal development. The caretaker, on the other hand, is pulled into the attachment with the infant. So this very primitive genetically activated pattern has major implications: it starts a sequence of developments that strengthen the attachment bond and support neuronal development of the infant.

This complex development is reached by a minimum of genetic information but it presupposes the existence of a caretaker who reacts to the gaze of the infant in the way described, a point that remains implicit at this stage of Knox's argument. So this developmental sequence depends very much on the existence of a certain environment. If the care-taker, for example, is permanently drunk and does not acknowledge the gaze of the infant, no developmental sequence will start and the genetic information has no effect. Developments like this can be found, for example, in the case of the above mentioned glucocorticoid-receptor-gene, where a lack of motherly care actually leads to a personality with a much lesser protection against stress. This also falsifies the argument that archetypes are based in the universal similarity of the brain's structure (e.g., Stevens 2003). In fact, people have different brains depending on the (early) experiences they have had.

This has direct implications to the assumed universality of archetypes. Jung's idea was that the universality of archetypes could only be secured theoretically if the archetype was conceptualized as genetically fixated. We can see today that the fact that a person carries a certain gene does not necessarily mean that the gene will be activated, this depends very much on environmental factors. Genetic similarity is therefore not equivalent to similar qualities of persons.

At this point we can say:

- Complex archetypes (symbolic patterns) cannot be transmitted genetically;
- Environmental factors, especially interaction with caretakers, have enormous influence on gene expression – they can influence development much more than hereditary factors;
- The similarity and universality of archetypal patterns cannot be secured by genetic encoding.

Merchant goes as far as saying:

> If contemporary neuroscience does ultimately reveal that the archetype-as-such is not innate as originally conceived, then the question arises – is the word 'archetype' itself too suffused with innatism and preformationism meanings to prevent confusion? ... for if we think, act and clinically practise as if archetypes are *a priori*, innate psychic structures which determine psychological life when this is not the case, then we could become irrelevant to the broader psychotherapeutic community.
>
> (Merchant 2009, p. 355)

I agree with Knox (2003), who has extended this argument in much more detail: we Jungians cannot go on basing our theory of archetypes on scientific assumptions which have been falsified by more recent research if we do not want to run the risk of becoming ridiculous in the scientific world. It is important that we stop arguing that archetypes are transmitted genetically if we want to be taken seriously.

Evidence for the existence of archetypes

On the other hand, there is evidence from different fields for the existence of at least a certain kind of archetypes, namely from ethnological research, comparative mythology, different experimental studies and clinical experience.

Ethnological research: Even before Jung it was well known that there is a high degree of similarity between mythological narratives in peoples living in widely separated parts of the world. It was even possible to reduce all fairy tales existing in the whole world to a set of less than 100 different types in the Aarne/Thompson-typology, first classified by Antti Aarne in 1910 (Aarne & Thompson 1961). In a later scientific study a randomized sample of 50 mythologies from all over the world was investigated and in 39 of them the incest motif was found (Kluckhohn 1960), which is much more than random. These high parallels in mythological motifs were already a topic of heated debate in anthropology at the end of the 19th century. There were two major factions: the migration theory (Eisenstädter 1912) assumed that there was physical contact between peoples mainly through migration and this could explain the parallels in mythology. An interesting outgrowth of this line of thought were the journeys made by the anthropologist Thor Heyerdahl, who reconstructed ancient boats and travelled with them across the oceans to give proof of physical contact between far away places. The other faction introduced the concept of elementary thoughts (Bastian 1881) which says that there are basic thoughts and ideas common to all human communities and these are expressed in mythological narratives. It is easy to recognize these 'elementary thoughts' as a precursor of the idea of archetypes. Jung knew this debate well and took up the idea of elementary thoughts and adapted it for psychology. The interesting thing for our topic is that, in anthropology, the accepted view since the 1960s regards

the migration theory as falsified. There are many cases where it can be shown with certainty that there could not have been any contact between peoples with similar mythological motifs (Levi-Strauss 1976).

Experimental research: More evidence for the existence of archetypes comes from experimental research. In the 1960s several studies with LSD were performed where subjects' fantasies under LSD were documented (Masters & Houston 1966; Grof 1975). The idea was that LSD released deeper, pre-experiential fantasies and put the brains of the participants into a comparable state. The documented fantasies were indeed very similar: the subjects projected numinous qualities onto the scientists, they saw them as gods, priests or personifications of wisdom, and the motifs also resembled mythological motifs. But, of course, this research includes a high degree if interpretation.

