

# VI. REFLECTIONS ON PROCESS AND PERSONS

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## **Abstract**

This contribution reflects on Nicholas Rescher's discussion of “process and persons” in his book *Process Metaphysics*. Its main purposes are to offer conceptual commentary on some of Rescher's terms, and to suggest some options for process thinking more radical than Rescher's, partly motivated by recent developments in science and philosophy. First, a brief analysis of the relation between process and time is presented, emphasizing irreversibility and temporal holism as crucial for a processual worldview. Second, instability and transiency are introduced as key concepts for a better understanding of notions such as creativity and freedom. Third, the importance of the sociocultural domain is pointed out in addition to psychological and biophysical factors for the constitution of personhood. And fourth, it is argued that such an extension can be endowed with ontological significance in the framework of a non-reductive and non-hierarchical ontological relativity.

## **1. Introduction**

Rescher begins his chapter “Process and Persons” by noting the difficulties Western philosophers have experienced in framing a substance ontology of personhood. Although requiring biophysical bodies and brains, certain central aspects of persons, such as selves and their experiential and hermeneutic aspects, resist ontological formulation in purely physical terms. Even if immaterial substances and other legacies of Cartesian

dualism are left well behind, it is far from obvious how best to consider the ontological status of such important aspects of personhood. Rescher's approach is to adopt a theory of processual levels that treats a person as "an experience-integrating life process" constituted by a developmental sequence within a particular life cycle (PM 116). In doing so, we believe that Rescher is on the right track, especially when he takes pains to clarify that such a processual view in no way erodes a personhood and agency worth having, regardless of the inevitable transiency of any particular life.

What we want to do here is to offer a few clarifications, distinctions, and suggestions that might move us further toward a genuinely processual ontology of persons. Although in general agreement with Rescher, we believe that his process ontology requires greater clarity and precision, and that his pervasive naturalism may prevent a full appreciation of the sociocultural, relational constitution of persons given necessary and enabling biophysical conditions.

Because "process comes in all shapes and sizes" (PM 118), our discussion begins with a clarification of some general points concerning process, time and innovation (introduced in chapter two of Rescher's book), which specifies these notions explicitly enough to understand them in more detail. Our third section refers to Rescher's emphasis on transiency as one of the key concepts of a truly processual world view. In addition to Rescher's discussion of value we sketch some ideas to develop concepts such as creativity and freedom in terms of stability arguments. The notion of instability is proposed to be of crucial significance in this regard.

In sections four and five, the concept of personhood presented by Rescher is compared with other approaches discussed in contemporary literature. A significant direction in which Rescher's ideas could be developed further is the explicit inclusion of sociocultural contexts in the constitution of a person. An important condition making this possible is an ontology defined relative to particular domains of reality, allowing us to take different domains equally seriously. This implies a rejection of a strong reductionist point of view in favour of emergent states and properties within the domains considered. The traditional unidirectional hierarchy from biophysical to psychological and finally sociocultural levels is thus replaced by non-hierarchically organized domains with multidirectional emergence relations among them.

## 2. Process and Time, Process and Innovation

From a contemporary point of view, the concept of a process cannot be discussed without the concept of time: "Processes develop over time," says Rescher (PM 38). What remains to be clarified, though, is which of the two is to be considered logically prior with respect to the other. The radical process view ascribes priority to process and introduces time as a derived notion. An early well-known example of such a position is Aristotle.

On the other hand, the usual way to define processes formally is based on functions of time  $t$ ,  $t \rightarrow f(t)$ , where  $f$  usually represents the state of a system or (one or many of) its properties. In this view, the concept of time is a precondition to describe a process as a function of time. The concept of time in this framework is that of a so-called parameter time, universally preset and independent of the particular process which it parametrizes. Time in this sense is defined by clocks of different degrees of sophistication, from sundials and hourglasses to quartz clocks and atomic clocks.

Physics distinguishes two classes of processes depending on whether or not the time-reversal invariance of fundamental laws of science is broken. A process is time-reversal invariant if  $f(t) = f(-t)$ : watching a movie of such a process does not allow one to distinguish a particular temporal direction in it. Processes of this kind are time-symmetric or reversible and rigorously apply only to isolated systems. Moreover, reversible processes do not provide true novelty; novel facts, which cannot be undone once they have happened, imply that the time-inversion invariance of the process be broken.

