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Two Jungs: Two Sciences?

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Abstract

Two tendencies co-exist within the field of analytical psychology. The first is to locate Jung's psychology within the established bounds of official science (by for example insisting on its implicit consistency with orthodox scientific findings). The second is to make claims that Jung's psychology is extra- (or super-) scientific. It seems to me however that neither approach can do justice to the difficulty of the problem Jung has set us. In order to develop a third approach I place Jung's problematic engagement with science into a creative encounter with the philosophical ideas of Deleuze & Guattari. The French philosophers distinguish two contrasting ways of doing science: "Royal" or "state" science privileges the fixed, stable and constant. "Nomad" or "minor" science emphasizes the malleable, fluid, and metamorphic nature of being. These are not alternatives but "ontologically, a single field of interaction" (Deleuze & Guattari, *A Thousand Plateaus*, p. 367). When it comes to Jung's writings on science, the irredeemable ambiguity of his psychology shows up in what appear to be two contradictory approaches. One highlights the intrinsically scientific nature of his project and insists upon his empiricism. The other takes the form of a profound and relentless critique of the materialistic, reductive and rationalistic assumptions Jung finds behind the scientific approach. My suggestion here is that the dynamic tension between these two opposing visions of science that forms the crucial condition for the on-going individuation of his psychology.

Keywords

Jung – science – ambiguity – individuation – Deleuze – Guattari – Red Book

1 Introduction

According to William Kotsch, “it is critical that Jungians neither choose nor allow themselves to be excluded from the great conversation that is contemporary science” (2000, p. 220). I am not sure that the contemporary post-Jungian world can claim to be any more part of that conversation than was the case when Kotsch wrote those words more than 20 years ago. In fact, post-Jungian discourse continues to express extreme ambivalence both toward science and toward Jung’s status qua scientist. In this paper I want to interrogate this ambivalence and to explore what it might indicate about Jung and his psychology. But first, I need to explain how I want to approach this subject.

In my 2019 book, *Two Souls Alas Jung’s Two Personalities and the Making of Analytical Psychology*, I amplified Jung’s notion of the individuation process by seeing it as the playing out of an internal logic of opposites. This dynamic was itself rooted in Jung’s childhood experience of what he calls personality no 1 and personality no 2. In the early chapters of MDR, we witness Jung arriving at the crucial realisation that he can reside in neither of these personalities alone. In order to achieve a life as a *whole* person (i.e. avoid the perils of one-sidedness) he must find a way to dwell in the tension between the two. For Jung then, psychological development can only emerge out of ongoing and repeated experiences of challenge that arise from encounters with the hitherto-unknown and hitherto-invisible other (i.e. whichever factor has been left out of the picture). In this paper I aim to bring this perspective to bear upon the relationship between analytical psychology and scientific discourse.¹

The dynamic of individuation is in effect the red thread that runs through Jung’s mature psychology. We find it not only in Jung’s writings on the transcendent function and on typology, but also in his fascination with alchemy. Even Jung’s earliest psychological work on the feeling-toned complex (a factor that disrupts and problematises the smooth operation of ego consciousness) adumbrates an individuation understanding of psychology.

For Jung, each moment of individuation therefore takes the form of a problematic and challenging confrontation of some kind. Under these circumstances it is perhaps not surprising that the ego, tirelessly vigilant and inventive

1 I am well aware that this is only one of many possible ways to approach this problem. Others can be found, for example, in *Jung and the Question of Science* (Jones, 2014). I have chosen this approach because it is in tune with Jung’s individuation approach. The aim of such an approach is to open matters up rather than closing them down. Thus, although mine obviously constitutes a single approach its inherent binocularity is intended to obviate the danger of reductiveness.

in its attempts to maintain the psychological status quo, will do its best to pre-empt, short-change and usurp such painful but essential individuation processes, precisely because they are experienced as profoundly subversive to the ego's psychic hegemony.

2 Jung's Scientific Individuation

As Jung describes it in MDR, the development of his relationship to science (both as concept and as practice) was intimately bound up with the struggle he experienced with his two personalities. This also means that it was bound up with the nascent concept of individuation which, as I have argued, eventually emerged from this very struggle.

At school and university, Jung tells us, he was, on the one hand,

powerfully attracted by science, with its truths based on facts; on the other hand I was fascinated by everything to do with comparative religion ... In science I missed the factor of meaning; and in religion, that of empiricism.

JUNG, 1989, p. 72

Jung draws a clear parallel between his encounter with this problematic dichotomy (empiricism/meaning) and his experience of conflict between the two personalities: "Science met, to a very large extent, the needs of No. 1 personality, whereas the humane or historical studies provided beneficial instruction for No. 2." (Jung, 1989, p. 70)

This was a tension that would persist as long as Jung's approach to the natural world continued to develop. His difficulty at this stage was that, when approached from the perspective of no. 1, nature showed up as the object of scientific, empirical study, while from the perspective of No. 2, on the other hand, it was experienced as the numinous and ineffable realm he describes elsewhere in MDR as "God's world" (*ibid.* pp. 66–67, 72, 74, 78). This apparently incommensurable gulf was felt by Jung as "an insoluble conflict". In fact, it exemplified precisely the kind of impossibly problematic tension that Jung would later understand to be necessary for the process of individuation.