There is even evidence from two experimental studies conducted by Jungians directly aiming at testing the archetype theory (Rosen et al. 1991; Maloney 1999). Both studies could find empirical proof for the existence of archetypal structures.

Preparedness: Even Seligman (1972), a behavioural psychologist and certainly not a friend of analytical psychology, found a phenomenon which he called 'preparedness': it refers to the interesting fact that humans generally develop anxieties and especially phobias towards animals like snakes or spiders, even though they may never had any contact with them, but usually not towards animals such as rabbits or cows. He explains this by a biologically based preparedness which has developed throughout evolution and serves the aim of protection against poisonous animals – otherwise it could be possible that one cannot learn from a first contact experience because one does not survive it.

Attachment research: The Jungian Anthony Stevens (2003) argues that we find empirical proof of archetypes in the universality of attachment patterns. Attachment research has given proof of the fact that every human infant develops an attachment relationship with a care-taker, that this follows universal patterns and that we can find they same set of four different attachment patterns all over the world.

So there is empirical evidence from different disciplines that there must be something like archetypal structures of a psychological nature. But we have also seen that these universal structures or patterns cannot be transferred genetically.

So in my view analytical psychology currently has the problem of being founded on a concept for which the original explanatory theory has evaporated. The question to be answered is: how do these patterns we call archetypal and on which we base much of our theory and our clinical practice become universal if not by genetics?

Some schools of Jungian therapy might say here that the concept of archetypes in the aforementioned sense is not so fundamental to the practice of analytical psychology and that there are many Jungians who do not even use the concept any more. That may be so, but it would then raise the question of what differentiates these practices from other schools of psychodynamic psychotherapy.

Some schools, such as archetypal psychology, for example, might not even see a problem here. Interestingly, an argument based on the transcendental definition mentioned above would give an absolutely coherent explanation for the existence of even very complex archetypes if the basic assumption is accepted that there are more factors influencing reality than just the causal factors of classical physics. It would mean accepting the view that the archetypes influencing the analytical process are coming from a transcendental sphere and would place Jungian therapy clearly in the field of religious practices, which I must admit makes a lot of sense.

But still there is an ongoing debate among Jungians attempting to solve the problem formulated above in a way that would allow us to preserve the concept of archetypes while maintaining a place for it in the field of normal science. There have been several attempts from Jungian authors to find an explanation for universal archetypes which do refer to biological theories but are not grounded on the assumption of genetic transmission. I will try to review these attempts briefly.

Gestalt principle and Dynamic Systems Theory

The Berlin School of Gestalt Psychology (Metzger 1954) identified a quality of our cognitive structure as the capacity to build a good "gestalt", which means a stable configuration of perceptions. These good gestalts are therefore ubiquitous. This Gestalt principle was also empirically supported (Stadler & Kruse 1990). For example, in an experiment subjects were asked to complete patterns of dots again and again out of memory until a stable configuration was reached. In large series and great numbers of subjects the resulting configurations were similar. The factor that produced the similarity was called convergence. It is the same principle that makes the bodies of fish and whales so similar even though these two animals are biologically totally different. The similarities develop because these qualities are the best adaptation to the same conditions.

Saunders and Skar (2001) have adapted this theory for analytical psychology. They say that when Jung speaks of the archetype as form without content, what he really means is not a form but a process which produces similar patterns. Psychological archetypes in this view are the product of processes of self-organization of the brain. Dynamic Systems Theory in its application to cognitive psychology says that once the brain has developed a pattern of perception and interpretation, subsequent information is processed on the

basis of these existing patterns (Anderson 1983). This explains why different information is processed into similar psychological concepts. This is just a quality of self-organizing systems. This is highly interesting for analytical psychology because it supports Jung's concept of the complexes very well and would also solve the problem of the 'archetype–as-such':

> When we employ a dynamical systems view of development, we no longer need the archetype-as-such to explain the formation of complexes. In fact we could do without it altogether and still have the same basic psychological system that Jung proposed.
>
> (Skar 2004, p. 247)

The emergence model of archetypes

The most prominent current theory of archetypes takes up this view and sees archetypes as a product of processes of emergence (Knox 2003; Hogenson 2001; Merchant 2006). Emergence is a modern concept used in different sciences today and means that if elements interact and form a coherent system, this system can have completely new qualities which cannot be derived from the qualities of the original elements. The interaction between basic elements leads to a qualitative jump of the whole system onto a totally different level defined by new laws. For example, water consists of the chemical elements oxygen and hydrogen but has qualities which the original elements do not have such as crystallization when freezing etc.