These important limitations raise the question of how realistic reversible processes are. Any system interacting with its environment cannot be isolated but needs to be open. Interactions of a system with its environment are known to break the time-reversal symmetry of reversible processes. As a consequence, two directions of time arise, one from past to future (forward) and another from future to past (backward). The emergence of two temporal directions due to temporal symmetry breaking is a rigorous mathematical result which is free from additional ancillary arguments.

In remarkable contrast, the selection of one of those two directions of time as relevant cannot be justified by purely mathematical or physical arguments alone. A typical non-physical, epistemological criterion for selecting the forward arrow of time is causality: causes precede their effects (see, e.g., Primas 1992). This type of causality corresponds to Aristotle's *causa efficiens*. Backward causation, alluding to teleological

aspects of goal-oriented processes (as in Aristotle's *causa finalis*), would violate physical causality and is usually disregarded. The irreversibility of temporal evolution is a crucial feature of many situations in everyday life (hot coffee cools down rather than spontaneously heating up) and our psychological experience of time. Tenses like past, present, and future structure our experience in such a way that we distinguish between memories of the past, anticipation of the future, and the transition between them at present. Future, contingent events become irreversible, past facts at the time at which they happen. Without this irreversibility there is no innovation (or novelty). Both contingency and innovation (among others) are crucial categories for Rescher's understanding of process (PM 31), especially as applied in his chapter on "Process and Persons."

Causal or functional connectedness of some kind is often assumed to characterize the concept of a process in a broad sense. "The successive stages of a natural process are not a mere juxtaposition of arbitrary, unconnected factors [...] They are united by a systemic causal or functional agency under the aegis of a lawful regularity" (PM 39). However, random (Markov) processes, consisting of sequences of just such uncorrelated events, are very useful tools to describe processes as well. Moreover, it is now well established that the distinction between random and lawful processes is a matter of description under particular conditions (Gustafson 1997). Systems exhibiting deterministic chaos are an important case in point. After all, the criterion of causal or functional connectedness is not so simple and may be even irrelevant in complex systems.

A more relevant, and at the same time more sophisticated, candidate to characterize processes is the concept of temporal holism, sometimes also called temporal nonlocality, which has been studied in quantum systems (Mahler 1999) and chaotic systems (Misra and Prigogine 1983, Atmanspacher 1997). This concept is in the spirit of the radical process view and goes beyond the idea of a connectedness of successive stages of a process in a decisive way. Its essence is that successive stages cannot even be distinguished (within some system-specific time interval). Such temporal holism, which Rescher does not address, might be developed to become a significant feature of and viable criterion for a truly processual world view.

If processes are considered as temporal wholes without successive stages then it becomes inadmissible to speak about causal or functional connections between such stages. This is highly relevant to understand temporal patterns (such as rhythms or melodies) as wholes rather than

sequences of stages. From a psychological point of view, the concept of temporal holism provides the possibility to conceptualise the notion of an experienced now with non-vanishing, finite duration (Pöppel 1997), which is absent in physical sciences. In the neurosciences, ideas like this are currently discussed as possible solutions for the problem of intermodal binding, i.e. the capability to merge perceptions of one and the same object in different sensory modalities.

Limited time intervals of presence, within which temporal holism persists, are a key to James' "specious present" and to Whitehead's "actual occasions". Rescher's remarks on Whitehead in this respect (PM 112) are somewhat vague and untransparent. In particular, it is unclear why Whitehead's actual occasions create difficulties for his metaphysics. The idea of discrete portions of time does not rule out neuro-cognitive mechanisms generating the impression of continuity. For instance, Pöppel (1997) proposes semantic content as a crucial connecting factor between otherwise separated lumps of now.

### **3. From Transiency to Freedom**

It is generally difficult to avoid non-processual, substance-oriented concepts to describe processes, but this can be severely misleading. Considering a process as a sequence of states is an example insofar as a state of a system is a distinctly substantive denotation. On the other hand, there is a very basic problem if one wants to go without any substantive connotations. The core of this problem is the inevitable concreteness of processual experience. Any intention to abstractly conceptualise it is in close vicinity to Whitehead's "fallacy of misplaced concreteness." In Rescher's words, "we cannot adequately describe (let alone explain) processes in terms of something non-processual any more than we can describe (or explain) spatial relation in nonspatial terms of reference" (PM 29).

In this spirit, Rescher uses genuinely processual terms such as stability (PM 108) and transiency (PM 120). James' famous chapter 9 on the "Stream of Thought" in his "Principles of Psychology" uses these and related concepts extensively. In his particular terms, James refers to stable categories as "substantive parts" of the stream of thought or "nuclei of perception" and to processes connecting stable categories as "transitive parts" or "fringes of perception." In a non-processual world view, the latter are often regarded as unavoidable by-products of the former, but neither as significant nor as desirable features in themselves.