At this particular stage of Jung's development, the problem was resolved (albeit only temporarily) after two dreams.² In the first dream, Jung digs up the

² These two dreams date from 1894 when Jung was 19 years old. (Cambray, 2011, p. 112).

bones of prehistoric animals and thinks to himself, “I must get to know nature, the world in which we live, and the things around us”. (Jung, 1989, p. 85) In the second, he comes upon the awe-inspiring image of a giant radiolarion and awakens with a “beating heart”. Jung goes on to tell us that “these two dreams decided me overwhelmingly in favor of science, and removed all my doubts.” (ibid.)

But what was it about these dreams that resolved Jung’s “insoluble conflict”? I would suggest that they enabled Jung to achieve a novel and revelatory vision of science: a way of seeing that was transformative because it enabled Jung to partake in a binocularity.³ On the one hand (or perhaps we should say, through one lens), the dreams endorse Jung’s eminently intellectual impulse to discover (dig up) the objective truth about nature; on the other, they keep fully alive the numinous affect (Jung’s “beating heart”) held by Jung’s witnessing of a mysterious creature hidden deep in the forest.

It was the stereoscopic binocularity of this novel perspective that enabled Jung to transcend what he had hitherto experienced as an all-or-nothing, either/or feeling of impossibly painful contradiction. The three-dimensional perspective that emerges is revolutionary precisely because it brings together the two dimensions that Jung had identified as radically incompatible—that of meaning and that of empirical fact. Jung’s newly transformed understanding and engagement with science also provided him with a renewed sense of certainty about his own scientific future. Even at this early stage in Jung’s development, in Joe Cambray’s words, “[t]he visionary and the scientific are already intertwined and mutually interacting”. (Cambray 2011 p. 111)

A comparable transformation, though one that took an interestingly different form, occurred when Jung was pondering his future specialty in medicine. Leafing through the preface to a psychiatric textbook by Krafft-Ebing, Jung was electrified by a passage about the necessarily subjective dimension of psychiatry:⁴ “My heart suddenly began to pound. I had to stand up and draw a deep breath.” He realised, he says, that in psychiatry,

the two currents of my interest could flow together and in a united stream dig their own bed. Here was the empirical field common to biological and

3 I utilise the metaphor of binocularity because it so clearly illustrates the way in which two conflicting perspectives can come together to achieve a three-dimensionality that transcends both the original perspectives.

4 Krafft-Ebing’s textbook was apparently the last book Jung read before taking the state examination for his medical degree. (Bair, 2004, p. 42) If so, the experience Jung describes in MDR would have taken place during 1900, when Jung was 24 years old.

spiritual facts, which I had everywhere sought and nowhere found. Here at last was the place where the collision of nature and spirit became a reality.

JUNG, 1989, p. 109

By using the German word *Zusammenstoß* (translated here as ‘collision’) Jung indicates that what he experienced was not a smooth process of synthesis but a head-on clash between apparently incompatible opposites, articulated first in the form of the biological versus the spiritual, and then later as nature versus spirit. Jung’s excitement derived from his realisation is that his life as psychiatrist would be spent exploring the realm in which these two incommensurate dimensions would collide in this way.

In the subsequent MDR passage, Jung indicates the complex nature of this realisation by introducing a further problematic pair of conceptual opposites: objectivity and subjectivity. Again, Jung’s affect is powerfully engaged when he experiences what he calls a “violent reaction” on reading a passage in Krafft-Ebing that he paraphrases in this way:

[T]he textbook is in part the *subjective* confession of the [psychiatrist] ... [who] with his specific prejudice, with the totality of his being ... stands behind the *objectivity* of his experiences and responds to the “disease of the personality” with the whole of his own personality.

JUNG, 1989, p. 119 (my italics)

The subtle and difficult encounter between subjectivity and objectivity, described here as occurring in the work of psychiatry, was to persist as a central preoccupation for Jung not only in terms of his own process but also with regard to psychology itself. (Kotsch 2000)⁵

At the end of his life Jung offers a deceptively simple retrospective statement: “My life is what I have done, my scientific work; the one is inseparable from the other.” (Jung, 1989, p. 222) This cogent phrase reveals Jung’s recognition of the inextricable intertwining of both subjective and objective dimensions, as they show up in his life/science and in his science/life. Jung suggests that it is therefore an error to strictly differentiate (objective) science from

5 Elsewhere I have explored Jung’s claim to science through an invocation of the scientific methods of early Romanticism, and particularly those of Goethe. (Saban 2014) What particularly interested me about Goethe’s science were his attempts to do justice to the phenomena by transcending the objective/subjective dichotomy. This, in my view, parallels Jung’s own approach.

(subjective) life and place them into discrete compartments. This insight also highlights the vital importance of the *relational* aspect of Jung's psychology. What really matters, he implies, is neither the science nor the life, but what happens in the *relation* between them. It is through this relation and other relations of this kind that three-dimensionality can be achieved.

