

# What is Creativity?

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**Abstract:** I argue for an account of creativity that unifies creative achievements in the arts, sciences, and other domains and identifies its characteristic value. This account draws upon case studies of creative work in both the arts and sciences to identify creativity as a kind of successful exploration. I argue that if creativity is properly understood in this way, then it is fundamentally a property of processes, something only agents can achieve, something that comes in degrees, subjectively novel, and non-formulaic. As I develop the account, I show how it avoids challenges faced by other accounts of creativity, especially concerning creativity's value. Hills and Bird (2018, 2019) have together argued that creativity is not necessarily valuable. My account challenges this view. If I am right that creativity is a kind of successful exploration, then creativity does have a characteristic value, specifically epistemic value.

**Keywords:** Creativity, Epistemic Value, Aesthetics, Exploration, Novelty

## Introduction<sup>1</sup>

There is much ado about creativity. Researchers and educators worry that students at all levels are becoming less creative.<sup>2</sup> Some have gone so far as to declare that we are approaching a 'creativity crisis'.<sup>3</sup> Professors in the sciences are developing pedagogical strategies to help students become more creative because they worry that students aren't coming up with diverse and divergent solutions as regularly as they should be.<sup>4</sup> The recent development of powerful artificial intelligence models has sparked concern that human

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<sup>2</sup> Christakis (2019), Easter (2021), and Matthews (2016).

<sup>3</sup> Bronson and Merryman (2010), Florida (2004), Kim (2011, 2016), Ness (2014), Richardson (2011), and Weale (2021).

<sup>4</sup> Clark (2015).

creativity is under threat.<sup>5</sup> However, despite all this interest and concern, an adequate account of creativity has proven elusive.

Given popular conceptions of ‘creative types’, it’s natural to associate creativity primarily with the arts. But creativity is also an indispensable part of science and mathematics.<sup>6</sup> For example, Newton’s creation of the calculus, Pauli’s creative hypothesis of the neutrino, and Pavlov’s creative experiments on classical conditioning are all routinely praised for their creativity. This is to say nothing of the creativity required to design experiments or scientific equipment. In this paper, I provide an account of creativity that makes sense of why artists and scientists alike find it so important.

In §1, I consider some intuitively plausible features of creativity. I specifically focus on a condition that nearly everyone agrees is a feature of creativity: novelty. I argue that the kind of novelty that is necessary for creativity is *subjective novelty*. In §2, I address a question on which there is considerable disagreement in the literature: What, in the first instance, is creativity a property of? I argue that creativity is fundamentally a property of processes. When something else, such as a person or an object, is creative, its creativity is explained by the creativity of some process or processes. In §3, I ask whether creativity is always valuable. In doing so, I critically examine two arguments – one for the conclusion that creativity does not have a characteristic value (Hills and Bird 2018, 2019) and one for the conclusion that it does (Gaut, 2018). In §4, I present and defend my own account of creativity. The basic idea of my account is that creativity is a kind of exploration. My account entails that creativity does have a characteristic value, specifically epistemic value.

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<sup>5</sup> Brainard (2023), Thompson (2022), and Uzzi (2023).

<sup>6</sup> See, for example, Ivanova and French (2020) on creativity and aesthetic value in the sciences, and Ivanova and Murphy (2023) on creativity and aesthetic value in scientific experimentation.

## 1. Preliminaries

I'll begin my investigation by mentioning some intuitively plausible features of creativity. An adequate account of creativity should explain either why creativity has these features or why it falsely appears to have them.

First, creativity is intentional rather than accidental.<sup>7</sup> To borrow an example from Gaut (2018: 129), an oyster can produce something new and beautiful — a pearl — but that's not creativity. However, if a jeweler designed a unique brooch with a setting for the pearl, that *would* be an instance of creativity. So, there must be an element of deliberateness to creative achievements.

Second, creativity comes in degrees. The average top-40 pop song may be at least somewhat creative, but likely not as creative as John Coltrane's *Giant Steps*. Not all creative achievements are equal in their creativity.

Third, creativity is valuable, at least some of the time. Praise abounds for the creativity of various scientific advances such as Marie Curie's breakthrough ideas about radioactivity.<sup>8</sup> Parents often cite creativity as a trait they'd love for their children to cultivate. And myriad self-help books with titles like 'Creative Confidence: Unleashing the Creative Potential Within Us All' have been written for adults.<sup>9</sup> Whether creativity is *necessarily* valuable is a matter of some dispute, as I will discuss in section 3.

