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Attributing Creativity[*]

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Among the questions that a theory of creativity should answer, importantly, are these. What conditions are conceptually necessary for some thing to be creative? Second, when one competently applies the concept CREATIVE, what precisely is one attributing to that thing, and what cognitive and perceptual features typify that attribution or judgment? The conceptual question is one for metaphysics, but a metaphysics informed by our cultural practices. The second pair of questions are broadly epistemological. We argue that a process condition is necessary for creativity: for any thing to be creative, it must be produced in the right kind of way. This bears important consequences for creativity judgments. Even if the subject of one's creativity judgment is specifically a product —say, a painting or sculpture— this judgment, if competent, will still involve attribution of the right kind of process.

The second set of issues, then, is psychological. However, these issues are not analyzed (at least not centrally) empirically, since they are rooted in (i) what is conceptually or analytically necessary for some thing to be creative and (ii) what is involved in competently applying the concept CREATIVE. The simple argument schema that connects these two issues and our analyses thereof goes as follows.

Let x = some idea or object.

1. x's being F is conceptually necessary for x's being creative.

2. Insofar as a subject S is competently applying the concept CREATIVE:

[*] This work was thoroughly collaborative and the paper thoroughly co-authored.

- If S judges that x is creative, then S at least implicitly judges that x is F.
- Contrapositively, if S judges x is not F, then S judges that x is not creative.

Premise 1 concerns what it is for x to be creative. Most generally, the question is just: what is creativity? We won't pretend to answer the general question to any finality, but this conceptual issue is the subject of §I below. Premise 2 concerns what is involved in competent judgments of creativity, with special emphasis on instances where subjects seem to be making judgments *just of* some product. The analysis given here follows from the results of the analysis of Premise 1. We take up this issue in §II.

I. Creativity as a process concept

Creativity is attributed to a variety of things. We call *persons* 'creative', most especially in the context of the arts. We also attribute creativity to the things such persons make—their *products* —talking of ideas or artefacts as themselves being creative. Finally, we talk of creativity in terms of *processes*, saying, for example, 'that was creative', where *that* is some set of actions and/or thoughts. This is true in the arts, in science, and in everyday contexts of problem solving. It is uncontroversial that one can reasonably describe all three types of things—persons, products, processes—as being creative. What is of interest here is how we should think about the nature of creativity judgments of products. We will argue that even when one is specifically judging a *product* to be creative — even when one is not explicitly thinking about the process — one is at least implicitly assuming something about the process by which it was made.

I.1 Supplementing the "standard definition"

Consider Premise 1 in the argument just above: x's being F is conceptually necessary for x's being creative. In the empirical psychological literature on creativity, there is something of a consensus that in order for a product, x, to be creative, it must satisfy two conditions: x must be novel, and x must be valuable.[1] Consider each condition in turn. First, it should be entirely intuitive that creative products are new in some way. An important question concerns exactly what this novelty amounts to. Here an important distinction due to Margaret Boden applies (Boden 2004). Some x might be historically novel, that is, novel relative to the relevant history of ideas. But this should not exhaust theoretical interest in creativity, most certainly if part of that interest is in creative cognition and behaviour. Boden distinguishes *historical novelty* from *psychological novelty*. And so the product of one's activities—say the solution to a puzzle—may be novel with respect to one's own psychology or one's own background of ideas even if it is entirely un-new relative to the broader history of ideas. And note that there is space in between: a product could be novel relative to some comparison classes (the history of one's own ideas, the history of all ideas within a domain or a locale) but not others (the entire history of human thought, as observed by a God, say), and these differences in comparisons might imply interesting facts about the relative creativity of the product.

