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Chapter 6

Psychology in the key of life: deep empiricism and process ontology

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SUMMARY

This chapter sketches a contrast between a psychology in the key of life and a psychology in the key of matter. The traditional scientific methods of the latter have obscured questions of life and consciousness, but these questions can be re-opened through an engagement with the *relational process* thinking associated with figures such as Bergson, James, Whitehead and Canguilhem. To assist such a 'key change', this chapter will engage principally with the work of George Canguilhem and Alfred North Whitehead in order to articulate the importance of the conception of *life* in process thinking. In so doing I will contrast a psychology in the key of *life* (which assumes a unitary cosmology and places emphasis on a virtual future in process of actualisation) with a psychology in the key of *lifeless matter* (which assumes a bifurcated cosmology and limits itself to efficient causality from the past).

INTRODUCTION

Why the phrase 'psychology *in* the key of life' rather than, say, 'psychology *as* the key of life'? Rather than viewing the discipline of psychology as a key that might unlock the door to a better life, the intention is to evoke a key in the sense of a scale of musical notes that starts with a particular note. The idea, of course, is borrowed from Stevie Wonder's famous record *Songs in the key of life*. A musical key *characterizes* a piece of music, which in turn can be said to *exemplify* that key. A psychology in the key of life would thus exemplify 'life' and be characterized by it, whatever 'it' might be. Furthermore, as Johanna Motzkau points out in her chapter in this volume, the experience of a musical key concerns what happens *between* the notes in a scale in the process of their sounding together, and thus draws our attention to the dynamics of resonance, difference and contrast at play in even the most routine of musical experiences. Susanne Langer's (1942) book *Philosophy in a new key* is another influence here. Drawing inspiration from her great teacher and friend Alfred North Whitehead, Langer argues that the philosophy of the "coming age" will be organized by a new theme and will take the power of *symbolism* as its cue in much the same way as a former epoch took the finality of sense-data as its cue: "In the fundamental notion of symbolization... we have the keynote of all humanistic problems. In it lies a new conception of "mentality," that may illumine questions of life and consciousness, instead of obscuring them as traditional "scientific methods" have done" (Langer, 1942, p. 25). We can detect in this quotation a third sense of the word 'key' that shades into the other two. Something is key if it is crucially *important* or *vital* (as in a phrase like

'psychology is key to life'). Indeed it is this combination of *importance* and *life* that reverberates in the word 'vital', that derives from the Latin word for life.

If traditional "scientific methods" have obscured questions of life and consciousness, then it is vital that a serious discipline of psychology changes key and discovers a different approach. The *relational process* thinking associated with figures such as Nietzsche, Bergson, James, Dewey, Whitehead, Canguilhem, Langer, Deleuze, Weber and Stengers holds out much promise for such a key change (cf. Riffert and Weber, 2003; Brown and Stenner, 2009). Process thinking was at the core of some of the early variants of psychology that were almost extinguished by the behaviourist and cognitive revolutions (Dewey, for instance, quit psychology horrified by its preoccupation with aping natural science, and James had similar feelings). In what follows I wish to point to the importance of the conception of *life* in process thinking and particularly in the philosophy of Whitehead. I will draw upon the work of George Canguilhem to clarify some of these ideas. In so doing I will contrast, albeit at a necessarily general theoretical level, a psychology in the key of *life* with a psychology in the key of *lifeless matter*. Two contrasts are particularly noteworthy here. Where the latter assumes a cosmology fundamentally bifurcated into matter and thought, the former stresses the ultimate immanent unity of a self-grounding plural universe characterised by self-generating creativity. Where the latter limits itself to a concern with efficient causality from the past, the former places emphasis on a virtual future in process of actualisation.