Fourth, creativity requires novelty. A baker who makes the same cake in the same manner day after day is not exercising creativity, whereas a baker who develops new confections by experimenting with new ingredients and new techniques each day does seem to be exercising creativity. Before diving into extant accounts of creativity, it will be

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<sup>7</sup> See Carruthers (2006), Kieran (2014) Paul and Stokes (2018), and Stokes (2008, 2011, 2014).

<sup>8</sup> See for instance Harvard (2016).

<sup>9</sup> Kelley and Kelley (2013).

important to clarify this fourth condition. I will return to the rest of these features in developing my own account in section 4.

The view that creativity requires novelty is very popular.<sup>10,11</sup> However, the philosophers and psychologists who defend this view don't always specify the sense of novelty they have in mind. While a broad characterization of the other intuitively plausible features of creativity mentioned above will do for now, the relevant sense of novelty requires immediate specification.

Boden (2004: 43-44) helpfully draws a distinction between two notions of creativity that track two senses in which something can be new. She calls them 'psychological creativity' and 'historical creativity.' An idea is psychologically creative only if it is new to the individual mind having the idea. The person who has a psychologically creative idea will have never entertained that idea before.<sup>12</sup> An idea is historically creative, on the other hand, only if no one has ever had it before in the whole history of the world. Boden argues that while historical creativity is perhaps more glamorous, the notion of psychological creativity is a better starting point for developing a general account of creativity.

Boden's distinction separates what she takes to be two different kinds of creativity. However, it will be useful for my purposes to distinguish the two senses of novelty at issue, without committing to Boden's claim that each underwrites its own kind of creativity. Let's call the sense of novelty at issue when an individual subject has an idea that they have never had before *subjective novelty*. I call this sense of novelty 'subjective' because

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<sup>10</sup> Authors who argue that creativity requires novelty include Beardsley (1965), Boden (2004, 2010), Hills and Bird (2019), Gaut (2018), Kronfeldner (2009, 2018), and Stokes (2008, 2011, 2014).

<sup>11</sup> One exception is Chung's (2021, 2022) *Zhuangzist* conception.

<sup>12</sup> Nanay (2018) argues for a related condition.

the idea is novel relative to the mind of an individual subject. Notably, the idea need not *seem* novel to the subject for it to count as subjectively novel in this sense. By contrast, let's call the sense of novelty at issue when an idea is new in the whole history of the world *objective novelty*.

There are at least two reasons to think that the kind of novelty that is necessary for creativity is subjective novelty. First, we are often confident in our attributions of creativity. We think that, at least some of the time, we know it when we see it. This confidence often outstrips our knowledge of whether some idea or product enjoys the status of being objectively novel. Second, there are clear cases of creativity that lack objective novelty.<sup>13</sup> Consider a child who is becoming familiar with the kind of simple jokes one finds on popsicle sticks. The child may try their hand at creating their own jokes, and perhaps they come up with 'Why did the baseball player go to jail? He stole second base.' This joke is not objectively novel (versions of it have long appeared under bottle caps and inside candy wrappers), but if the child came up with the joke on their own, it is nevertheless a creative act. The pun was novel to the child, so it meets the condition of subjective novelty. So, we have our first necessary condition for creativity: something is creative only if it is subjectively novel.

## **2. Persons, Products, or Processes?**

We ascribe creativity to many things. There are creative people, creative ideas, creative artifacts, creative hypotheses, and creative projects, among many others. But what it is to be a creative person is not the same as what it is to be a creative product or

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<sup>13</sup> Audi (2018: 26) suggests another reason to exclude objective novelty as a requirement for creativity: It's possible for two separate creative acts to result in identical products.

process, though they are clearly related. To give an adequate account of creativity, we need to determine which of these should be our starting point. To do that, we must get clear on which bearer of creativity is explanatorily basic. Philosophers have taken different approaches here. Some have focused on creativity as most basically a property of products.<sup>14</sup> Others have defined creativity as a trait of individual persons.<sup>15</sup> Still others have foregone developing a unified account of creativity in order to provide distinct accounts of the creativity of persons, processes, and products.<sup>16</sup>

In this section, I will argue that the creativity of processes is explanatorily prior to the creativity of both persons and products.<sup>17</sup> That is, the creativity of products and persons can be explained in terms of the creativity of processes. But it is much less straightforward, and perhaps impossible, to adequately explain the creativity of processes in terms of either creative people or creative products.