But as Kant (2001 [1790]) observed, there can be original nonsense, and so there must be at least one additional condition on x's being creative. The second condition that is widely agreed upon is that x is valuable. Sometimes researchers characterize this condition in

[1] Variations on the standard two-part definition can be found, for example, in Kaufman & Gregoire (2016), Stein (1953), Sternberg & Lubart (1999). Klausen (2010) offers a careful refinement of it without suggesting further conditions.

terms of how x contributes to problem solving. Most simply, x is valuable relative to some problem just in case x contributes in some non-negligible way to the solution of that problem. This problem-solving characterization of creative value is not the only one. Different researchers use different terms to specify this value condition, such as "useful," "effective," or "appropriate to the task at hand." Other (non-exclusive) candidates include, being useful in some domain or discipline, affording pleasure to some recipients of the product (e.g. an artwork gives pleasure to its audience), simplifying or otherwise improving task performance or some other practical need. The problem-solving characterization is, however, instructive. It reveals how the psychologist's definition is largely driven by experimental needs. If, for any given experimental task, the value condition is defined by explicit reference to solving a problem (or successfully performing a well-defined task), and novelty is defined by explicit reference to the subject's past performance, then the definition provided is operational. And this will be true across a remarkably wide range of experimental conditions. For this reason, we take it, many psychologists take novelty and value (perhaps qualified in different ways) to be both necessary and sufficient for x's being creative.

The reader might pause to consider this suggestion. For any x, is it plausible that so long as x is novel and valuable, then x is thereby creative? We think that the answer to this question is 'no'. What the standard, operational definition misses is any emphasis on the manner of production. It focuses on the product—how it is novel and valuable—but not on how that product is *produced*. Creativity involves *creating*, and so a definition should make this explicit. This is no less true when the subject of attribution is a product since, we suggest, a product will only be creative if it is the result or terminus of a process of the right kind. Indeed, we are not alone in this regard. Other theorists (most of them philosophers) grant that the novelty and value conditions are necessary, but deny that they are conjointly

sufficient. The third condition that these theorists broadly agree on is what we will call the *process requirement*. Premise 1 above says: x's being F is conceptually necessary for x's being creative. A range of theorists agree that a third condition is this: F = being produced in the right kind of way. Putting this all together, then, at least three conditions are necessary of any product x to be creative: it must be (a) new, (b) valuable, and (c) produced in the right kind of way.[2]

Predictably, the agreement on some such process requirement dissipates rapidly upon attempt to further identify what "the right kind of process" amounts to. Here are a range of proposals. Our emphasis will ultimately be on the sixth of these, but the reader might take this emphasis as a placeholder of sorts.

The first and second proposals are similar in spirit, and both come from psychologists. Amabile (1996) argues that the right kind of process for creative production must be (c1) heuristic rather than algorithmic, in the sense that it lacks "a clear and readily identifiable path to solution," and it "might or might or not have a clearly identifiable goal" (p. 35).

Second, Campbell (1960; 1965) and Simonton (1999; 2009; 2012a; 2014) argue that the right kind of process is (c2) blind rather than sighted. The notion of 'blind' here roughly approximates the evolutionary notion of blind-variation. According to this theory (standardly referred to as 'BVSR' for Blind-Variation and Selective-Retention), the creative process must involve some random variation or manipulation of possibilities in a domain. This blindness admits of degree, ranging from random guesswork to heuristically guided search (see

[2] Notice, then, that we make no commitment on the joint sufficiency of novelty, value, and the process requirement. And there are other additional candidate conditions in the literature (Boden 2004; Nanay 2014; Novitz 1999; Simonton 2012b; Stokes 2011). Here we will only argue that novelty and value are insufficient, and that the third process condition is necessary.

Simonton 2001). What unifies both type of theory is that the candidate for the right kind of process for creativity is neither linear nor rule-bound.

Kronfeldner (2009; this volume) offers a third candidate that is similar in part. She also maintains that the right kind of process for creativity cannot follow a routine or mechanical procedure. Instead, it must be (c3) *spontaneous*, meaning that it must exhibit some degree of independence from intentional control and previously acquired knowledge. This is partly meant to capture the way in which creative products are unexpected for the agent: they somehow transcend the agent's previous knowledge and intentions.

In addition, Kronfeldner also argues for a fourth condition, namely that (c4) the process cannot simply be a matter of copying an existing product or imitating someone else's method of production.