In MDR we see Jung excitedly finding in psychiatry a specifically *scientific* arena within which the problematic tension between these conflicting aspects could be allowed to play out. We can also see this tension explored in the lectures Jung delivered at this time to his fellow university students. There he interrogates the science of his day (Jung 1983), clearly dissatisfied with its limitations. At this stage, as Cambray puts it, “[he] is more interested in what lies beyond or outside the boundaries of the science of his day and how the questions associated with these realms may impact scientific thinking, than he is in establishing himself as a scientist as such”. (Cambray, 2011, p. 113)

What Jung established in this period was the central importance of these highly unstable oppositional energies: rational/irrational, material/spiritual, objective/subjective: personality 1/personality 2. His lifelong task thus becomes that of elaborating a *scientific* methodology that might yoke them together into relation but in a way that would neither loosen nor lessen the tensions between them.

3 The Scientific Individuation of Analytical Psychology

As we have seen, for Jung individuation presents a uniquely difficult challenge because the work of correcting one-sidedness cannot be achieved without encountering problems that are profound and far reaching. Under these circumstances, we should not be surprised if what gets constellated is a powerful pull toward the avoidance of such challenges. When it comes to post-Jungian attempts to come to terms with Jung's relationship with science, we can identify this avoidance in two contrasting and complementary forms.

One version (long established in the Jungian tradition) takes the form of an outright rejection or depreciation of the scientific aspect of Jung's psychology. Jungian analyst, Dennis Merritt, who in the 1960s was training at the Jung Institute while simultaneously working on his PhD in entomology, tells us that the “scientific attitude was ... despised and discredited there”. (Merritt, 1998, p. 14) Analysts were generally “condescending toward [the] scientific attitude” and seemed to think their viewpoint was superior”. (ibid.)

In more recent years we can identify a more aggressive formulation of this approach in the argument that Jung's own claims to be engaged in science

should be disregarded. Sonu Shamdasani, for example describes Jung's scientific approach as "a makeshift". After the Red Book, Jung's writings deteriorate, Shamdasani tells us, and the concepts he develops in the collected works represent merely "an attempt to try to translate as much as he felt he could get away with to the medico-scientific audience of his time." (Shamdasani, 2012, p. 375)

According to Wolfgang Giegerich, post-Jungians have a stark choice. They can either "feel committed to, and base their own work on, [Jung's] body of thought" or to be taken in by the "hypotheses" of the "scientist" Jung' (Giegerich, 2008, p. 54). Note the apotropaic scare quotes!

James Hillman says he was "straining for decades to push psychology over into art, to recognize psychology as an art form rather than a science or a medicine or an education, because the soul is inherently imaginative" (Hillman, 1993, p. 154). Note the implication that science and imagination are mutually exclusive.

Where these influential Jungian writers agree is in invoking a black-and-white binary contrast between, on the one hand, an *authentic* Jung—usually aligned with Jung's personality no. 2 (as revealed in the Red Book's "spirit of the depths"), and on the other, an *ersatz* Jung—a shallow, "spirit of this time", personality no. 1 Jung. This latter Jung is represented as betraying the purity or depth of his authentic (no. 2) vision by choosing to assume a scientific persona. The message is that if we want to maintain contact with Jung at his truest, deepest and most authentic, it behoves us to reject the Jung who calls himself a scientist.

However, it seems to me that to approach Jung and his psychology in this way brings with it two related problems:

First, the argument requires a straw-man caricature of science and the scientist. Stripped of complexity, ambiguity or multiplicity, science gets stereotyped as monolithically inert. Giegerich, for example, begins by insisting that science is all about "Certainty. Proof. Reliability. Validity" and then goes on to inform us that, "Science is the gigantic project of slowly trying to bring all reality inside the fence. Its job is to radically undo all wilderness." (Giegerich, 2008, p. 234)

However, more problematically, this approach does profound violence to analytical psychology itself. In effect, it contradicts the central relational logic of individuation by separating Jung's psychology out into discrete conceptual compartments—one of which is authentic/deep and the other inauthentic/shallow—and by doing so it blocks the possibility of creative tension between the two.

When, for example, Giegerich lauds personality no 2 as Jung's "intuitive contact with the depth" and dismisses personality no. 1 as merely a "scientific

façade” (Giegerich, 2008, p. 151) he is employing a dissociative strategy rooted in the dogmatic belief that Jung is making a fundamental error by paying *any* attention to personality no. 1 (and the scientific aspect of his psychology that accompanies it). Giegerich believes that his responsibility to his own psychological vision requires him to offer himself up wholeheartedly and totally to personality no. 2 while rejecting personality no. 1. However, this approach ignores Jung’s own crucial insight in MDR that his responsibility to individuation (and the individuation of his psychology) was precisely the factor that required him to reject neither of the two personalities, but to dwell in the tension between them.