Let's begin by considering the creativity of products. By 'products' here, I mean to include anything that can be creatively produced. This includes a broad range of things like paintings, musical compositions, theories, designs, experiments, memoirs, dance routines, recipes, football plays, magic tricks, and TikTok videos. How do you know that one of these products is creative? The natural response is to think about how it came to be. Take a painting, for example. Imagine you encounter a brightly colored abstract painting. Without any information about how the painting came to be, it would be difficult to know for sure whether that painting is a creative product. Why? Well, it's possible that the painting is a stroke-for-stroke reproduction of another painting. In such a case, we'd

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<sup>14</sup> Carroll (2003) and Halper (1989).

<sup>15</sup> Hills and Bird (2019), and Gaut (2018).

<sup>16</sup> D'Agostino (1986) and Jarvie (1981).

<sup>17</sup> For a related argument, see Paul and Stokes (2018).

likely conclude that the original (assuming it was not itself a copy) was creative whereas the copy was not creative.

Take another case. Imagine that you encounter a canvas beautifully strewn with splashes and swirls of paint. If you learned that this was a painting intentionally produced by Jackson Pollock, you may consider it to be a creative product. But if you learned that this was a drop cloth left on the floor after a muralist completed her work, you'd likely not consider it to be creative. In both examples, what determines whether the painting is creative is the process by which it was produced. A creative artistic process leads to a creative product whereas a purely derivative or accidental process leads to an uncreative product. Thus, because the creativity of these products is explained by the creativity of the processes that gave rise to them, we can conclude that creativity is not fundamentally a property of products.

Another possible starting point for a definition of creativity is creativity as a property of persons. Hills and Bird (2019) take this approach. They define creativity most fundamentally as a disposition or set of dispositions to have many and varied novel ideas that are generated through the use of the imagination and to be motivated to follow through on these ideas. They explain their choice of starting point thus:

One does also call acts, processes, and products 'creative.' In our view these are the manifestations of the trait of creativity. An object may be novel and even valuable, but if it was not produced by a person's creativity (e.g. in our view, was not the product of their imagination), but was the result of a mere accident, then it is not a creative product. (694)

This starting point nicely avoids the problem of categorizing accidents as creative. However, I will argue that the creativity of persons is not explanatorily prior to the creativity of processes. There can be recognizably creative achievements that nevertheless

do not come from persons with the set of dispositions identified by Hills and Bird (or indeed, any stable set of dispositions that could be identified as ‘the of trait creativity’).

People who are not generally disposed to produce creative work can still occasionally achieve something creative. One-off creative achievements are possible, as are rare moments of creativity in a typically uncreative person. In these cases, we can recognise that something creative has happened even though the person lacks the trait Hills and Bird describe.

Imagine a teenager, Ted, who spends his free time passively consuming TikTok videos. He has no creative hobbies. Eyes glazed over, he passes his hours swiping up for the next fleeting moment of amusement (and the next, and the next). One day, he’s struck by a flash of inspiration. He thinks of a clever and original joke that he expects others would find funny, so he sets out to film his own TikTok. He makes props, enlists the help of a sibling to act in his video, records the performance, carefully inserts sound effects, and ultimately posts an original, funny, and well-produced TikTok. Ted feels great about his achievement, but sadly this feeling is not sufficiently motivating to break him of his addiction to passively consuming short-form content. He returns to his old habits and does not deviate from his passive consumption again.

Ted does something creative in this story. But Ted is not a creative person. Creativity is a trait Ted sadly lacks. So, we cannot explain what makes his TikTok creative by appealing to a trait he has. He has not manifested a disposition to have varied, novel, imaginative ideas. He has not manifested a disposition to bring such ideas into fruition. This creative project was an anomaly for him. Hills and Bird write that ‘someone who could create things, but does not make the effort to do anything of the sort is not a creative individual’ (2019: 700). This describes Ted, with the solitary exception of his one TikTok.



So, by their lights, Ted is not creative. Nevertheless, it would be strange to deny that Ted has done one creative thing.