A fifth proposal can be extracted from the rich work of Boden (2004; 2014; this volume). As already noted above, Boden distinguishes historical from psychological novelty. She also distinguishes different kinds of surprise that, in turn, typify different types of creativity. What's crucial is that for some x to be creative, x must be (c5) produced in such a way that makes x surprising. There are then different ways, different processes, that engender surprise. Boden generally thinks of creativity in terms of conceptual (indeed, often computational) structure and the kinds of ideas that can be generated from within that structure, given its inherent constraints. From within a conceptual space, one might combine old ideas in new ways (*combinational creativity*) or identify new ideas or structures or limits of the constraints that inhere in the relevant conceptual space (*exploratory creativity*). Most radically, Boden suggests that we are most surprised when the constraints that inhere in a conceptual space are changed in some substantive way: a constraint is negated or a new one added. In this case, the subject goes through a process of genuinely transforming a

conceptual space. As Boden is fond of putting this point, the subject here does something that is "downright impossible" or at least "impossible at first acquaintance" (Boden 2014: 228). This third type of surprise typifies *transformational creativity*. Notice that in spite of their differences, all three of Boden's types of creativity, typed by a kind of surprise, make important appeal to distinctive processes.

The sixth proposal (c6) is the one we favour, and will explore in more detail. This proposal combines various features of the proposals just discussed, while making one feature central: *agency*. Put most simply, the proposal says that the right kind of process for creative production is one that involves, in some non-trivial way, the agency of the creator. Gaut (2003; 2010; this volume) offers one articulation of such a proposal, as he maintains that the creative process involves "flair," which is shorthand for a number of agential features. The agent must proceed with purpose (accidental processes will not result in creativity); she must possess and execute genuine understanding of the domain (by contrast to a rote or mechanical use of the information in that domain); she must execute judgment sensitive to the domain, for example if the application of rules or constraints is appropriate; and she must employ a capacity for evaluating the process as she undergoes it, knowing when to continue, change, or stop the process altogether. What's crucial to note is how agency plays a non-trivial part in each of these four features of flair. A sparser but compatible proposal says that creativity always involves intentional action (where mental acts are included). Thus, some x is creative only if x is the non-accidental result of agency (Stokes 2011; 2014; see also Kieran 2014).

Both versions of (c6) make agency essential to creative process. The right kind of process for creativity is one that extends from agency. A simple motivation for this way of characterizing the process requirement, and perhaps some of the others mentioned above, is

that creativity is a praise concept. We praise individuals when they have been creative or produced creativity. And praise is not appropriately given to subjects who lack responsibility for their actions.

In what follows, we will typically have (c6) in mind as the best candidate for the process requirement. And we will attempt to remain non-committal between the two versions mentioned: the right kind of process is one involving flair or is one that is the non-accidental result of agency (indeed the first might just be a fuller account of the second). As should already be clear, the operative terms here are 'flair' and 'agency', and both, when unpacked, are intended to characterize what, in addition to novelty and value, is needed for some x to be creative. Our non-commitment to details here is deliberate but not a hedge: it will turn out that commitment to some process requirement involving agency is sufficient to motivate the various epistemological implications that we aim to draw. Nonetheless, additional details will be further revealed as we work through, first, how one should think about processes in this theoretical context and, second, what kinds of arguments can be given for the process requirement on the concept of creativity.

I.2 On processes

The process requirement enjoys some motivation just from consideration of the metaphysics of processes. Processes persist through time, and are sequenced in stages. They thus have both spatial and temporal parts. (Or, if one prefers, they may be differentiated or indexed both spatially and temporally.) Processes can be (partly) characterized in terms of different types of events. *Accomplishments*, as contrasted with *activities*, culminate in a terminus which justifies predication of the accomplishment term. We do not say that 'S has baked a cake' until the cake is baked. We may, however, predicate the corresponding activity term:

we may say that 'S is baking a cake' at any point during the activity, even prior to the cake's being finished. Accomplishments are, by contrast with activities, non-homogeneous: accomplishment terms do not appropriately apply to any sub-part of the whole event. Zeno Vendler offers the following example.