We find an echo of Giegerich’s position in Shamdasani’s argument that Jung’s authentic voice (identified with personality no. 2) is to be found *only* in the Red Book. Jung’s mature psychology (as published in the Collected Works) is represented by Shamdasani as merely a diminished and watered-down version of his original prophetic vision. “[W]hen Jung attempts to formulate [this vision] into a scientific psychology ...” Shamdasani tells James Hillman, it simply “gets lost”. (Hillman & Shamdasani, 2013, p. 53)

Somewhat paradoxically, both Giegerich and Shamdasani utilise the strategy of setting up an invented (supposedly authentic) Jung in order to validate their rejection of the actual Jung—the Jung who repeatedly claims to have been a scientist. It is an argument that conveniently frees them to refigure Jung in whatever form they prefer: prophet, artist, or Hegelian philosopher.

To summarise: the key problem with such an approach is that it obstructs very dynamic that lies at the heart of analytical psychology, a dynamic that, as I have argued, links back to the tension between Jung’s two personalities and is central to the notion of individuation. It is an approach that inevitably leads to a new form of one-sidedness and thereby sidesteps the problematic challenge that Jung’s psychology presents us with: how to attain a binocular approach.

Perhaps not surprisingly, this particular form of one-sidedness meets its mirror (negative?) image in another contrasting tradition within post-Jungian thinking. In his 1988 *Mythos and Logos in the thought of Carl Jung*, Walter Shelburne tells us:

In order to argue for the scientific credibility of his theory of archetypes, we must show not only that Jung’s theory is a naturalistic one, in the most general meaning of that term, but also that the theory is compatible in principle with standard, scientifically informed understandings of nature.

SHELburne, 1988, p. 2

This apparently innocuous statement expresses an idea that has become highly influential in certain post-Jungian circles. However, I aim to show here that any attempt to bolster “the scientific credibility” of Jung’s psychology by revealing its compatibility “in principle with standard, scientifically informed understandings of nature” is itself at least as problematic as Giegerich’s tout-court rejection of Jung as scientist.

We can address this issue best by focusing on the question of ‘grounding’. For example, in a 2004 article in the *Journal of Analytical Psychology*, Margaret Wilkinson helpfully draws our attention to “current neuropsychological and neurobiological understanding of early brain development, memory, emotion and consciousness.” However, she then takes the further step of asserting that “[Jung] leaves us with a responsibility to *ground* our work ... in the best science of our day”. (Wilkinson, 2004 p. 84). This is an approach endorsed by other Jungians. Suzi Naiburg, for example, in a 2007 review, approvingly describes Wilkinson’s book as looking “to the fields of neuroscience, attachment and trauma theory in order”, as she puts it, “to place our clinical approach on a solid developmental foundation”. (Naiburg, 2007, p. 109)

The argument I want to make here is that this goal of *grounding* analytical psychology in established scientific discourse is in direct conflict with the creative and disruptive indeterminism that lies at the heart of Jung’s individuating psychology.

The notion that post-Jungians should be seeking to bring analytical psychology into alignment (or showing that it is in fact *already in alignment*) with the latest scientific facts possesses a certain plausibility because Jung’s language, especially in his early works, reveals, as Roger Brooke puts it, “some of the essential assumptions of natural science: the human being as a self-contained entity inside of which sickness can be located, health and sickness as reflections of energy distribution and availability (to the ego), and the independence of the observer.” (Brooke 1991 p. 3) However, Brooke goes on to argue that, if we look at Jung’s psychology as a whole, what becomes evident is an “understanding of man and the psychology that speaks of him ... [which sees] through the natural-scientific language to the perspective, or vision, which forms it.” (ibid. p. 5) If Brooke is right about the importance of remaining open to the wider embrace of Jung’s mature psychological vision, then we can begin to see that any insistence upon the need for Jung’s psychology to *ground* itself in natural science is in conflict with the fundamental gist of analytical psychology itself.

I would like to go further here and to argue here that were we ever to get to the point of actually proving that Jung’s psychology is utterly consistent with the accepted facts of established science, we would thereby have neutered,

tamed and domesticated Jung's psychology. We would in effect, have removed its entire *raison d'être*. What Shelburne describes as the "standard ... understandings" of science are precisely those understandings that Jung's psychology is seeking to challenge and subvert. However, I also need to emphasize that to argue in this way is not the same as taking the Giegerichian view that Jung's psychology should be seen as existing separately from or outside of the scientific conversation.

4 The Archimedean Point?

When we attempt to ground analytical psychology in natural science we are, in effect, trying to utilize the apparent solidity and weight of natural science as an external, Archimedean point. This means seeking a kind of conceptual lever with which we might be able to measure or prove the validity of Jung's psychology.

It is worth noting that Jung repeatedly states that such an enterprise is impossible on the grounds that psychology "lacks the immense advantage of an Archimedean point such as physics enjoys" (1946/47, § 421). For Jung this lack of an Archimedean point is not merely a *contingent fact*. He is not, for example, arguing that we don't happen to have an Archimedean point because such a point has yet to be discovered. Jung is actually making a much more powerful point than that. He is arguing that for psychology an Archimedean point is *necessarily* impossible because the existence of such a point is obviated by psychology's very nature.