Hills and Bird might object here that I have not said enough to establish that Ted lacks the trait of creativity. On their view, the mere fact that someone is not performing creative actions does not necessarily mean they lack the relevant dispositions. This is because dispositions can be masked:

The processes of creativity may be blocked or interrupted. Depression, for example, can stifle creativity; though stifled it is not removed. Such a person is still creative even though she is not creating, just as a talented footballer's skill may be masked but not removed by a minor injury. (700)

It's consistent with my description of Ted's behavior that he is truly creative, but his disposition is usually masked, perhaps by something like depression. If Ted would be completing creative projects regularly, were it not for his depression, then he would still count as a creative person on Hills and Bird's view.

However, this is not enough for the objection to succeed. Hills and Bird would need to show that it's *impossible* for Ted (or anyone else) to have undertaken a one-off creative process. In other words, they would need to posit that, anytime someone appears to undertake a one-off creative process, they really have the relevant dispositions, which have been otherwise masked. But it's unclear what independent grounds there could be for such a strong claim (and indeed, Hills and Bird don't explicitly defend it). It's entirely possible that Ted is not suffering from depression, or anything else that could serve as a mask, and that his burst of creativity is truly anomalous.

A related objection would be that, rather than being explained by a temporarily unmasked disposition, Ted's apparently one-off creative achievement is explained by a short-lived disposition. Perhaps, when he has this flash of inspiration, Ted briefly

acquires the relevant disposition. This too is consistent with my description of Ted's behavior. But as with the objection from masked disposition, the objector must show not just that this is consistent, but that it *must* be what happens in Ted's case (and any other case of one-off creativity). The burden of proof would be on the objector to explain why we should posit these short-lived dispositions instead of conceding the existence of one-off creative achievements (without creative dispositions).

If one-off creative achievements are possible, then not all instances of creative processes can be explained in terms of creative persons. Instead, I think it's more promising to hold that the creativity of persons can be explained in terms of the creativity of the processes they undertake. For instance, imagine an alternate ending to Ted's story. In this version, he enjoys his creation so much that he is inspired to change his ways. He begins to brainstorm about other funny content that he'd like to produce on TikTok. Soon, he is creating original TikTok humor several times a week. As he incorporates more creative work into his life, Ted transforms into someone who fits the criteria Hills and Bird offer. He has become a creative person. His creativity as a person is explained by his newly cultivated disposition to undertake creative processes. So, while Hills and Bird are correct that the creativity of persons consists in their dispositions, these dispositions are most naturally understood in terms of the creative processes persons are disposed to undertake. These dispositions may involve many of the features Hills and Bird identify (novelty, imagination, etc.). But once we recognise that these features make for creative processes, it becomes clear that the creativity of persons is explained by their dispositions to undertake creative processes. Thus, it appears that a person is creative in virtue of their undertaking creative processes and not the other way around.

Return to the original case where Ted’s creative TikTok is a one-off process. What explains why it was creative? On my view, the creativity in this case is fundamentally a feature of the process Ted undertakes. The creativity of persons can be explained in terms of the creativity of what they do. But as Ted’s case shows, one-off creative achievements cannot be explained in terms of the creativity of persons. Thus, the creativity of processes is explanatorily prior to the creativity of products or persons.

### **3. Is creativity valuable?**

Many have argued that value is a necessary condition of creativity.<sup>18</sup> This is expressed in many ways. Some categorise creativity as a virtue – a trait with special value.<sup>19</sup> Some argue that creativity is a disposition to produce certain kinds of valuable things.<sup>20</sup> Boden writes that ‘creativity is the ability to come up with ideas or artefacts that are new, surprising, and valuable’ (2010: 29). Still others focus on creative products and argue that such products must be valuable in order to count as creative. In this section, I will consider and respond to two arguments about the value of creativity. In evaluating these arguments, I’ll motivate my own view that creativity necessarily has epistemic value.

#### *3.1 Hills and Bird*

Hills and Bird (2018, 2019) argue that these accounts are mistaken when they identify value as a necessary condition of creativity. As noted above, they propose a

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<sup>18</sup> On whether creativity is necessarily valuable, see Gaut and Livingston (2003), Gaut (2018), Hills and Bird (2018, 2019), Paul and Kaufman (2014), and Stenberg and Lubart (1999). For accounts that include value as a necessary condition, see Amabile (1996), Boden (2004, 2010), Carruthers (2011), Cropley and Cropley (2013), Gaut (2003, 2018), and Kieran (2014).