> If it is true that someone has been running for half an hour, then it must be true that he has been running for every period within that half-hour. But even if it is true that a runner has run a mile in four minutes, it cannot be true that he has run a mile in any period which is a real part of that time, although it remains true that he was running, or that he was engaged in running a mile during any substretch of those four minutes… (Vendler 1957: 145-6).[3]

Running, then, is an homogeneous, non-culminating activity. To have run a mile, by contrast, is a non-homogeneous, culminating accomplishment; it is not until the mile mark is reached that the "climax casts its shadow backwards, giving a new color to all that went before" (Vendler 1957: 146).[4]

Processes are often understood as functional operations. This is, for example, how Alvin Goldman means 'process' in his famous account of epistemic reliabilism. Processes generate a "*mapping* from certain states—'inputs'—into other states—'outputs'" (Goldman 1979/2000: 346). The reliable epistemic processes are just those that generate true beliefs at some requisite frequency. There is an important complication here for Goldman. Goldman thinks of processes as types, since only types have statistical properties. However, only tokens can be causes. The pinch is that he wants reliable process types, but the beliefs must be *caused* in a reliable way. His fix is to say that the inputs to the process and the intermediate events "through which" that input is carried (to output) are the cause of belief, and if that set

[3] See also Ryle 1949 and Casati and Varzi 2006. For extended discussion of a metaphysics of creative process, see Stokes 2008.

[4] More carefully, 'running' is a term for an homogeneous, non-culminating activity; 'to run a mile' is a term for a non-homogeneous, culminating accomplishment. The former activity term does not appropriately apply to the latter accomplishment; the latter accomplishment term does not appropriately apply to the former activity.

of events causes a token of a process type that tends to result in true belief, that belief is epistemically justified. Since the present analysis of process need make no appeal to reliability or statistical frequency, it avoids this pinch. But its solution is instructive, since it reveals that processes may be thought of as particulars *or* as types. When attributing creativity to a work or artist, we are interested in the *particular* processes that take a variety of inputs to some output.[5]

So processes process: taking input to output; they thus require a terminus. They are in this way well characterized by accomplishment terms. However, with respect to homogeneity, processes are naturally describable in both accomplishment and activity terms. Building a tree fort is a process. On the one hand, we cannot say of any part of the process that 'S has built a tree fort'; we say this only at the time of accomplishment or output, when we have a tree fort. On the other hand, we can say of any part of the process that 'S is building a tree fort.' Prior to the output, S is engaged in the activity of tree fort building. In a process like tree fort building, the accomplishment is important to the activity. Planning structural details, gathering and binding materials, selecting tools, and so on, constitute building a tree fort only if a tree fort is the targeted (and actual) outcome. Otherwise, they are just an odd collection of activities. So processes, though illuminated by both activity and accomplishment categories, fall exclusively into neither category.

Whether processes should be categorized as events—of either the accomplishment or activity type—is unclear. What is clear is that the features of processes identified in the above analysis comport well with our conceptual practices regarding creativity. They accordingly provide some motivation for the process requirement. When we think about and

[5] This is perhaps worthy of further emphasis: the commitment to creative process qua particular implies no commitment to a claim that there is a single or unified type of creative process.

attribute creativity, there is typically some process identified (with greater or lesser clarity) that perdures across time, and consists of various stages. For any one stage, it is situated between previous stages and stages following. The process is constituted not just by these stages, but how they are organized. Thus each stage contextualizes the others. A creative process proceeds towards a terminus, namely, creation of the product (be it an artwork or some other artefact, say a scientific theorem). The end thus "casts its shadow backwards" onto the generative process. By the same token, it is the process that enables the work, and the process that we appreciate when attributing creativity to that work. Or so this is what we will now argue, emphasizing how this process constitutively involves agency.

I.3 Arguments for the process requirement

Here are three arguments for a process requirement on creativity. Again, our emphasis is on (c6), where agency plays some constitutive role in the relevant process. But as the reader can determine for herself, some of these arguments might serve equally well for other versions of the process requirement. In this way, our emphasis on (c6) might be taken as a kind of placeholder, where the reader can substitute some other option amongst (c1)-(c5) (or others) for that place, according to one's interests and theoretical commitments. We should also note that none of these arguments is independently conclusive. But taken together, we conclude that there is a strong case for a process requirement.