SCIENCE IN THE KEY OF MATTER, SCIENCE IN THE KEY OF LIFE

The classical science we have inherited from the 17th Century labors of figures such as Newton and Descartes is not a science in the key of life. The simple reason is that life as such is excluded from such classical science as precisely an *exception* to the laws of nature. As has been made clear by a number of prominent authors since Whitehead and Koyré, the Newtonian mechanistic understanding construes nature as a giant automaton composed of nothing but matter in motion. The processes of nature, as Prigogine and Stengers (1984) describe at length, are viewed as fully deterministic and as reversible. Classical science is thus a *science in the key of brute stuff* or, perhaps more elegantly, a *science in the key of matter*. The routinely observable irreversible, self-organizing and often far from deterministically predictable characteristics of life are thus an exception to the laws of nature when science is played out in this key. The serious student of life processes is thus left with two main options. The first is simply to dismiss or ignore such features as illusory (e.g. as 'secondary qualities' revealing the knowledge-limits of the knower). The second option is to speak up for the reality of such irreversible, self-organising and unpredictable characteristics, and thus to suggest the limited adequacy of the project of a science in the key of matter.

It is at this juncture that we must encounter the enduring theme of *vitalism*. Vitalism, viewed in relation to this dilemma, is less a residual form of mysticism than a meaningful response, on the part of those dealing with life processes, to the limits of mechanistic materialism. Monica Greco (2005) points out that some of the more interesting proponents of vitalism construe it less as a positive doctrine than as a critical attitude. Henri Bergson, for example, wrote in *Creative evolution* that "the 'vital principle' might indeed not explain much, but it is at least a sort of label affixed to our ignorance, so as to remind us of this occasionally, while mechanism invites us to ignore

that ignorance” (Bergson, 1911, p. 42 cited in Greco, 2005). Likewise, George Canguilhem, a philosopher of science who specialized in the life sciences, speaks of vitalism as “an imperative rather than a method, and more of an ethical system than a theory” (quoted in Greco, 2005, pp. 17-18). In speaking up for what is excluded from mechanistic materialism, Canguilhem advocates a kind of imperialism of biology, suggesting that biologists shed their modesty and universalize their experiences. In our terms, this is effectively to call for a science in the key of life. Since Canguilhem’s suggestion is likely to clash with some of the cherished assumptions of both mainstream psychology (which often takes for granted an inadequate concept of organic life) and critical psychology (which is often hostile to biological modes of thought), we will now examine it in a little more detail.

Canguilhem developed many of these ideas in his books *The normal and the pathological* (1991) and *Knowledge of life* (2008). He insisted that the difference between health and illness does not map onto the difference between the normal and the pathological. Core to this argument was his distinction between being normal and being normative. The characteristic of a normative and healthy organism is not merely to adapt to its environment but to adapt that environment to itself and to be able to respond to challenges in a flexible way. That is to say, a normative organism is more or less able to set its own norms. Given the importance of this idea to any psychology in the key of life, it is worth quoting Canguilhem (1994, pp. 351-352) at length:

[b]ehind all apparent normality, one must look to see if it is capable of tolerating infractions of the norm, of overcoming contradictions, of dealing with conflicts. Any normality open to possible future correction is authentic normativity, or health. Any normality limited to maintaining itself, hostile to any variations in the themes that express it, and incapable of adapting to new situations is a normality devoid of normative intention. When confronted with any apparently normal situation, it is therefore important to ask whether the norms that it embodies are creative norms, norms with a forward thrust, or, on the contrary, conservative norms, norms whose thrust is toward the past.

Canguilhem’s account thus associates normativity with a surplus of vital possibilities, and hence with a future-oriented capacity for creativity, flexibility and norm-setting (Greco, 2005; 2009). Interestingly, Canguilhem applies a similar mode of thought when scrutinizing the discipline of psychology. In an article entitled *What is psychology?* (Canguilhem, 1958), he takes issue with the conception of psychology as a science of passive reactions and behaviour, suggesting that the discipline takes for granted an inauthentic normality devoid of normative intention. The basic assumption of such psychology, for Canguilhem, is that the nature of the human being is to be a tool whose vocation is to be assigned its proper task. Such a psychology will fall short of genuine science so long as it embodies an impoverished understanding of human capacities based around the norms of (i.e. *normed by*) modern industrial systems. Canguilhem’s questions always point to the future that a genuine normative intention would thrust towards. What is it, he asks, that lures psychologists into construing themselves as instruments of the instrumentalization of human nature? To know a *normative* entity, he suggests, is to know what it *aims at*. Thus the question Canguilhem the philosopher must pose to psychology is ultimately “dites-moi à quoi vous tendez, pour que je sache ce que vous êtes?” (“tell me at what you aim, so that I know what you are?”).