But if this is the case then some further questions arise. How, for example, could a discipline of this kind engage meaningfully with disciplines outside itself, including scientific disciplines like neuroscience or quantum mechanics? And why should it be even interested in doing so? Or, to put it another way, doesn't this lack of an Archimedean point doom psychology to be forever trapped in a solipsistic bubble in which it can talk only to itself?⁶

I would like to amplify this question by looking at a quote from Jung which, at first glance, seems to contradict everything we have just heard him say about psychology's lack of an Archimedean point. In MDR Jung suggests that,

6 As it happens, this is exactly Giegerich's position. As he repeatedly reminds us, the soul (and therefore psychology) is uroboric, subject to a "logic of self-relation and self-reference" (Giegerich 2015).

We always require an outside point to stand on, in order to apply the lever of criticism. This is especially so in psychology, where by the nature of the material we are much more subjectively involved than in any other science.

JUNG, 1989, p. 246

Despite appearances, when Jung refers to standing upon an ‘outside point’ in this passage, he is not in fact encouraging us to measure psychology against a harder more solid science. He is actually pointing us back to the dynamic process of individuation and specifically the individuational obligation to avoid one-sidedness. Jung is telling us that in psychology the dimension of subjectivity is ineradicable. However, the only way to avoid the distortions that will inevitably accompany a singleness of perspective of this kind is to enable our subjectivity to enter into play with something outside of itself. When we allow these distortions to be challenged by (and therefore brought into binocularity with) an alien perspective something new has the opportunity to emerge: a complex three-dimensional perspective.

Let us take an example from elsewhere in Jung’s work. In the arena of typology, the functions of thinking and feeling represent for Jung “two different, but equally true, perceptions of one and the same situation.” (Jung & Schmid-Guisan, 2013, pp. 44–45) However, when the two enter into an *interaction*, what is enabled to emerge is a binocular “truth” that achieves a level of complexity to which neither of the two original “truths” had any access.⁷ An emergence of this kind could never occur as the result of an external or instrumental attempt to measure psychology up against an objectively solid science such as physics. It requires instead the meeting of two incommensurate perspectives in such a way that a third emerges.

For the individual then, the required external/other perspective might take the form of a typological attitude like feeling or a quality such as subjectivity. But what happens if we apply this understanding on the level of analytical psychology itself? How can we avoid analytical psychology itself becoming one-sided? I would suggest that in such a case the required external/other will

7 In fact, the correspondence between Jung and Schmid-Guisan (Jung & Schmid-Guisan 2013) offers us a perfect example of such an interaction. It was contrived by Jung as a way to explore what happens when a ‘thinking’ person converses with a ‘feeling’ person. Interestingly, in their introduction to Jung’s correspondence with Hans Schmid-Guisan John Beebe and Ernst Falzeder actually suggest that, in this way Jung located “an ‘Archimedean point,’ with the help of which he could move the world of psychology.” (Beebe, 2013, p. 15).

show up either in the form of an alien scientific discipline, such as biology, or as a non- or pseudo-scientific discipline, such as alchemy or astrology. When Jung allows his own perspective (familiar and inevitably one-sided) to be *challenged* by allowing a confrontation with alien disciplines of these kinds, a differential tension is set up which can, in turn, enable a potential binocularity—and ultimately a new (third) perspective. Jung’s fundamental point is that if we want to firm up, thicken, and complexify our psychological standpoint, repeated confrontations of this kind are required.⁸

So, now let us return to the dialogue between analytical psychology and neuroscience. We are now in a position to see that an engagement of this kind has nothing to do with the need to ground or seek foundations for Jung’s psychology. The intrinsic value of such a confrontation will depend upon its capacity to unlock a new perspective which in its three-dimensionality holds the promise of transcending either. In short, the “outside point” that Jung mentions above could consist of any alien perspective that can be brought into a difficult but relational tension with our conscious, familiar viewpoint. This, as he sees it, is how we evade the trap of narrow subjectivism or even solipsism and this is how we individuate analytical psychology.

We can witness a particularly fruitful example of this kind of process in the dialogue between analytical psychology and quantum physics that eventually gave birth to the notion of synchronicity. The intellectual and relational process of holding together the differences between these two disciplines was to emerge out of a dialogue between Jung and Wolfgang Pauli that took place over 26 years (from 1932 to 1958). CERN physicist Maurice Jacob astutely identified the essence of this dialogue when he commented, “It is fascinating to follow how these two intellectual giants argue from different sides to find mutual enlight[en]ment”. (Jacob, 2000)

The mutuality of this difficult process, this ‘argument from different sides,’ is what Jung had in mind when he referred to the “strange encounter between atomic physics and psychology,” which he saw (even in 1924) possessed the

8 One interesting question is to what extent the individuation of analytical psychology might be furthered via a creative confrontation with the alien discipline of Freudian psychoanalysis. My own opinion is that this could and indeed should be the case but that in practice the potential for an individual moment of this kind has been historically undermined through the widespread but fundamentally wrong-headed assumption (popular especially within the developmental ‘school’ of analytical psychology) that psychoanalysis and analytical psychology constitute merely two variations of the same thing. As I have argued elsewhere (Saban, 2016) the minimum requirement for true confrontation between disciplines is that the differences between them are fully acknowledged. Only then can a genuine relation be established and only then can individual potential be realised.

capacity to provide, “at least a faint idea of a possible Archimedean point for psychology” (Jung, 1924, §164). As always, Jung’s emphasis is upon the process of argument, of encounter, of confrontation between strangers.