An argument from justificatory practice

Consider our practices in contexts of appreciation of art. Pointing to one of Pollock's action paintings, *White Light*, Maggie says to Phil, "That's creative." Eyebrow raised, Phil replies, "Really, how so?" Phil has now solicited a justification of Maggie's attribution of

creativity. In her response, Maggie might begin by invoking features of the work, mentioning the novelty of such features relative to the history of painting. It is much more likely, however, that Maggie's justification will invoke features of Pollock's generative process. She may describe how Pollock would drip, throw and splash paint onto a giant canvass, spread on the floor so he could stand on it, dance across it, "be in it"; or his use of sticks, palette knives and trowels to apply and manipulate paint. She might also suggest features of Pollock's thought process: he is often quoted as desiring the work to serve as an expression of the artist's gestures and techniques. He purported to go into a kind of trance when painting, obliviously leaving handprints, footprints, and cigarette butts in his wake. Or Maggie may mention the historical context, citing the obvious influences of, but departures from, cubism and surrealism. Although a rather heady answer to a simple question, it, or something relevantly like it, is the kind of answer one appropriately gives in justifying an attribution of creativity.

The Pollock example is instructive in a number of ways (some of which we will not tease out until §II below). As justificatory practices go, Maggie's justification to Phil suggests that her *reasons for* judging *White Light* to be creative, and thus explicitly attributing 'creative' to that work, (partly) concern features of Pollock's process of producing the work. In the example as described, Maggie invokes features of Pollock's bodily and painterly technique, his goals and mental awareness, and a longer reaching causal connection to previous genres of visual artwork. She judges *White Light* creative because it was produced through this multifarious process. (And of course it should be noted here that this process, and its culminating accomplishment, enjoys both novelty and value. Our emphasis here, to be clear, is on the process condition rather than the novelty or value conditions.) There is nothing particularly special about this instance of justifying a creativity attribution. One would tell a

similar story in justifying an attribution of creativity to all manner of artists and works: to Monet's impressionist works, Duchamp's readymades, Cummings' use (or misuse) of grammar and punctuation in his poetry, Coltrane's modal jazz compositions, and so on. Likewise for scientific innovation and problem solving. Making sense of the creativity in these products involves understanding the generative processes from which they resulted. Generally, one appropriately justifies—provides reasons for—one's judgment that x is creative, by invoking known or believed facts about the process that generated x.

Note further how this example reveals the importance of agency as constitutive of the creative process. Put most sparsely, Pollock's creative process involved a web of intentional actions. If Maggie's justification accurately reports (to at least some degree) Pollock's production of *White Light*, then that production is clearly the non-accidental result of Pollock's agency. And one could go further and describe the situation in terms of Gaut's notion of flair. Pollock proceeded with purpose (one explicit purpose was to express, through the painting, part of the very artistic process itself, as Pollock understood it). He clearly exhibited a genuine understanding of his domain, and executed judgments sensitive to his goals of abstract expression. And as anyone who has viewed photographs of Pollock at work could attest—his eyes squinting at the painting at his feet, brow furrowed, cigarette crooked carelessly from the corner of his mouth—he regularly employed his abilities of evaluation while painting.

Thus, x's being produced in the right kind of way—where the right kind of way constitutively involves agency—is necessary for x's being creative. This conclusion could be put as one about concepts or ontology. Our concept of creativity is such that the process requirement constrains appropriate use of that concept; the second is a conceptually necessary condition for the first. Or (equivalently or not, depending upon one's views about

the relation between language/concepts and metaphysics), the conclusion could be put ontologically. Creativity *is* most fundamentally, or is most fundamentally a feature of, a process. Strictly speaking, there is no single object in space-time that is the locus of creativity (assuming processes are events, or at least something more like events than objects).[6] We revisit this argument and its epistemological implications in §II below.

An argument from linguistic practice

According to Vendler's colourful description of accomplishment terms, the terminating product "casts its shadow backwards" onto the generative process. And indeed, it is most standardly through the accomplishment—the product—that we come to appreciate the process that generated it. This is as true for creative accomplishments as non-creative ones. However, when the product is one we judge to be creative, this judgment is made in a way that is sensitive to the process that generated the product. Accordingly, it is the process that we appreciate when attributing creativity to that work. Here is an argument to this conclusion that appeals to our talk about creativity.