James (1950, pp. 243-244) has some very illustrative remarks addressing this problem:

Now it is very difficult, introspectively, to see the transitive parts as what they really are. If they are but flights to a conclusion, stopping them to look at them before the conclusion is reached is really annihilating them. Whilst if we wait till the conclusion *be* reached, it so exceeds them in vigor and stability that it quite eclipses and swallows them up in its glare. Let anyone try to cut a thought across in the middle and get a look at its section, and he will see how difficult the introspective observation of the transitive acts is. [...] The results of this introspective difficulty are baleful. If to hold fast and observe the transitive parts of thought's stream be so hard, then the great blunder to which all schools are liable must be the failure to register them, and the undue emphasizing of the more substantive parts of the stream.

So what does process philosophy offer to avoid this “undue emphasizing”? Although Rescher states that “transiency eventually means loss, since the passing of anything that is positive can itself be seen to be a negativity” (PM 120), transiency is also a major and mandatory requirement for anything like emergent novelty or creative work, fundamental cornerstones of process philosophy. Not even the simplest act of understanding is conceivable without the ephemeral instant of a so-called *aha*-experience—the hallmark of insight. In terms of a stability analysis of the corresponding process, it is straightforward to identify the mental state at this instant as unstable (Atmanspacher 1992). (Remarkably, scientific approaches dealing with unstable states and transient processes have received greater attention only quite recently in the study of complex systems. These approaches are increasingly and successfully applied to describe neural and cognitive processes.)

From this perspective, instability becomes a concept which needs to be welcomed together with transiency and change. “For one must not confuse value with permanency, importance with endurance” (PM 121). Creativity is blocked and novelty is difficult under circumstances in which everything is done to stabilise against change and insure against loss. The dilemma here, of course, is a deeply innate psychological tendency to respond to instability with resistance and fear. In any case, Rescher's remarks about “Transiency and Value” belong to the most inspiring and existentially substantial passages of his book.

Could it ever be possible to re-educate human reactions to instabilities? A fascinating move would be to consider unstable states not as hazardous departures from a stable world view, but rather as states enabling liberation from immobile and inflexible categorial schemes. Creativity has a lot to do with liberation anyway. A corresponding conception of freedom is very attractive: it does not contradict any scientific determinism because the fundamental laws of nature do not apply to transient behaviour. This point is largely unexplored in the vast literature on free will as it is conceived in Western civilization. In this regard, Eastern philosophical and spiritual traditions offer a variety of alternatives which await critical discussion.

#### **4. A Person Is More than a Conscious Individual over Time**

Considering “the utility of the process approach in philosophical psychology” (PM 105), Rescher proposes to deal with personhood at the border between philosophy and psychology. Yet there is more to it, and the influence and significance of sociocultural issues for the formation and definition of personhood is as widely overlooked (or underestimated) as the role of biophysical issues is overstated in many approaches. To some extent, Rescher recognizes the importance of sociocultural factors, particularly the context of interpersonal interactions, as playing an important role in the “self-definitional activity of persons” (PM 110).

On the other hand, however, he emphasizes a processual form of dual-aspect monism with respect to the mind-brain issue—“there are not two distinct objects, the brain and the mind; there is simply one item: the complex of processes constituting the brain that has both its physical (brain physiological) and its mental (meaning-geared) dimension. Mental and physical processes are not reducible, the one to the other; they are coordinated as different aspects of one unified whole” (PM 114). Moreover, Rescher understands the mind to “form an integral component of the diversified flow of natural processes—just another part of nature's processual machinations” (PM 114). Apparently, for Rescher, the sociocultural world is an important source of self-definitional, meaning-saturated aspects of personhood that are not reducible to biophysical brain processes, yet these same meaning-saturated aspects of personhood are all part of a single natural order. How can this be?

Rescher's response to this perhaps anticipated question is to claim a “priority of mental over physical processes in the epistemic/hermeneutical order” and a “reverse priority in the ontological order, with the roots of

mind causally rooted in those of matter” (PM 115). However, this does not clarify the role of sociocultural reality in the formation of personhood, especially since Rescher also claims that personhood has its origins in the ontological order, which for him is the realm of mental/physical processes (also see p. 115). One result of these various theoretical moves is effectively to limit the influence of the sociocultural domain of reality to the shaping of a class of meanings from which individuals construct understandings of their experiences. However, when all is said and done, such meanings, understandings, and experiences have no actual ontological significance compared to the natural processes on which they depend in a more thorough-going, ontological way. In this sense, a possibly pernicious dualism that privileges physical, chemical, and biological levels, over the sociocultural level, of reality seems to persist in Rescher's ontology.