<sup>19</sup> See Audi (2018), Baehr (2018), Gaut (2003, 2014), Hawley (2018), Kieran (2014), Swanton (2003), Woodruff (2001), and Zagzebski (1996).

<sup>20</sup> Gaut (2014, 2018).

dispositional account of creativity, so their claim that creativity need not be valuable is properly explicated as the claim that it is not essential to creativity (the trait) that it be a disposition to produce something of value. In support of this conclusion, they argue that creativity can produce objects that are worthless (totally lacking in positive value) as well as objects that have only negative value (2019: 701). In other words, there are cases of creativity in which nothing about the outcome is good and cases of creativity in which everything about the outcome is bad. Therefore, value cannot be a necessary condition of creativity.

As examples of worthless products of creativity, Hills and Bird identify scientific theorizing that misses the mark drastically. These are theories that are not even approximately true. Hills and Bird identify numerous examples of such theories and argue that because they are so far from the truth, they yield no knowledge or understanding, and therefore lack value, despite being creative (2019: 702). Indeed, they argue, this may be true of much (perhaps most) creative theorizing.

One of Hills and Bird's examples of a putatively worthless scientific idea is a proposed invention by Nikola Tesla called the thought camera (2018: 98; 2019: 703). Here's what Tesla said in a 1933 interview about this idea:

I became convinced that a definite image formed in thought must, by reflex action, produce a corresponding image on the retina, which might possibly be read by suitable apparatus.

Now if it be true that a thought reflects an image on the retina, it is a mere question of illuminating the same properly and taking photographs and then using the ordinary methods which are available to project the image on a screen.

If this can be done successfully, then the objects imagined by a person would be clearly reflected on the screen as they are formed, and in this way every thought of the individual could be read. Our minds would then, indeed, be like open books. (quoted in Bird 1933: 40)

It's easy to see why Hills and Bird have deemed this idea for a thought camera worthless. At first blush, it appears to have no value whatsoever. The idea is based on myriad false assumptions. This proposal didn't lead to any important new technology. Surely, Tesla's idea is creative, but it has no obvious value.

On the contrary, I think that Tesla's idea of a thought camera has *non-obvious* value, because Tesla has created a how-possibly explanation of mind-reading for himself. As I argue elsewhere, when one is the recipient of a how-possibly explanation, one comes to understand how something is possible given one's background beliefs (Brainard 2020). Thus, how-possibly explanations yield understanding on the part of the recipient. Tesla's creative idea here involves his understanding that if his background beliefs were true, it would be possible to photograph thought. In the quoted passage above, we see Tesla recounting a number of conditional claims: if a thought reflects an image on the retina, then we should be able to record it by illuminating the eye carefully; if we can photograph it successfully, then we can project it and therefore read minds. What he's doing here is exploring a scenario that hasn't yet been ruled out by his background beliefs. We now know that the antecedents of these conditionals are false, but of course that doesn't mean the conditionals themselves are false. Tesla's creative theorizing reflects an understanding of what would be possible if the antecedents of these conditionals were true.

Tesla's idea for a thought camera may not have been practically valuable, scientifically valuable, or morally valuable. But because it led him to understanding, it had some (perhaps modest) epistemic value. It's plausible that the same is true of the

other false creative theories that Hills and Bird identify as well. Perhaps, then, there is a kind of value that creativity always has: epistemic value.<sup>21</sup>

Epistemic value is the kind of value that is distinctively possessed by achievements like knowledge and understanding. There is widespread agreement among epistemologists that this sort of value is conceptually distinct from the moral or practical value of these achievements. While there is disagreement about the details, such achievements are standardly taken to possess epistemic value even when they are morally bad or practically useless.<sup>22</sup>

To test the proposal that creativity necessarily has epistemic value, let's examine a second category of cases Hills and Bird consider. These are examples of creativity that they claim have only negative value. One such example is a creative serial killer who is ingenious in devising new methods to stalk and kill his victims (2018). Insofar as creativity affects the value of his actions, it seems to make them worse. No doubt, the fact that the serial killer's creativity is put to such a use is morally bad. But we must be careful not to conclude that because something is wholly morally bad, it cannot have some other kind of value.

Consider a similar case. On the internet, one can find creative guides to making pipe bombs. Let's assume that the creativity that went into developing and circulating such guides is wholly morally bad. These guides, however, clearly have epistemic value.