In Canguilhem's thought we thus find a conception of life that is far from the forms of biological determinism that are usually the subject of critique by critical psychologists. Against the common claim that psychology is normative and reductive *because* it is too enamoured with the biological sciences, Canguilhem would retort that psychology *does not draw enough inspiration from biology*. As Steve Brown and I put it in *Psychology without foundations*, psychology fails to appreciate the complex nature of biological modes of normativity. Rather than restrict the conception of human nature to "a few norms which are selected for their ideological resonance with modern governmental practices", a properly scientific psychology would "multiply and proliferate normative criteria" (Brown and Stenner, 2009, p. 161) to express the creative powers of the human organism.

A key problem for the discipline of psychology as it has emerged in the North Atlantic regions, however, is its divided or split character. Canguilhem showed clear awareness of this problem in his 1958 article when he asked if the relation between human language and society and that of animals is to be viewed as a continuity or as a rupture. Crudely speaking, there are those who, in various forms, view psychology as a laboratory science no different in kind from any other natural science, and then there are those who, in equally various forms, advocate a different paradigm that takes account of issues of meaning and the irreducibly social nature of human individuality. In the context of a science in the key of matter that assumes that mental functionings must be excluded from the concept of nature, this split character appears somewhat inevitable. The natural science paradigms of psychology thus tend to look towards biology for a positive model whilst the critical paradigms tend to turn towards the social sciences and humanities. Critical psychologists thus tend to assume a *rupture* (a radical discontinuity) between animal and human organization, and therefore consider the application of biological modes of thought to psychology as the root problem. There has been a tendency to argue instead for social models, and the main keynote has been that of the *text* (Curt, 1994). Engagement with biology is apt to be associated, often with very good reason, with biological determinism.

Whilst these long enduring positions are perfectly understandable, they give rise to problems. Effectively, we perpetuate a bifurcated conception of nature and personhood in which notions of creativity, aim, value, feeling, symbolism and subjectivity are associated with a non-biological sociality and in which biology is associated with a purely materialistic realm of mechanistic causality. In rejecting this bifurcation of nature, process thinking re-opens and re-values the relation of psychology to biology. It thus raises once again Canguilhem's proposition that in fact psychology – whether critical or mainstream – has not drawn enough inspiration from biology *adequately conceived*. Theoretically sophisticated attention to the nature of life suggests, as we have hinted, that biological modes of normativity are far from deterministic and mechanistic. Compared to physical and chemical activity, organic life is a domain of great novelty and creativity, but the novelty and creativity apparent at the organic level can pale into insignificance when compared with human psychic and societal phenomena. A psychology in the key of life that questions the bifurcation of nature into discrete realms of 'matter' and 'meaning' must therefore pose a challenge both to mainstream experimental psychology and to received critical psychology. To help to meet this challenge, in the following section we will extract some conceptual resources necessary to a psychology in the key of life from Whitehead's process philosophy

WHITEHEAD'S PHILOSOPHY OF ORGANISM

Whitehead's (1861-1947) process philosophy is also called a *philosophy of organism*. Like Canguilhem, who hoped to *universalize* biology, Whitehead offers a philosophy which aims to place a notion of the living organism rather than brute physical materiality at the core of an understanding of the universe, including the physical universe. In this sense, it is a philosophy in the key of life.

Whitehead's knowledge of physics and particularly his pre-emption of, and engagement with the relativity and quantum theories led him to reject as unfounded the idea of a science in the key of matter. That is to say, he rejected the idea that the universe can ultimately be boiled down and explained in terms of irreducible bits of matter. To put it bluntly, Whitehead is a key figure in a line of thought that replaces 'stuff' with *events*. In *Science and the Modern World*, for instance, Whitehead states that:

a theory of science which discards materialism must answer the question as to the character of ... primary entities. There can be only one answer on this basis. We must start with the event as the ultimate unit of natural occurrence... accordingly, a non-materialistic philosophy of nature will identify a primary organism as being the emergence of some particular pattern as grasped in the unity of an event (1926/1985, pp. 129-130).