While Rescher's overall processual holism has much to recommend it with respect to the irreducibility of persons to their obvious physical, chemical, and biological requirements, his typically pragmatic naturalism inevitably erodes the ontological status of the sociocultural domain of reality with respect to its distinctive role in the constitution of personhood. His pragmatism seems ontologically unbalanced to the neglect of what might be considered real, constitutive sociocultural-psychological relations. For example, if one extends the criteria for what is real to include discernible influence in addition to some acceptable method of “observation” (e.g., Bhaskar 1989), room is created at the ontological table for both interactive and constitutive sociocultural-psychological relations. Interactive relations include processes of learning in which the social consequences of actions hold important consequences for one's sense of and beliefs about self. Constitutive relations include those linguistic practices in a particular sociocultural context that are indispensable for meanings and assumptions concerning personhood. From the perspective of theorists who have taken the sociocultural constitution of personhood seriously enough to theorise such relations in detail (e.g., Vygotsky 1986; Harré 1998) it is doubtful that Rescher's pervasive naturalism, restricting sociocultural influence to a solely epistemic or hermeneutic domain, would suffice.

## **5. Tiered Ontology and Emergent Personhood**

One possible option is to understand both the sociocultural and the biophysical as ontologically real and interacting within a tiered system of

domains of reality. Such a concept can be traced back to the 19th century philosopher Hartmann (1935). Quine (1969) and, more recently, Putnam (1987) have proposed similar approaches in terms of an ontological relativity which allows us to think about different domains of reality as “equally ontological.” This approach rejects any strong reductionist scheme of thinking in which only one (basic) domain (or level) of reality can be of ontological relevance, while all others are reducible to it. As was demonstrated for physical examples by Atmanspacher and Kronz (1998), a particular kind of emergence is a significant feature of an ontology relative to particular domains of reality. In this framework it is assumed that emergent states and properties of a system cannot be strictly derived from “lower level” states and properties. “Lower level” states and properties provide necessary but not sufficient conditions for “higher level” states and properties.

Concerning the processual emergence of persons, corresponding arguments have recently been proposed by Emmeche et al. (1997, 2000) and Martin and Sugarman (1999, 2002). They treat persons as biophysical individuals whose active immersion and participation in the sociocultural world (from birth) allows them to develop as persons equipped with self-understanding, agentic capability, and personal identities that give a psychological connectedness to their lives. Although there is much to be worked out in these models of emergent personhood, they seem to make useful distinctions between sociocultural and biophysical relations and processes with respect to the emergence of personhood in ontogenesis, without falling into substance forms of dualism. In such alternative processual systems, processes and relations of meaning at sociocultural and psychological domains of reality are not ontologically subordinated to those natural and evolving processes and relations that form their undisputed biophysical requirements. And yet, there is no mysterious mind outside of these sociocultural and natural, physical processes, and both sociocultural and psychological domains of reality are clearly embedded within, yet not reducible to, the biophysical domains of reality.

Returning to the important matter of time, many theorists of personhood have considered psychological continuity or connectedness as the central criterion of personhood. The basic idea in such Lockean approaches is the notion of “person stage,” defined as a momentary slice of time in the history of a person (e.g., Parfit 1984). A series of person stages is psychologically continuous if later psychological states of the series develop, in certain characteristic ways, from earlier states of the series. This form of psychological continuity has been held to occur across

memory, agency, reason, intentionality, self-consciousness, reflection, and experience, amongst others. Of course, the obvious critique of continuity theories of personhood is that they are overly simplified, and seem to assume the exact kind of temporal-experiential unifier they are intended to clarify—a problem that also can bedevil process perspectives such as Rescher's when applied to persons.

For many, this problem has been seen to arise because of the assumption in continuity (process) theories that the locus of personhood is intrapersonal. Alternatively, both biophysical and sociocultural extensions to the basic notion of psychological continuity have been proposed. For example, Strawson (1959) argued that persons, as basic particulars of the human world, are bearers of both physical and psychological properties. For Strawson, personal concepts like identity and self require the embodiment of a biophysical human being active in the physical and social world arrayed in time and space. Others, like Taylor (1989) and Harré (1998) have extended the sociocultural bases of personhood to include historical, cultural, and moral requirements that are to be added to the criteria of psychological continuity or connectedness and physical embodiment. For these theorists, persons are unique embodied beings, with distinctive life experiences, agentic capability, and self-understanding who may be called to moral account as responsible actors.