Modern Jungian authors apply the emergence principle to the explanation of archetypal structures. For example Hogenson says

> . . . archetypes are the emergent properties of the dynamic developmental system of brain, environment and narrative. . . . the presence of simple patterns of perception and action, and species typical forms of interpretation, embedded in the typically human environment of symbolic, narrative interaction will be seen to give rise to the immense beauty and complexity of the great myths of our species.
>
> (Hogenson 2001 p. 607/8)

The most elaborated formulation of this approach can be found in Jean Knox's work (Knox 2001, 2003). She sees development as starting from genetically fixed mechanisms, but these are just predispositions for development needing certain cues from the environment in order to unfold:

> Innate mechanisms focus the infant's attention on to features in the environment which are crucial to the infant's survival; these mechanisms are biologically based and have arisen by the process of natural selection because they improve chances of survival. Innate mechanisms are activated by environmental cues, interacting with them and organizing them, leading to the formation of primitive spatial and conceptual representations (image schemas or archetypes). These form the foundation on which later, more complex representations can be built.
>
> (Knox 2001, p. 631)

So here it becomes clear that we have to accept that environment and socialization influence the formation of archetypes. I understand Merchant to be referring to this point when he says:

> It does need to be noted at this point that it is still not clear why anyone person's archetypal imagery takes the form that it does if it is not arising from innate archetypes. . . . The crucial point is that such imagery would be arising out of mind brain structures which are themselves derived from early preverbal developmental experience and not from innate archetypes. The ramifications are substantial, for the very existence of archetypes as Jung conceived them is called into question.
>
> (Merchant 2009 p. 342)

Now Knox claims that the emerging archetypal structures are universal because the environmental conditions in this early stage of development are the same:

> . . . these image schemas . . . are not innate, but already reflect a considerable degree of learning. The pattern of learning is nearly identical for all children because certain key features of the environment that the child's attention is focused on remain constant across all cultures.
>
> (Knox 2003, pp. 61/62)

However, the emergence approach to archetypes is not really satisfying given the theoretical problem that we have to solve. Saying that archetypes are emergent properties does not really explain how these properties come into existence in any detail; the concept remains too vague as, for example, in the quote from Hogenson above. As long as nobody can draw a detailed explanatory line of development from a basic human pattern to something as complex as "the myth of the hero" and still prove that this development takes place in every human being in the same way this approach remains unconvincing to me. Do we not have to assume that there are more differences than similarities in the development of children, given that research cannot find even basic similarities in strategies of childrearing across cultures (Ahnert 2010)? Coming back to the aforementioned example of the gene that makes the infant look at faces: According to Knox the neuronal structures and the first primitive representations develop from interactions based on innate predispositions. This complex development is reached by a minimum of genetic information – but: it presupposes the presence of a caretaker who reacts to the gaze of the infant in the way described. If the mother for example is constantly drunk and does not recognize the gaze of the infant, there is no interaction and no unfolding of the basic genetic information. So this developmental sequence depends very much on the existence of a certain environment. Even something as basic as "containment" is not, as we know, experienced reliably by every individual.

Secondly, although Knox can certainly draw a detailed line of development from genetic information to image schemas-apart from the problem of assumed similarity of environment just mentioned above-it nevertheless seems to me that the end products of this development, (i.e. image schemas), are still on such a primitive and basic level that there remains a huge gap between these primitive

schemas and the concept Jung is talking of when e.g. he speaks of the myth of the hero as an archetype.

So in my view, the emergence model is no real solution to the problem of how to explain the universality of complex symbolic archetypes. There are too many variables on the developmental path t that could disturb the process of acquisition at least to the extent that there would be major differences in the archetypes thus acquired – so they would not be universal any more.

As I tried to show above by referring to epigenetics even similar genetic information does not necessarily produce similar developments. We have also seen that the early developmental processes and their achievements can easily be disturbed to the extent that certain developments do not happen at all. Even the structure of the brain is not similar from person to person because its development is so strongly influenced by early experiences – e.g. a person with an early traumatization has a different brain from that of a person without this experience (Bauer 2002).