Imagine I say the following to you:

(1) That sunset is creative.

You might execute a bit of charity but would, generally, take me to have spoken nonsense. Sunsets, like mountainscapes, the seaside, or a partially eclipsed moon, are beautiful or breathtaking, but not creative.[7] Resisting attribution of creativity to these events is appropriate not because there is no causal process that terminates in the naturally

[6] See Stokes 2008 for a defense of a variant of this view.
[7] Though some claim otherwise. See Arnheim 2001, who asserts that the arrangement of a tree's branches is creative.

occurring event, but because that process does not involve agency in any relevant way. This second case makes this observation perspicuous.

(2) *Guernica* is creative, but no one is responsible for it.

An utterer of (2) could rightly be charged with misunderstanding the concept of 'creativity.' Creative objects or events are things we praise. And we only praise artefacts that depend non-trivially on intentional agency. If *Geurnica* were more like a sunset in this regard, then the second conjunct in (2) would be apt, but the first conjunct would not. And as a matter of actual fact, when we praise *Guernica* as creative, this attribution importantly depends on the responsible agent (Picasso) and his performance. This point is not special to artworks. The following is problematic for the same reason.

(3) Einstein's Special Theory of Relativity is creative, but Einstein cannot be credited for it.

Barring suspicion of intellectual property theft, a statement like (3) is conceptually problematic. The first conjunct implies that the theory resulted from some process for which Einstein is, to some sufficient degree, responsible; thus it implies that Einstein is responsible for the theory. The second conjunct implies that Einstein, since he cannot be credited for the theory, is not responsible for the theory. Thus the first conjunct cannot, without contradiction, be conjoined with the second.

We draw no strong metaphysical conclusion from these linguistic tests. However, these cases do provide additional motivation for the process requirement. At least as far as it goes, linguistic practice suggests a constraint on proper attribution of 'creative'. We do not properly make these attributions in cases where there is no identifiable process that involves or depends non-trivially on the intentional actions of an agent. This provides some further

reason to think that x's being produced in a way constitutively involving agency is conceptually necessary for x's being creative.

A modal argument

The arguments from justificatory practice and linguistic practice both appeal to features of our practices of appreciation in the actual world: what people would typically say to justify a creativity judgment, and how people ordinarily speak about creativity. Here is a brief attempt to motivate a broader reaching conclusion about a process requirement.

Imagine a possible world very much like our own. In this world, there are non-biological objects of beauty, tools and devices that simplify life, and agreed upon methods that optimize task-performance. So, in one sense, inhabitants of this world enjoy analogues to our artworks, scientific technologies, and problem solutions. Here is the twist: in this world, all such objects spontaneously appear, all-at-once and in an instant, as and when needed. The world is, in an important sense, preformatted with the kind of optimization and enhancement that took 1000s of years to evolve in the actual world. These analogues to our artworks and technologies can still be appreciated for various kinds of aesthetic value and practical utility, but they are not identified by the inhabitants of this world as resulting from any kind of process. They are just part of the way people find the world, as it were. Call this no-process world, W_{np}.

Consider a second possible world. This world is just like W_{np} except that any time the analogues to our artworks, technologies, and problem solutions occur, they *do* occur by virtue of some generative process. So this world isn't preformatted for optimization as W_{np} is: artworks and technologies must be produced as and when they are relevant or needed. But what distinguishes this world from the actual world is that the processes that generate

these analogues do not involve or depend on agency in any way. So production of the analogues to our artworks, tools, technologies for making life more efficient or safe, is all done automatically, and without intention. By contrast to W_{np}, this world comes with inhabitants that are preformatted, or hardwired, for optimization. What we produce by labour and failure and deliberation, they produce by their very instinctive natures. They produce as easily as we breathe. Call this no-agential process world W_{nap}.