In MDR, Jung outlines his approach to a process of this kind: “I am not concerned with proving anything to other disciplines; I am merely attempting to put their knowledge to good use in my own field.” Such a process works, Jung suggests, “when one transfers the knowledge of one field to another and applies it in practice.” It is this transplanting of ideas from the original ‘home’ territory to a profoundly different realm that enables the emergence of a novel perspective. In such cases, as Jung puts it, “certain new things come to light.” (Jung, 1989, p. 349). He gives an example: “Had X-rays remained the exclusive property of the physicist and not been applied in medicine, we would know far less.” (ibid.) The meeting and interaction of two fields (physics and medicine) that are in numerous ways alien to each other goes on to produce a hitherto unimaginable solution to a new problem. I would describe such an interaction as transdisciplinary.⁹

When this kind of transdisciplinary promiscuity occurs, by which insights from one discipline are transported into another, “they naturally appear” as Jung puts it, “in a different light and lead to conclusions other than those to which they lead when restricted to their proper fields, where they serve other purposes.” (ibid.) To engage in such a process always risks accusations of misreading and misappropriation. However, in order to create the conditions for spontaneous creativity in science, Jung insists on the necessity for precisely this kind of unauthorised intercourse between two disciplines. Nor is this, for Jung at least, a strange or marginal aspect of science. He insists that a transdisciplinary methodology of this kind is not only fundamental to *all* scientific activity but is also inevitable:

Science qua science has no boundaries, and there is no speciality whatever that can boast of complete self-sufficiency. Any speciality is bound

9 There is no universally accepted definition of transdisciplinarity. My own understanding follows that of Ian Campbell, for whom a genuinely transdisciplinary research method is one that “establish[es] the reciprocal meeting of divergent disciplinary systems without returning to a single higher meta-disciplinary order or falling into a merely eclectic relativism.” (Campbell, 2020 p. 74) I would only add that what marks transdisciplinary research off from interdisciplinary research is its binocularly, in that although the contributions of the disciplines in question are known, the outcome of the transdisciplinary process will be both new and unpredictable. A wide-ranging discussion of transdisciplinarity in a post-Jungian setting is to be found in Susan Rowland’s *Jung and Literary Criticism* (2008, p. 245 ff.)

to spill over its borders and to encroach on adjoining territory if it is to lay serious claim to the status of a science.

JUNG, 1941, par. 212

In other words, these border territories are precisely where new scientific notions often appear. Jung himself seems to have a particular fascination for such difficult but fertile interstices between disciplines, presumably because it is in such places of alien encounter that we find what he saw as the proper locus for scientific work. This also aids our understanding of Jung's aversion to allowing his psychology to be absorbed into the safe ground of the established truth of any single scientific discipline. In this light, we might perhaps see analytical psychology as a trickster science that does its work in the realm of the liminal.

5 A Syzygy? Nomad Science and State Science

However, it is not only *between* scientific disciplines that we find these margins and interstices and the rich opportunities for transformation and creation that they enable. Such opportunities also crop up *within* the scientific endeavour itself.

In several works from 1972 to 1991, philosopher Gilles Deleuze and psychiatrist Felix Guattari brought together their respective expertises in a highly fertile encounter that might serve as a perfect exemplar of creative transdisciplinarity. In their 1980 book, *A Thousand Plateaus*, they unpack what they see as a fundamental oppositional dynamic within science. They identify two contrasting dimensions of scientific activity to which they give the names Royal or State Science and Nomad or Minor science.

Royal or state science emphasises the stable, the eternal, the identical, the constant, the uniform, the standardised, the solid, and the fixed. It defines itself in terms of theorems, rational order, and limits. It produces universal laws, abstract concepts, and transhistorical theories such as Newtonian mechanics. For royal science the universe is predictable and deterministic. It is particularly attuned to the questions and problems presented by individual solid entities with stable boundaries, and therefore answers questions of essence like: What are the characteristics that make an entity what it is, in contradistinction with what it is not? The answers found involve strict adherence to the 'laws' of nature envisaged as a pre-ordained plan.

Nomad science, on the other hand, is heterogeneous and varied, experimental and inventive. It asks questions about becoming rather than being. It explores metamorphosis, generation and creation. Its prime concerns are

the problematic, the affective, the pliable, and the malleable. An example of a nomad science is evolutionary biology. As a science, it doesn't predict the course of evolution or reproduce it under experimental conditions but traces its development post facto. In this way, nomad science follows singularities, operating by rule of thumb. It improvises, using whatever resources are to hand. Another good example of such a science would be non-linear complexity science, which reveals a world of spontaneous emergence and self-organisation; the universe as radically open. Nomad science asks questions like, What is going on in this situation, interaction or milieu? It is interested in the hows and the whys of transformation.