I must therefore conclude that still there is no convincing theoretical explanation for universal psychological archetypes. At least, though, it is clear that we should give up the assumption of a genetic transmission of complex symbolic archetypes, for everything we know about genetics today speaks against this. We also have to accept that there certainly are major influences on the formation of archetypes from socialization and enculturization.

In previous papers, I have tried at this point to give a coherent reformulation of the archetype concept (Roesler 2010, 2012). I have now departed from that claim, realizing that the theoretical problems are too serious at present. In the following I would rather point out possible directions for solving the problem of explaining the universality of complex archetypes, although these ideas are still too little differentiated or have too little empirical foundation to be presented as solutions.

Narrative: the link between early relationships and mythological patterns

In the early relationship with the caretaker there are certain interactions that take place regularly and are experienced by the infant as happening again and again in the same form. From infant research we know that, out of such interactions, generalized representations of these repeated interactions are formed, known as 'R.I.G.s' ('Repeated Interactions that have been Generalized') (Stern 1985). On the basis of these representations the infant develops expectations, which is basically what in analytical psychology we call complexes (see also Kast 1990). For example the infant experiences that whenever it feels uneasy and starts crying that mother will come and give care and comfort; so in time, the infant will build up an expectation that it can express its needs and will get a response of good enough mothering. Cognitive psychology shows that once such a cognitive pattern is established it tends to be used

for subsequent experiences. This is what attachment theory calls 'working models'.

We must assume that the experiences of infants in these early relationships are inter-individually different, depending on the qualities of the caretaker. On the other hand since these relationships are so basic, there is not an endless number of different patterns but a limited number of typical patterns of relationships and their development throughout mankind. Attachment research has investigated this field thoroughly and has found four typical patterns of attachment that we find in all cultures – so here we do have universal patterns. Attachment patterns are just an example for the fact that human experience on this level is organized in a limited number of universal patterns.

But these patterns are still on a preverbal, pre-symbolic level. What is the bridge to the complex, symbolic patterns that we call archetypes?

I believe that this bridge could be built from *narrative* which forms the link between the preverbal representations of relational experiences (such as image schemas) and the complex symbolic structures Jung identified as archetypes. Narrative provides the linguistic, symbolic form in which these early experiences can be represented in the human mind, for narratives typically describe action patterns including self and other which start from a problem and lead to a solution (Gülich & Quasthoff 1985). Early representations are therefore something like the preverbal precursors of narratives.

We can imagine that a child on the basis of an early experience of abandonment has a certain representation of a more distant attachment figure not really available. Then the child gets to know the fairy tale of *Hänsel and Gretel* and it 'recognizes' on a subliminal level a similarity between the story structure and its own experience.

The typical patterns of human experience in relationships and their development are described in symbolic form by narratives of the cultural canon (mythologies, religious stories, fairy tales etc.). They are culturally transmitted because of their typicality, because they are relevant for everyone, and therefore they have become part of traditions and rituals of transmission. Individuals can recognize their own preverbal experience in the narrative patterns because they experience a similarity between story schema and their generalized representations or working models.

Recently I have started a research project based on this view where we now have developed a method of narrative analysis of dream series to extract basic structural patterns that can be investigated as to how they reflect or even promote processes of therapeutic change. A manual for this method will soon be placed on the research platform of the German Jungian society to invite analysts to collect data. Questions to be investigated include: are there similar structural patterns (in a narratological sense) that are connected systematically either with certain psychological problems and disorders or with moments of change in therapy? Is there really 'additional information' to be found in dream structures that can inform the therapeutic process?

Of course, this research will not answer the question of how universal patterns find their way into individual psyches, but it could develop a data base on which more empirically founded assumptions could be developed. It is one field of research which may allow a new view on the question of how psychological patterns are transmitted from one individual to another.

Ways of subliminal transmission

There is some evidence from different sources that there must be something like a subliminal, unconscious transmission of complex information from one generation to the other.

One source is research that was done in Israel and Germany on the transmission of traumatic experience in the context of war and the Shoah (Gampel 2009; Radebold et al. 2009). In Israel it is a common phenomenon that the children and grandchildren of the survivors of the holocaust suffer from symptoms and "memories" usually connected with severe traumatization. This seems to happen especially if the first generation of the survivors did not communicate their experiences in the family. There is a general assumption that the traumatic experience was communicated unconsciously, but nevertheless in quite detailed ways (Bar-On 1989; Hardtmann & Bar-On 1992).