Thus, in 1926, Whitehead had clearly in mind an organismic philosophy of the event in which the 'atomic' units of natural occurrence are thematized as *primary organisms*. A primary organism is an event that *patterns* multiple data into a concrete unity. In the following years Whitehead developed and refined this idea of a *cell theory of actuality* at the core of his philosophy of organism. In *Process and Reality* (1927/8), for instance, he preferred to refer to these primary cellular atoms of natural occurrence as *actual entities* or *actual occasions*. He described the process through which an actual occasion/entity grasps and patterns its 'data' as a process of multiple *prehensions*. The occasion actualizes itself either through negative prehensions (whereby potentials are excluded from actualization) or through positive prehensions (where possibilities are in fact actualized). Whitehead describes such positive prehensions as *feelings*.

The many available data are thus *felt*, but the occasion as 'feeler' does not pre-exist its prehensions. Rather, and importantly, the actual occasion comes into being *through* or *by way of* its feelings. An actual occasion is thus a *process* and it is neither describable nor understandable in terms of a morphology of 'stuff' or in terms of a grammar of subject and predicate (the feelings are not felt *by* a pre-given subject). We have described this as a *relational* process theory because a feeling is precisely a relationship (Brown and Stenner, 2009). More precisely, feelings are operations which effect a transition from the objectivity of data (the universe as already actualized and hence available for feeling) to the subjectivity of the actual occasion in formation (the universe *felt* as a unity in that moment of actuality). Subjectivity is thus not separated from objectivity in Whitehead's philosophy. Rather, subjectivity is the *becoming* of objectivity, and feeling is the process by which objectivity passes momentarily into subjectivity. The subject objectifies its many data into a new pattern. In Whitehead's (1927/8, p. 309) hands, therefore, the theory of *organism* (also called 'organic realism') is a quantum theory of the connective ordering of flows of actual occasions / entities:

Such a change of thought is the shift from materialism to organism, as the basic idea of physical science... the change from materialism to 'organic realism'... is the displacement of the notion of static stuff by the notion of fluent energy... It is also conditioned by 'quantum' requirements... All things are vectors... All flow of energy obeys 'quantum' conditions.

In the philosophy of organism, the familiar enduring entities of the world – such as rocks, trees, dogs and conversations - are temporally and spatially structured assemblages, or societies, of such 'cellular' occurrences (cf. Stenner, 2008). It is thus crucial to distinguish the *primary organisms* (actual occasions) from the recognizable things that endure. These recognizable things that endure are higher order compositions of the 'cells' or primary organisms. A given enduring being is thus always a nexus or society of actual occasions: a more or less organized assemblage of many actual entities. To put it in the form of a slogan, the *things that occur are prior to the things that endure*. This constitutes a profound reversal of the classical 'materialist' science that had assumed that the things that endure come before the things that occur. From Whitehead's perspective, a classical science in the key of matter is simply wrong, and is sustainable after the quantum and relativity revolutions only on the basis of a studied ignorance. As Isabelle Stengers (1999) puts it, this generalization of a biological mode of thought requires a "radical reorganization of what it means to describe nature". From now on, physicists no less than biologists must come to recognize that their subject matter is organismic: i.e. is characterized by endurances in the organized flow of a multiplicity of actual occasions, themselves *pattern producing* primary organisms. Endurance is no longer something that can be taken for granted, but is something that demands explanation.

An actual occasion is always a fusion of what Whitehead would refer to in *Modes of thought* (1938) as 'experience' and 'expression'. The word 'experience' points to the subjective process whereby data are prehended or felt in the course of an actual occasion, and the word 'expression' points to the objective product of that process. To put it differently, the expression is therefore the *pattern* that results from the experiential process of *patterning*. Whether one is dealing with the physical activity of electrons, the organic activity of a living creature or the sociological activity of a stream of communication, this activity can be analyzed in relation to notions of experience (composed of positive and negative prehensions) and expression proper to actual occasions. This proposition obviously entails a concept of experience that incorporates far more than the conscious experience of human beings. A feeling, for example, need not be *conscious*, and in fact only very complex high-grade organisms are capable of consciousness. Experience, to repeat, is something more like the *prehension and patterning of objects in the process of an event*. Experience thus ought not to be split off from objective reality (i.e. from expression) since, in Whiteheadian thought, it is the very *becoming* of the objective reality to which its expression is a contribution. Conscious human experience and expression would thus be one particularly refined and complex member of a much broader set. It is this extension of the concept of experience that, in our interpretation, forms the core of *deep empiricism* (Stenner, 2008; Brown and Stenner, 2009; see also Malone-France, 2007).