Because the experiments of state science need to produce results that can be *re-produced* independently of circumstances, its experimental operations need to be isolated from "on the ground" conditions at a particular time. Such results will thus tend to take on an eternal and universal character.

Nomad sciences, on the other hand, are thoroughly pragmatic. Experiments occur in the kinds of specific concrete circumstance in which variables cannot be controlled.

When we describe them in this way, the two sciences, Nomad and Royal, inevitably appear as warring opposites. The demands and conditions of Royal science inhibit or even obviate the practice of nomad science. As Deleuze and Guattari put it, "state science ... imposes its form of sovereignty on the inventions of nomad science" (Deleuze & Guattari, 1987, p. 365) By forcing a particular logic of organization state science curtails and tames the kind of creativity and inventiveness that is natural to nomad science.

However, it is important to note Deleuze's insistence that although state science and nomad science may be "two formally different conceptions of science", they are nonetheless "ontologically, a single field of interaction ..." (ibid. p. 367). The internal dynamic of that field means that while "royal science continually appropriates the contents of ... nomad science ... nomad science continually cuts the contents of royal science loose" (ibid.). Clearly Deleuze wants us to understand the two sciences as abstract and opposing poles of the same continuum. If so, then to categorize science itself as either royal or nomad would be to miss Deleuze's point; what matters is to recognize that all scientific practices involve an interplay between both royal and nomadic tendencies. As Deleuze scholar Brent Atkins puts it,

It would be naive to assume that there is a single monolithic "scientific practice." It is more likely that there are multiple competing scientific practices, each with a different ratio of the tendencies toward stability and change.

ADKINS, 2015, p. 13

As post-Jungians we might want to place Deleuze & Guattari's insights into tension with the archetypal syzygy of puer/senex.

As Hillman emphasises, despite an abiding temptation to understand puer and senex as separate archetypal configurations, we can achieve a kind of heuristic binocularity if we see them as yoked together. (Hillman, 1967) By doing so we also align ourselves with Jung's logic of individuation, whereby the two apparent opposites are brought into play such that the tension between them leads to state-change.

Hillman reminds us that the puer dimension is to be found buried at the heart of the senex, and a senex dimension resides at the heart of the puer, just as, in the t'ai chi the seed of yin develops as yang finds its fullest expression, and vice versa. We find the same dynamic active in Deleuze's state science/nomad science pairing: the energetic movement of state science relies upon the disruptions of nomad science.

6 The Red Book: Nomad Science in Action?

The crisis Jung experienced at the time of his "confrontation with the unconscious" took a double form. It was bound up not only with his own personal one-sidedness but also with a developing awareness of the one-sidedness of the science of his day. In the Red Book we witness his reaction against what we might see as the senex character of the scientific approach with which he was familiar. His soul, Jung tells us, cannot be contained within what he calls the "dead system" of the scientific. (Jung, 2009, p. 232)

To make the soul an object of scientific investigation is, in Deleuzian terms, to subject it one-sidedly to the senex assumptions of Royal Science, and thus kill it. Jung expands on this idea in MDR:

The knowledge I was concerned with, or was seeking, still could not be found in the science of those days. I myself had to undergo the original experience, and, moreover, try to plant the results of my experience in the soil of reality; otherwise they would have remained subjective assumptions without validity. It was then that I dedicated myself to service of the psyche.

JUNG, 1989, p. 192

We should note that Jung reacts to this problem not by creating a new religion, or by becoming an artist or prophet, but by simply asking how science can make room for what it is missing. Despite this fierce critique of contem-

porary science, Jung does not abdicate his scientific responsibility. He makes it clear that, in order to flourish, his new science (the third) will need to emerge from two disparate elements: 1. subjective experience and 2. the soil of reality.

In her PhD thesis, French philosopher Armelle Line Peltier pursues a strong case for the Jung's *Red Book* as a work of (albeit unconventional) science (Peltier, 2019). According to Peltier, in his confrontation with the unconscious Jung found himself subverting the traditional approach whereby the scientist/doctor observes the object/patient from the outside. Intuitively integrating (yet moving beyond) approaches based upon Freud's self-analysis and Ludwig Staudenmaier's self-experimentation (Shamdasani, 2009, p. 200), Jung's new approach took the form of an active yet reflexive observation of his own case. The new technique/form he developed might be described as scientific autobiography or perhaps deep autoethnography. In effect, Jung found himself employing an improvisatory methodology to reveal, explore and interpret those inner images that emerged. In this way, he could open a space for the (messy and chaotic) formation of what revealed themselves as new psychological ideas. In MDR, he emphasises that he saw this process as eminently *scientific*:

My science was the only way I had of extricating myself from that chaos. Otherwise the material would have trapped me in its thicket, strangled me like jungle creepers. I took great care to try to understand every single image, every item of my psychic inventory, and to classify them scientifically—so far as this was possible—and, above all, to realize them in actual life.

JUNG, 1989, p. 192

Viewed scientifically, *The Red Book* represents an experimental clinical study that Jung undertakes not only on his own behalf but also for his patients. Despite what appears to be a chaotic and improvisatory method, Jung is nonetheless seeking experimental results that could be generalised and are applicable to other cases.