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<sup>21</sup> To say that creativity is epistemically valuable in the sciences is not to say that the aesthetic properties of scientific theories contribute to that value, though this may be right. Elgin (2020) and Ivanova (2020) have argued that the aesthetic properties of scientific theories facilitate understanding. This is compatible with my view, though my account is neutral on this point.

<sup>22</sup> For an overview of epistemic value, see Whitcomb (2012). On the epistemic value of knowledge and understanding, see Pritchard (2009). For discussion of epistemic value in the context of creativity, see Hawley (2018).

The authors came to understand something as they developed the techniques they share in the guides. Likewise, the creative serial killer, depraved though he may be, comes to understand something through the use of his creativity.

Hills and Bird are right that the creativity of the serial killer's actions makes them morally worse, as well as worse all-things-considered. But this is compatible with creativity conferring epistemic value. The serial killer's creativity gives him a deeper understanding of how to effectively stalk and kill victims. Consider a parallel case. Imagine a creative detective who manages to stop the serial killer from striking again through creatively anticipating his moves. In both cases, the agents' creativity gives them the same understanding. Their creativity doesn't differ in epistemic value, even though it differs wildly in moral value.

As I've argued, it's important not to conflate whether something is bad all-things-considered with whether it is bad in every way. Creativity might confer value on what it produces even when what it produces is on balance very bad. So even though the moral disvalue of creativity that is used to do evil things vastly outweighs its epistemic value, it's still not true that it is entirely devoid of value.

Hills and Bird's arguments clearly show that if value is a necessary condition for creativity, the relevant kind of value cannot be moral value or all-things-considered value. So far, I've suggested that a promising candidate for the value that's essential to creativity is epistemic value. Before developing this view further, I'll examine an existing proposal for how value might be a necessary condition for creativity.

### 3.2 Gaut

Gaut (2018) argues that creativity is a disposition to produce novel things that are valuable *of their kind* rather than valuable simpliciter. Here, Gaut is drawing on Geach's (1956) famous distinction between attributive value and predicative value. Put simply, predicative value is just goodness, not goodness of any kind, whereas attributive value is goodness of a kind. A serial killer can be good at what they do. In that sense, they're a good serial killer. That's attributive value. But, of course, it's not good that they are a serial killer. Being a serial killer is bad. That's predicative value. This distinction paves the way to say that the creativity of the serial killer is good in one sense and bad in another.

When Gaut argues that all creative things have attributive value, he's arguing that the creativity of a member of some kind makes that thing a better member of its kind. For example, a creative screenplay is better as a screenplay than a non-creative screenplay (all else equal). Gaut claims that creativity only has predicative value when the product is a member of a valuable kind, like a creative medical advance (2018: 128-9). So, it's true on Gaut's account that creative killings are better as killings (attributively). But that doesn't mean that creative killings are good (predicatively). The reason is that killing is a bad kind of thing. Good instances of bad kinds aren't good (predicatively).

Gaut's account says that creativity always has attributive value, but only sometimes has predicative value. In order to have predicative value, not only must creativity make something good of its kind, but that kind must also be good. In other words, creativity is (predicatively) valuable when it makes its products good of a good kind. While Gaut's account does a nice job of handling the creative serial killer case, there are two significant challenges for his view.



First, not all kinds can be neatly categorised as good or bad. True, some kinds, like torture, seem bad. Others, like medical care, seem good. But consider some of the many kinds of things that can be creative: political speech, strategy, social media post, television show, committee, experiment, company, joke. Though each of these kinds can have members that are good or bad (predicatively), it's not clear that there is a fact of the matter about whether the *kind itself* is good or bad. For example, some members of the kind 'political speech' are good (predicatively), and others are bad, but it seems odd to say that the kind 'political speech' is itself good or bad. For the creativity of a piece of political speech to be good (predicatively), on Gaut's account, political speech would need to be categorised as a good kind. But political speech is too heterogenous for this categorization to be fitting.