More recently, Martin, Sugarman, and Thompson (2003) have defined persons as embodied beings with social and personal identity, self, and agency, and provided additional definitions for the various aspects of persons thus defined that emphasize the historical, sociocultural, and moral constitution of persons. Such persons are capable of extending backward (memory) and forward (anticipation/purpose) in psychological and physical time, possessing commitments and pursuing projects that give a rich continuity to their lives. It is this kind of personhood that is truly worth having, and it is this kind of personhood that processual theorists like Rescher always should have in sight as a complex whole to which their talk about processes somehow must aspire. Most importantly, when such a view is taken, it seems to require that human history, society, and culture be granted a constitutive reality that physicalist accounts of personhood cannot sanction. Processual pragmatists, like Rescher, obviously want to have their physicalist cake and their sociocultural icing, which is good. However, the icing may need to work its way a bit more firmly into the rest of the cake.

## References

- Atmanspacher, H. (1992). "Categoreal and acategoreal representation of knowledge." *Cognitive Systems*, 3, 259-288.
- Atmanspacher, H. (1997). "Dynamical entropy in dynamical systems." In H. Atmanspacher and E. Ruhnau (Eds.). *Time, Temporality, Now* (pp. 327-346). Berlin: Springer.
- Atmanspacher, H., and Kronz, F. (1998). "Many realisms." *Acta Polytechnica Scandinavica Ma-91*, 31-43.
- Bhaskar, R. (1989). *Reclaiming reality: A critical introduction to contemporary philosophy*. London: Verso.
- Emmeche, C., Koppe, S., and Stjernfelt, F. (1997). "Explaining emergence—towards an ontology of levels." *Journal for General Philosophy of Science*, 28, 83-119.
- Emmeche, C., Koppe, S., and Stjernfelt, F. (2000). "Levels, emergence, and three versions of downward causation." In P. B. Andersen, C. Emmeche, N. O. Finnemann, and P. V. Christiansen (Eds.), *Downward Causation: Minds, Bodies, and Matter* (pp. 13-34). Aarhus, Denmark: Aarhus University Press.
- Gustafson, K. (1997). *Lectures on Computational Fluid Dynamics, Mathematical Physics, and Linear Algebra* (pp. 61-68). Singapore: World Scientific.
- Harré, R. (1998). *The Singular Self: An Introduction to the Psychology of Personhood*. Thousand Oaks, CA: Sage.
- Hartmann, N. (1935). *Zur Grundlegung der Ontologie*. Berlin: deGruyter.
- James, W. (1950). *Principles of Psychology I*, New York: Dover.
- Mahler, G. (1999). "Temporal nonlocality." In H. Atmanspacher, U. Müller-Herold, and A. Amann (Eds.). *On Quanta, Mind, and Matter* (pp. 83-101). Dordrecht: Kluwer.
- Martin, J., and Sugarman, J. (1999). *The Psychology of Human Possibility and Constraint*. Albany, NY: SUNY Press.
- Martin, J., and Sugarman, J. (2002). "Agency and soft determinism." In H. Atmanspacher and R. Bishop (Eds.). *Between Chance and Choice* (pp. 407-424). Thorverton: Imprint Academic.
- Martin, J., Sugarman, J., and Thompson, J. (2003). *Psychology and the Question of Agency*. Albany, NY: SUNY Press.
- Misra, B., and Prigogine, I. (1983). "Irreversibility and nonlocality." *Letters in Mathematical Physics* 7, 421-429.
- Parfit, D. (1984). *Reasons and Persons*. Oxford: Oxford University Press.
- Pöppel, E. (1997). "A hierarchical model of temporal perception." *Trends in Cognitive Sciences* 1, 56-61.
- Primas, H. (1992). "Time-asymmetric phenomena in biology." *Open Systems & Information Dynamics* 1, 3-34.
- Putnam, H. (1987). *The Many Faces of Realism*. LaSalle, Ill.: Open Court.
- Quine, W.V.O. (1969). "Ontological relativity." In *Ontological Relativity and Other Essays* (pp. 26-68). New York: Columbia University Press.
- Strawson, P. (1959). *Individuals*. Routledge: New York. Taylor, C. (1989). *Sources of the Self*. Cambridge, MA: Harvard University Press.

Vygotski, L. (1986). *Thought and Language*. Translated by A. Kozulin. Cambridge, MA: MIT Press.