His role as scientist involves him a continual motion between three more-or-less distinct positions:

1. The I-figure who acts within the scene
2. The narrator who describes the scene.
3. The analyst who reflects upon the whole.

Jung is able to bring two factors into simultaneous tension: first, a willingness to be true to his personal wound (his felt inner division) and, second, an insistence on sticking with what was emerging into a novel scientific approach. We can see this situation as a newly experienced and more complex version of the

“incompatible opposites” Jung encountered when deciding to choose a life as a scientist. It involves him in exploring what Peltier calls “the freedom of one who is neither constrained by knowledge, nor dependent on a given scientific paradigm.” (Peltier, 2019, p. 160 my translation).

Out of this experience emerges an approach that on the one hand is scientific, yet on the other might be said to approximate negative capability in that it avoids what Keats called the “irritable reaching after fact and reason”:

[Jung] finds a kind of emancipation not only in his experience, but also in the exploration of the latter in writing—a writing that it is in no way determined by the need to validate The writing of *Liber novus* and the scientific elaboration it contains mark an attempt at a free understanding of experience, and not a will to prove something.

ibid.

Peltier thus gains an understanding of *The Red Book* as a scientific “creation that is free from epistemological constraints”. She compares Jung’s approach with that of philosopher of science Paul Feyerabend, for whom,

scientific progress is only possible when we go beyond the rules commonly prescribed by science itself. Science and reason cannot always work together, because in order to go beyond a scientific theory it is necessary to get outside of it, otherwise all you get is infinite regress. This reversal of reason is synonymous with a certain form of freedom in research.

PELTIER, 2019, p. 165

Peltier also highlights a dimension of Jung’s method that we touched on earlier—that of transdisciplinarity. In the Red Book, we see the same promiscuous tendency to bring together different methods from different disciplines that we identified in Jung’s mature writings. Peltier parallels this promiscuity (which she describes as a pluri-methodology) with Feyerabend’s so-called “anarchist” approach to science: an exploratory, trial-and-error method, or as he describes it “anti-method” which employs the creative and flexible use of serendipity. For Jung, such an approach is perfectly fitted to a psyche that he experiences as a) multiple, b) always in motion and c) located squarely in the blind-spot of consciousness. It is an approach that French philosopher of science, Abraham Moles describes as “experimental disorder” (Moles, 1957). A scientist might, for example, “play with measuring devices in a new way, reuse obsolete instruments, apply instruments relating to a given object of study to another object totally outside the field of study concerned, etc.”. The scientist acts “practically

without a guide, at random, with almost mechanical reflexes.” (Ibid. p. 77) Jung seems to be employing an ‘anti-method’ of this kind when describes the attitude he took in his ‘confrontation with the unconscious’: “Since I know nothing at all ... I shall simply do whatever occurs to me.” (Jung, 1989, p. 173).

In Jung’s case this took the form of an openness to bodies of knowledge that might be considered by many to be non- or pseudo-scientific, such as mythology, theology, parapsychology, the occult, astrology, or alchemy. As Feyerabend puts it, in the modern world, “neither science, nor rationalism have ... sufficient authority to exclude myth, or ‘primitive’ thought, or the cosmologies behind the various religious creeds”. (Feyerabend, 1988, p. 125)

However, it is crucial to remember that no one of these very different ways of articulating our being in the world gets privileged by Jung as a primary or dominant heuristic key. He is far more interested in what happens when such varied perspectives meet each other. From a traditional (or as Deleuze might call it a “state”) perspective this looks like a methodology of random eclecticism, or, as Jung himself describes it, as sheer diletantism: As we can read in the MDR protocols, Jung appears to enthusiastically embrace such a role. As he admits to Jaffé: “*Ich bin der verfluchtteste Dilettant*” (“I am the damnedest dilettante who ever lived”). In support of such disciplinary promiscuity, Peltier quotes French philosopher Jacques Billard:

If we cannot avoid the use of a system and the use of a single system leads to error, then it appears that the solution consists in claiming from every system whatever it can give

BILLARD, 1998, p. 85

7 Conclusion

In order to follow Peltier in seeing the Red Book as an example of Jung’s science, it is necessary to accept that, far from being univocal, scientific method is in fact animated by contrasting, mutually interactive oppositional dimensions. These are the aspects that Deleuze and Guattari have chosen to name nomad and royal science. In the light of such an articulation, it becomes possible to understand Jung’s highly pragmatic, highly concrete (or as Jung liked to call it, empirical) science as a kind of nomad science which therefore finds its place in conflictual play with conventional (Royal) science. In effect, Jung confronts the one-sidedness of Western science by bringing it into play with this critical counterweight, and thus he makes a contribution to the individuation of science itself.

However, we are obliged to remember that even within analytical psychology itself we operate in the tension between both dimensions, nomad and state, senex and puer. In fact, by doing work that chooses to dwell in this liminal zone we are ourselves contributing to the individuation of Jung's psychology. In this way we can allow Jung to be the scientist he always claimed he was while simultaneously encouraging the profoundly disruptive and subversive aspects of his psychology to remain fully in force.

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