As is often the case with these kinds of modal thought experiments, it is a challenging task to fill out the details of the possible worlds in ways that are consistent and coherent. But the cautious lesson we want to draw—insofar as both W_{np} and W_{nap} are consistently and coherently imaginable—is that both worlds would be devoid of creativity. Both worlds would be rather similar to ours in terms of the objects used, the bodily behaviours performed (though this would differ dramatically between W_{np} and W_{nap}), and how the value and utility of such things are appreciated. But neither world would enjoy a shred of creativity. The stepwise presentational move from W_{np} to W_{nap} makes clear what is important. W_{np} is in some sense less rich than W_{nap} since only the latter involves some production process that results in the products that are analogous to our artworks, technologies, and innovations. But W_{nap} nonetheless fails to instantiate any creativity by virtue of the fact that the inhabitants of that world, and the producers of the relevant products, behave entirely instinctively (without intention) when producing. There is no intentional agency determinative of the process that results in the relevant products. Consequently, just like W_{np}, there is no creativity in W_{nap}.

The general (but still cautious lesson) is that the process requirement is no mere contingent matter. There is no possible world that lacks processes of production, partly constituted by intentional agency, that also involves creativity. Again this can be put as a

conceptual or ontological claim. Whatever other concepts we might properly apply, our concept of creativity simply doesn't apply to the relevant analogues in W_{np} or W_{nap}. Being produced in the right kind of way—minimally, non-trivially depending on intentional agency—is conceptually necessary for some x to be creative. Ontologically, creativity *is* fundamentally (or fundamentally a feature of) a process, and that process must involve in some deep way, agency. Possible worlds that lack agents capable of intentionally undergoing processes of the right kind are worlds where no creativity occurs.

Brief summary

The most general suggestion made in this section is that the definition of creativity standard in the psychological literature must be supplemented. In the simple argument offered at the start of our discussion, Premise 1 says: x's being F is conceptually necessary for x's being creative. The standard definition says that novelty and value both hold the place of F (this premise is effectively a schema to be filled out as many times as is needed to suffice for a complete definition of creativity). We, like a number of theorists, have suggested that novelty and value are insufficient; there is an additional process requirement on creativity. x's being produced in the right kind of way is conceptually necessary for x's being creative. The right kind of way, we have argued, non-trivially involves intentional agency. Processes that result in creativity must constitutively involve intentional agency. This has been put as a conceptual claim, but it might also (perhaps equivalently) be put as an ontological claim (about what creativity *is*).

II. Epistemology

The psychological question of central interest is what is involved in, or what is the structure of, competent judgments about creativity. §I was spent motivating a conceptual process requirement for creativity. Although we take our arguments to this conclusion to be novel, the conclusion itself is not. Others have argued for a process requirement of some kind. And so it will be no surprise, at least to those theorists, that creativity judgments often involve judgment that an agent has undergone a process of the right kind (where theorists can fill out 'of the right kind' as their theories dictate). However, there are two ways in which the analysis just given has significant implications (the second one perhaps most surprising, and accordingly the central subject matter for this concluding section).

First, it is worth noting that one can, and some do, defend a pure product view of creativity. As an intuitive matter, art appreciators spend more time at galleries enjoying creative artworks than they do on the art-history of creative processes of artists. We talk about creative breakthroughs and theories in science, perhaps more than the research activities that generate them. These intuitions comport with a formidable view in analytic aesthetics, namely, the *anti-intentionalism* defended foremost by Monroe Beardsley. Although more standardly taken as a theory about aesthetic value, Beardsley extends his anti-intentionalism to creativity as well. He writes, "The true locus of creativity is not the genetic process prior to the work but the work itself as it lives in the experience of the beholder" (Beardsley 1965: 302). Beardsley's view is motivated by an independent anti-intentionalist argument. That argument has been recounted and criticized elsewhere (Stokes 2008). What our analysis provides is an independent set of arguments that push against the pure product view. At least sometimes, the "locus" of creativity is the very "genetic process" that Beardsley denies.

The second and perhaps more surprising implication of our process view is this: even when one is judging a product to be creative (for instance, one is pointing to and saying of an artwork or a bit of technology that *that* is creative), one is at least implicitly identifying the agency-involving process that generated that product. This conclusion will require more work to motivate.