WHITEHEAD ON LIFE

A key problem of the materialistic tradition rejected by Whitehead is that it expels the notion of experience – and hence value, subjective aim, feeling and life - from the concept of nature. Another way of putting this is to say that the focus is purely upon publically available *expressions*. But these actualities are not understood to be expressions of anything, since the notion of experience has been excluded. We are thus left with an incomplete and dissatisfying form of materialistic determinism. When this way of thinking and acting is imported into psychology we are left with a psychology in the key of matter, with its emphasis on the repetitions of causal laws. This way of thinking is then compounded by the ideological circumstances of the societal application of psychology (Danziger, 1990). As it did in biology (by way of the concept of vitalism), this way of thinking soon calls into being its idealistic antitheses, as when forms of psychology emerge that ally themselves with the social rather than the natural sciences. In short, a science in the key of matter inevitably generates a bifurcated understanding of the universe in which issues of experience, subjectivity, aim and value are split or cordoned off from issues of fact, matter, and law. A science in the key of life, by contrast, starts with the assumption of a unified nature. That is to say, there is an assumption of a nature unified in relation to the key of life: a nature characterized by, and exemplifying, life.

But how to characterise ‘life’? A key implication of the unified position sketched above is that there can be no absolute ‘hard and fast’ distinction between the living and the non-living or, for that matter, between the organic and the psychic or between the psychic and the social. We must agree with Victor von Weizsäcker’s statement that “it is clear... that the boundaries between the living and the inanimate are not verifiable either in time or in space, in a dynamic or in a causal sense” (1949, cited in Greco, 2009, p. 36). Or as Whitehead put it, “life cannot be a defining characteristic” (1927/8, p. 104). We should not be looking for some definite content such as some additional structure or some bit of spirit, for instance, that might animate an otherwise material universe and hence distinguish the living from the non-living. Insisting that no hard and fast distinction can be made, however, is not the same as denying the value of drawing distinctions. Such distinctions can and must be made, not least, as Erwin Schrödinger (1990, pp. 3-4) put it in his book *What is life?*, because of the “obvious inability of present-day physics and chemistry” to account for “the events *in time and space* which take place within the spatial boundary of a living organism”. Such distinctions, however, will not be construed as absolute and, equally importantly, serious attention will be directed to the *space between* such distinguishable forms of organization.

We are here touching upon a contrast between the notion of *continuity* implied by the concept of a non-bifurcated universe that is in some sense an immanent unity, and the notion of *discontinuity* implied by the idea that the universe is nevertheless highly diverse and *plural* in composition. If the principle of unity or immanent continuity is that all existent reality is “composed of organisms enduring through the flux of things” (Whitehead, 1926/1985, p. 251), then on this basis Whitehead distinguishes between the “low type of organisms” such as molecules and crystals that are studied by the physical sciences, and the “higher types” in which what we ordinarily call “life” appears. The low organisms are assemblages that “exhibit a massive and complete sameness”. They have achieved a self-identity that dominates their whole physical life. It is this repeated mass sameness of experiences and expressions - in which one cellular ‘occasion’ prehends and patterns its data in much the same way as its contemporaries, precursors and successors - that gives rise to the laws of physics. The higher types of society or

organism, by contrast, are more complex and variable, and their enduring pattern is more abstract and precarious. The higher types, for example, both presuppose and, to some extent, *include* the lower types within their structures. A living cell, for example, is a structured society of occasions that includes within it a multiplicity of subordinate societies composed of non-living molecules arranged in more or less intricate structural patterns. The molecular features of the lower type of society we call a molecule endure independently of the social environment provided by the society we call a living cell. That is to say, a molecule is a molecule whether it is a part of a living cell or not. Nevertheless, as described by Schrödinger, the actual occasions that occur inside a living cell include features that do not occur outside of it. The molecules inside a living body thus do not conform to those physical laws that apply strictly to inorganic societies, but rather exhibit “certain peculiarities of behaviour not to be detected outside” of it.