Perhaps Gaut's view could evade this objection with a modification: creativity is (predicatively) valuable when it makes its products good of a kind that is *not bad*. If I'm right that the kind 'political speech' is neither good nor bad, this modified view would entail that anytime the creativity of an instance of political speech makes it better as political speech, it would be predicatively good. But the creativity of an instance of political speech could make it better as political speech (e.g. more rhetorically effective) even if that instance is predicatively bad (e.g. because it perpetuates injustice). In such cases, the worries that Hills and Bird raise about bad creativity reemerge. An advantage of Gaut's stated view is that it handles such worries, as in the case of the creative serial killer. The modification under discussion would remove that advantage because it would erroneously categorise some cases of predicatively bad creativity (like the creativity that makes an unjust instance of political speech rhetorically successful) as predicatively good.

The second problem is that Gaut seems to suggest that membership in one particular kind is relevant for determining the predicative value of an instance of creativity:

Torture devices are not a valuable kind of thing, so being creative in producing them is not valuable. But medical devices are a valuable kind of thing, so creativity exercised in producing them is valuable. (2018: 128)

Many creative products are members of multiple kinds. Consider, for example, a piece of street art by Banksy. It is a member of many kinds: graffiti, painting, vandalism, art, and social critique, among others. The fact that a product is a member of multiple kinds is not a problem for assessing the attributive value of its creativity.<sup>23</sup> The problem for Gaut's view arises when we consider whether this creativity has predicative value. To determine that, we would need to know which of these kinds is relevant to assessing whether the creativity of what Banksy has produced makes it good of a good kind. Perhaps Gaut's view is that, as long as the creativity of the product makes it good of *some* good kind, it has predicative value. It doesn't matter whether it also makes the product good of other, bad kinds. But this is not a promising way of solving the problem of which kinds are relevant.

To see why, consider the following example. Some instruments, such as halo braces and electric shock devices, are both medical devices and torture devices. The creativity employed in the design of such instruments can make them both good of the good kind 'medical devices' and good of the bad kind 'torture devices.' Suppose Gaut is right that the fact that this creativity makes these products good of some good kind is sufficient for the creativity to have predicative value. This would imply that the creativity employed in designing such devices is predicatively good in all instances, even when they are used as

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<sup>23</sup> For a discussion of how to assess the attributive value of a product that is a member of multiple kinds, see Grant (2012).

torture devices. This seems like the wrong result, even by Gaut's own lights, given what he says about the creativity of serial killers.

As these two objections have shown, though Gaut's proposal nicely handles some putative counterexamples to the claim that creativity is necessarily valuable (such as the creative serial killer case), there are serious difficulties with applying it in other cases. The more promising approach, I think, is not to abandon the idea that creativity necessarily has predicative value, but rather to think more carefully about what kind of predicative value it could necessarily have.

Let's return to the proposal that creativity necessarily has epistemic value. Interestingly, Gaut himself endorses a principle that supports this proposal, though he doesn't connect the principle to epistemic value. He argues that the following is an *a priori* principle about creativity:

The ignorance principle: If someone is creative in producing some item, she cannot know in advance of being creative precisely both the end at which she is aiming and the means to achieve it. (2018, 134)

I agree with Gaut's principle. One thing all instances of creativity have in common is that the agent learns something in the process. This is demonstrated in all the examples of creativity I've considered. If all instances of creativity involve learning, and learning is the attainment of something epistemically valuable (such as knowledge or understanding), then all instances of creativity involve the attainment of something epistemically valuable. This is the sense in which, I contend, creativity is necessarily valuable. Epistemic value is certainly not the only kind of value creativity can have, and it may not even be the most important one. But it is the kind of value creativity necessarily has.

#### 4. My Account: Creativity as Exploration

Let's take stock of what we've said so far about creativity. (1) Creativity is, in the first instance, a property of processes. (2) Creativity must be deliberate, not accidental. (3) Creativity comes in degrees. (4) Creativity requires subjective novelty. And finally, I've suggested that (5) a necessary condition for creativity is epistemic value.

I will now offer an account of creativity that unifies these features. The basic idea is that creativity is a kind of successful exploration. The motivation for this account comes in part from listening to what a lot of creative people, especially artists and scientists, have said about creative work. Often, they speak of creative work using the language of exploration. Let's look at some of those remarks.