To begin, recall the simple argument schema with which we began our discussion.

> Let x = some idea or object.
>
> 1. x's being F is conceptually necessary for x's being creative.
> 2. Insofar as a subject S is competently applying the concept CREATIVE: If S judges that x is creative, then S at least implicitly judges that x is F.

Section I was spent motivating the claim that novelty and value do not suffice. A third condition needed is broadly this: F = being produced in the right kind of way. And being produced in the right kind of way, we argued, is a generative process that non-trivially involves agency. Gaut's notion of flair nicely captures the way in which a process might non-trivially involve agency. If Premise 2 follows from Premise 1, then we can infer the following. Insofar as a subject S is competently applying the concept CREATIVE: If S judges x is creative, then S at least implicitly judges that x was produced in the right kind of way, as the result of a generative process that non-trivially involves agency. This is a conclusion about the implicit structure, or implicit content, of a subject's creativity judgment. And what's crucial to note is that it follows no less if x is a product: an artwork, a theory, a piece of technology. Any such judgment, if made properly or accurately, implies a commitment to the product's resulting from a process partly constituted by intentional agency. Put perhaps too

crudely, judging a product creative is to judge a process creative. Revisiting some of the considerations and arguments from §I will further motivate this psychological claim.

Consider the argument from justificatory practices. Maggie judged of a product, *White Light*, that it is creative. This judgment was queried for justification. Maggie's justification to Phil betrays the nature of the knowledge required for identifying creativity as such. Maggie's attribution of creativity—as a verbal report of her judgment—was to an object. But in justifying that attribution, Maggie invoked features of Pollock's creative process: his physical actions, tools and techniques used, habits, intentions, desires, and so on. The process requirement implies that this was necessary for competent use of the concept CREATIVITY. Without this contextual knowledge, Maggie could not properly judge, could not identify, the creativity of *White Light*.

To be sure, this is not to imply that to judge creativity is to know or understand processes as such. One needn't be a metaphysician to competently use the concept of creativity. Nonetheless, the background knowledge needed will accord with the features of processes as described above. Although one may not organize and situate all the components of an identified process, one identifies (in identifying a process) some of the components and their relations. This is what Maggie has done. In her justification, she has not in any robust way, organized the invoked features of Pollock's creative process. But each of those features are components: spatio-temporal parts that make up the stages or web of Pollock's creative activity, and proceed towards the terminus, *White Light*. So, even if Maggie's initial creativity judgment—her conscious thought—explicitly concerned a product, she was nonetheless implicitly drawing upon background assumptions about a process. This follows from the conceptual process requirement on CREATIVITY, and it surfaces in circumstances where one is explicitly challenged to provide reasons for one's creativity

judgment. Put in an ontological mode, creativity is (or is partly constituted by) a process. Therefore, any accurate judgment that x is creative at least partly involves attribution of a process. And, we have argued, the right kind of process is one that constitutively involves agency.

This has further implications for how we talk about, perceive, and ultimately know creativity. As noted several times now, we often talk of products as being creative. We employ an attribution of the form:

(4) o is creative.

If our analysis is correct, and there is a process requirement on the concept of creativity, then (4) is elliptical for an attribution of the form:

(5) o was the result of some creative process p.

The surface grammar of (4) is thus superficial and potentially misleading. What one means when uttering (4), if one is using the term correctly, is something very much like (5). And moreover, the right kind of process will be one involving agency in a non-trivial way. Put in Gaut's terms of flair, an utterance of the form (4) packs in a great deal of information about an agent's acting purposefully, with understanding, executing judgment and making evaluations, ultimately culminating in the product, o.

Conclusion

We've noted that three kinds of things may be creative: persons, processes, and products. The standard definition of creativity, used nearly by consensus in psychological research, focuses specifically on products and says that a product is creative if and only if it is new and valuable. We've argued that at least one further condition is necessary for a product to be creative: it must have been produced by the right kind of process. We've argued

furthermore that this point has an interesting epistemological implication: when you judge a product to be creative—when you attribute creativity—you are not just judging it to be new and valuable. Even if you did not witness how it was produced, you are also making a judgement about how it was produced.

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