In sum, this distinction between lower and higher types rests on a difference between highly stable organisms which exhibit robust stability and more complex organisms that are correspondingly less stable. These observations come as a challenge to certain forms of neo-Darwinian thought which consider the evolution of life under the header of *survival*. For Whitehead, it is a profound misunderstanding to consider life purely in terms of survival or what he calls the *art of persistence*. Life itself, he points out “is comparatively deficient in survival value. The art of persistence is to be dead. Only inorganic things persist for great lengths of time” (1958, p. 4).

Life is thus characterized less by the securing of survival than by what we might call its *in-securing*. Compared to the lower organisms, higher societies are, to repeat, characterized precisely by a relative lack of repetition, self-sameness and self-sufficiency. This is reflected in the fact that the higher societies that we associate with life require food. As Whitehead (1927/8, p. 106) puts it, “In a museum the crystals are kept under glass cases; in zoological gardens the animals are fed”. Food is theft necessitated by insufficiency. That is to say, feeding entails the “destruction of elaborate societies derived from the environment”. The destroyed societies that we call food are robbed of something in that they are dissolved through feeding into more simple social elements. This theft is necessitated by insufficiency in so far as the non-living structures within a living society are unstable. As long as an organism lives, it never ceases to break down, and it lives only as long as it can ensure a ready supply of food from the outside. Food is that which, when broken down, can enter into the chemical associations necessary for the work of ongoing structural repair. It is, in sum, precisely the lack of stability of a complex structure within a diverse environment that characterizes a living society or nexus.

To put the same proposition in a positive form, what *is* afforded by the environment provided by the complex structure of a living society is an increase in the intensity of experience available to the actual occasions that compose it. “The characteristic of a living society is that a complex structure of inorganic societies is woven together for the production of a non-social nexus characterized by the intense physical experiences of its members.” The difference between the lower and higher societies can thus be related to a kind of trade-off between stability or survival, on the one hand, and an intensity of experience made possible by complexity, on the other. Life, states Whitehead in *Process and reality*, is “reaction adapted to the capture of intensity, under a large variety of circumstances. But the reaction is dictated by the present and not by the past. It is the clutch at vivid immediacy” (1927/8, p. 105). An increased intensity of

experience, clutching at the immediacy of the present rather than following the insistence of the established past, affords a complex society a degree of stability amidst environmental change.

Whitehead thus identifies life by way of a contrast, very reminiscent of Bergson, between preservation-centred tradition, habitually repeated, and intensity-oriented originality, singular and vivid. It is on this basis that Whitehead insists that life cannot be a defining characteristic. That is to say, life is nothing less than “the name for originality, and not for tradition”. The key difference between a molecule or a crystal and a higher organism is thus the enhanced capacity of the latter for “originality of response to stimulus” (Whitehead, 1927/8, p. 104). Something is alive “when in some measure its reactions are inexplicable by *any* tradition of pure physical inheritance.” Originality and tradition, as hinted earlier, are related not just to causality but also to time. The concept of *tradition* evokes the past because it is associated with the habits of a present that passes on in a conformal manner what is inherited from the past. The experiences of the actual occasions in question are dominated by what Whitehead calls *conformal feelings*. Their prehensions are repetitious and each one actualizes its data in effectively the same way as the precursors, contemporaries and successors that make up its non-living society. This is the efficient causality of linear cause and effect that characterized science in the key of matter. Originality, by contrast, concerns teleological causation, value and subjective aim. It evokes the creation of a novel future out of existing ingredients.