More evidence comes from the neuroscientific research on mirror neurons (Gallese & Goldman 1998; Rizzolati & Craighero 2004) and the concept of the 'shared meaningful intersubjective space' (Gallese 2003). A few years ago neuroscientists discovered so called mirror neurons which produce the same emotional state in the brain of an observer as in the brain of the person performing a certain action. This is now seen as the basis for imitation learning and empathy. There are specialized mirror neuron systems for action patterns as well as for emotions. This explains why we can get infected by other people's emotions (Singer et al. 2006).

Now the neuroscientists go even further and assume that, through mirror neurons, human beings can develop an 'inter-individual neuronal format', a 'shared intersubjective space' (Bauer 2005, pp. 166–67; translations C.R.). In this space 'the spectrum of all typical human sequences of actions and experiences can be activated and communicated pre-verbally'. It is obvious that the development of this intersubjective space would provide a major advantage in the process of evolution since individuals do not have to have had all the typical experiences themselves but can directly acquire them via subliminal communication in the intersubjective space. What is highly interesting about this concept is that the neuroscientists have no intention at all to prove Jungian concepts, and yet, at the same time, it seems to be a neuroscientific reformulation of our concept of the collective unconscious – they even call it a 'memory of mankind' (Bauer 2005, p. 167).

The direction implied here could mean that rather than finding solutions for the explanation of archetypes in biology we should be looking to a range

of theories and findings supporting the idea of a collective unconscious – not in the sense of an inherited knowledge but in the sense of an inter-individual psychological system of information transmission.

Conclusion

I must admit that, for now, there are more questions than conclusions, but I hope this paper contributes to the debate on archetypes and helps to develop explanations that are more firmly grounded in reality. This leads to formulating the problem according to such questions as

- does the transmission of archetypes depend much more on cultural structures and socialization processes, e.g. narrative traditions, religious forms etc. than we Jungians previously thought?
- Can we be certain that every individual in our post-modern culture is exposed to these processes?
- Can we therefore count on the universality of archetypes? As I have indicated, there are major implications for traditional Jungian clinical practice if we cannot count on the presence of every archetype in every one of our clients. All practicing psychotherapists have had the experience of clients in whom the healing archetypal images cannot be activated.

Maybe the memory of mankind, the collective unconscious, does not have its place in biology, but in culture and socialization. If we accept that the transmission of what we call archetypes depends much more on interaction and cultural processes than Jung ever thought, we might be able to develop concepts like that of the cultural complex (Singer & Kimbles 2004) and connect them to the research just mentioned on subliminal ways of transmission, a work that still remains to be done. The growing awareness in the sciences that there are processes of communication and transmission on a subliminal level gives surprising support to Jung's concept of an unconscious interpersonal sphere. In this sense we are not born with a collective unconscious, but we grow into it.

I would like to have Jung have the last word here. We find a hint in Jung's work where he opens up to ideas much like the ones I have developed here, and this is where Jung says: culture is part of man's nature (Jung 19?? para. ??).

Translations of Abstract

Le concept d'archétype est l'un des plus importants, sinon le plus central, de la psychologie analytique. Néanmoins le concept a été controversé dès le début. Cet article tente de passer en revue le débat autour du terme d'archétype et essaie de mettre en évidence quelques uns des problèmes principaux que ce concept présente à la lumière des connaissances contemporaines, particulièrement en génétique et en neurosciences. Il

devient clair que pour son utilisation dans la pratique de la psychothérapie jungienne, le facteur d'universalité dans le concept d'archétype est essentiel. Toutefois, l'on doit bien conclure qu'il n'y a toujours pas de fondement scientifique solide pour dire que les schèmes symboliques complexes (comme, par exemple, le mythe du héros) puissent être transmis de telle façon que chaque individu humain y ait accès. Cet article tente de montrer des voies possibles pour que cette transmission soit conceptualisée avec davantage de succès.