Whitehead suggests that the problem of mating intensity with survival has been solved by structured societies by way of the *development of mentality*. Life is thus clearly associated with mentality in Whitehead’s thought, and both are associated with the enhancement of originality and of the intensity of experience. It should be noted that Whitehead’s concept of mentality is as broad as his concept of experience, and is by no means limited to what we call consciousness. A form of primitive mentality, for instance, is at play whenever multiplicity is objectified into something more simple and unitary, as when noise is blocked out (negatively prehended) to enable the signal of a primitive form of perception. Such noise-excluding objectification enhances the intensity of experience by channeling or *canalizing* it by way of contrasts: what can be ignored as irrelevant is ignored. Here again, Whitehead is clearly influenced by Bergson. Consider the following quotation from *Matter and memory*:

Hydrochloric acid always acts in the same way upon carbonate of lime whether in the form of marble or of chalk yet we do not say that the acid perceives in the various species the characteristic features of the genus. Now there is no essential difference between the process by which this acid picks out from the salt its base and the act of the plant which invariably extracts from the most diverse soils those elements that serve to nourish it. Make one more step; imagine a rudimentary consciousness such as that of an amoeba in a drop of water: it will be sensible of the resemblance, and not of the difference, in the various organic substances which it can assimilate. In short, we can follow from the mineral to the plant, from the plant to the simplest conscious beings, from the animal to man [sic], the progress of the operation by which things and beings seize from their surroundings that which attracts them, that which interests them practically... simply because the rest of their surroundings takes no hold upon them: this

similarity of reaction following actions superficially different is the germ which human consciousness develops into general ideas. (Bergson, 1991, pp. 159-160)

Rather than dealing with a simple physical repetition whereby one occasion reproduces another exactly like it, such primitive mentality *transmutes* what it receives, thus opening up the possibility of transmitting in turn something relatively novel. With such a development of mentality we are thus faced with a leap of sorts, whereby a society of occasions ascends beyond mere self-reproduction through an intensification of experience enabled by a pattern of structural complexity. A further leap in mentality is achieved whenever an organism is capable of taking the initiative of preferentially experiencing the novel elements of the environment, thus matching its actual occasions with environmental novelties.

Unlike lower organisms, higher organisms are far from indifferent with respect to the future they are in the process of actualizing. In the difference between originality and tradition we are dealing with the difference between something active and something merely reactive, something creative and original, and something determined and derivative. In the context of such contrasts, life is literally a “bid for freedom ... the gain of intensity through freedom” (Whitehead, 1927/8, p. 107).

We are reminded once more of Canguilhem’s distinction between conservative normality with its inclination towards the past, and creative normativity with its “forward thrust”. Indeed, Whitehead pre-empts Canguilhem’s position in the contrast he draws in *The function of reason* between the art of persistence and what he calls the *art of life*. He sums up the art of life as a forward thrusting “three-fold urge”: not just to survive but “(i) to live, (ii) to live well, (iii) to live better. In fact, the art of life is *first* to be alive, *secondly* to be alive in a satisfactory way, and *thirdly* to acquire an increase in satisfaction” (1958, p. 8).

CONCLUSION

In the course of this chapter I have merely sketched the outlines of an account of life proper to a psychology in the key of life informed by relational process thinking. In contrast to forms of psychology that are played out in a key of *lifeless matter*, such a psychology assumes: a) a unitary but pluralistic cosmology as opposed to a concept of nature as bifurcated into meaning and matter; b) the priority of occurrence over endurance as opposed to endurance over occurrence; and c) the relevance of a virtual future in process of actualisation as opposed to a sole preoccupation with efficient causality from the past. These assumptions demand that attention be given to the *art of life* as opposed to the mere art of endurance or survival. Although there is not the space to attend to the matter here, it is important to note the point that a unitary cosmology does not entail a downplaying of the pluralism associated with important *differences* to be found in nature (differences between physical, organic and conscious processes, for example, or differences between what is and what *might be*). These differences, however, are never absolute or foundational, and it becomes decisively important to attend to the mixtures, interstices, gaps, boundaries, leaps, diversions and forms of liminality at play. Life is the name for nomadic originality, and it lurks in the unoccupied territories. In its very wanderings it awaits the moment of the exception to the rule it once created:

The conclusion to be drawn from this argument is that life is a characteristic of 'empty space' and not of space 'occupied' by any corpuscular society. In a nexus of living occasions, there is a certain social deficiency. Life lurks in the interstices of each living cell, and in the interstices of the brain. In the history of a living society, its more vivid manifestations wander to whatever quarter is receiving from the animal body an enormous variety of physical experience. This experience, if treated inorganically, must be reduced to compatibility by the normal adjustments of mere responsive reception. This means the dismissal of incompatible elements into negative prehensions (Whitehead, 1927/8, pp. 105-106).

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