Zusammenfasssung: Der Begriff des Archetyps ist sicher eines der wichtigsten, wenn nicht sogar das zentrale Konzept der Analytischen Psychologie. Nichts desto trotz wurde das Konzept von Anfang an in der Analytischen Psychologie kontrovers diskutiert. Der vorliegende Artikel unternimmt den Versuch, einen Überblick über diese Debatte zu geben und einige der grundlegenden Probleme aufzuzeigen, die das Konzept im Angesicht neuerer Erkenntnisse der Humangenetik und der Neurowissenschaften hat. Es wird hier deutlich, daß für die Verwendung des Konzepts in der Praxis der Jung'schen Psychotherapie das Element der Universalität von Archetypen entscheidende Bedeutung erhält. Dem steht gegenüber, daß es für die Behauptung, komplexe symbolische Muster (z.B. der Heldenmythos) würden in einer Weise von Generation zu Generation weitergereicht, so daß jedes Individuum Zugang dazu hat, bislang keine wissenschaftlich gesicherte Grundlage gibt. Es werden verschiedene mögliche Konzeptualisierungen einer solchen Weitergabe diskutiert.

L'archetipo,se non il concetto centrale della psicologia analitica, ne è uno dei più importanti. Tuttavia, fin dagli inizi fu un concetto controverso. In questo scritto si tenta di rivedere il dibattito sul termine archetipo e si cerca di indicare alcuni dei principali problemi tale concetto mostri alla luce delle conoscenze attuali, in special modo per quanto riguarda la genetica e le neuroscienze. Diventa chiaro che per il suo uso nella pratica della psicoterapia junghiana nel concetto di archetipo è cruciale l'elemento della universalità. Bisogna tuttavia concludere che non vi è ancora alcun fondamento scientifico che i complessi schemi simbolici (come ad esempio il mito dell'eroe) possano essere trasferiti in modo che ogni individuo umano possa avere accesso ad essi. In questo lavoro si tenta di mostrare modi possibili mediante i quali tale trasferimento possa essere concettualizzato con maggior successo.

Архетип – одна из наиболее важных концепций аналитической психологии, если не центральная. Несмотря на это, с самого своего появления концепция архетипа была противоречивой. В статье делаются попытки еще раз вернуться к обсуждению термина «архетип» и указать на некоторые основные проблемы этой концепции в свете современных знаний, особенно в области генетики и нейронаук. Становится ясным, что для практического использования в практике юнгианской психотерапии основным в концепции архетипа является элемент универсальности. Однако приходиця придти к заключению, что до сих пор не существует твердого научного основания для заявления о том, что сложные символические паттерны (такие, как, например, миф о герое)

можно переносить так, чтобы каждый отдельный человек имел бы к ним доступ. Статья показывает нам возможные способы удачной концептуализации подобного переноса.

El arquetipo es uno de los más importantes, si no el concepto central de la psicología analítica. No obstante desde el principio el concepto fue polémico. Este papel procura revisar el debate alrededor del término arquetipo y trata de estudiar en parte los principales problemas que presenta el concepto a la luz del conocimiento contemporáneo especialmente en relación a la genética y las neurociencias. Se establece que para su uso en la práctica de la psicoterapia Jungiana el elemento de la universalidad del concepto de arquetipo es crucial. Sin embargo, se conluye que no hay todavía base científica firme para establecer que pautas simbólicas complejas (en cuanto por ejemplo al mito del héroe) se puedan transferir de tal manera que cada individuo humano tiene acceso a ellos. El trabajo procura mostrar posibles formas en las que esta transferencia pueda ser conceptualizada mas adecuadamente

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Change to lower case	Encircle matter to be changed	≠
Change italic to upright type	(As above)	⊬
Change bold to non-bold type	(As above)	⊬
Insert ‘superior’ character	/ through character or ⌃ where required	Y or Y under character e.g. Y^{2} or Y^{2}
Insert ‘inferior’ character	(As above)	⌃ over character e.g. Y_{2}
Insert full stop	(As above)	⊙
Insert comma	(As above)	,
Insert single quotation marks	(As above)	‘Y or ‘Y and/or ’Y or ’Y
Insert double quotation marks	(As above)	“Y or “Y and/or ”Y or ”Y
Insert hyphen	(As above)	⊢
Start new paragraph	⌐	⌐
No new paragraph	⌒	⌒
Transpose	⌐¬	⌐¬
Close up	linking ⌒ characters	⌒
Insert or substitute space between characters or words	/ through character or ⌃ where required	Y
Reduce space between characters or words	| between characters or words affected	⊤