From Robert Flaherty, a pioneer in documentary filmmaking:

To discover and to reveal – that's the way every artist, every poet, every painter and every sculptor, sets about his business. All art is, I suppose, a kind of exploring.<sup>24</sup>

From modernist painter Henri Matisse:

An artist is an explorer. He has to begin by self-discovery and by observation of his own procedure. After that he must not feel under any constraint.<sup>25</sup>

From novelist William S. Burroughs:

In my writing I am acting as a map maker, an explorer of psychic areas... a cosmonaut of inner space, and I see no point in exploring areas that have already been thoroughly surveyed.<sup>26</sup>

From comedian and screenwriter, Jordan Peele, on writing the film *Get Out*:

The whole process of figuring out what this movie was about was about digging deep and exploring my fears first.<sup>27</sup>

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<sup>24</sup> Rotha (1983: 7)

<sup>25</sup> Dagand (1945) in Flam (1995: 160)

<sup>26</sup> Burroughs (2007: 272)

<sup>27</sup> Peele (2017)

From mathematician and pioneer in computer programming, Ada Lovelace:

Those who have learned to walk on the threshold of the unknown worlds, by means of what are commonly termed *par excellence* the exact sciences, may then with the fair white wings of imagination hope to soar further into the unexplored amidst which we live.<sup>28</sup>

From astronomer Edwin Hubble:

Equipped with his five senses, man explores the universe around him and calls the adventure science.<sup>29</sup>

And finally, some advice for scientific inquiry from scientist and inventor, Alexander Graham Bell:

Don't keep forever on the public road, going only where others have gone and following one after the other like a flock of sheep. Leave the beaten track occasionally and dive into the woods. Every time you do so you will be certain to find something that you have never seen before. Of course it will be a little thing, but do not ignore it. Follow it up, explore all round it; one discovery will lead to another, and before you know it you will have something worth thinking about to occupy your mind. All really big discoveries are the results of thought.<sup>30</sup>

These remarks, from both artists and scientists, evince views according to which exploration is at the heart of their creative work. Perhaps, as they seem to suggest, exploration is key to understanding creativity.<sup>31</sup>

What is exploration? In its broadest sense, the term can refer to any attempt at charting new territory, literally or figuratively. But the remarks quoted above seem to have a narrower sense of exploration in mind. Readers will likely be familiar with the convention among philosophers of describing new or nebulous projects as exploratory.

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<sup>28</sup> Lovelace (1841: 137)

<sup>29</sup> Hubble (1054: 6)

<sup>30</sup> Bell (1914: 650)

<sup>31</sup> Boden taxonomizes creativity into three types, one of which she calls 'exploratory creativity' (2004, 2010). Her use of the term 'exploratory' is significantly narrower than my use here.

This often denotes that the philosopher is beginning an inquiry without a clear sense of what conclusion they will draw. They're feeling the topic out, so to speak. And typically, this involves charting one's own course, 'leaving the beaten track' as Bell puts it above. In this narrower sense, exploration seems to require not just that someone is attempting to discover something new, but that they are doing so without a predetermined plan, without knowing in advance how they will reach the destination. It's in this narrower sense that I believe the idea of exploration sheds most light on the nature of creativity (recall Gaut's Ignorance Principle). When I identify creativity with successful exploration, I mean 'exploration' only in this narrower sense.

Let's consider some further features of exploration. For one thing, it's a deliberate process. One cannot accidentally explore something. If someone sets out to explore a place (for example), they can't do so without intending to look around and take in information. When one explores, one does so intentionally. So, understanding creativity as exploration captures the sense in which creativity is a process intentionally undertaken by an agent.<sup>32</sup> This neatly captures conditions (1) and (2) above.

Exploration is an aim-governed activity. When someone sets out to explore, they seek the discovery of new things. You can't explore something if you think there's nothing left for you to discover about it. For this reason, exploration requires subjective novelty. Some aspect of the thing you're exploring must be, in some sense, new to you. Perhaps the concepts or ideas are familiar, but in an instance of exploration, you're looking to learn more about them, to uncover new aspects of them, or to combine them in new ways. Likewise, when someone is engaged in creative work, they don't know what the outcome

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<sup>32</sup> For more on creative agency, see Brainard (2023), Gaut (2018) and Paul and Stokes (2018).

will be when they begin. They set out to discover something new. This captures condition (4) above.

When someone is successful in their exploration, they discover something. To discover is to gain something of epistemic value. This could be knowledge, understanding, or perhaps some other bearer of epistemic value. A particularly successful case of exploration is that of early Polynesian explorers devising and employing new wayfinding techniques to discover the uninhabited islands in the central and eastern Pacific.<sup>33</sup> They explored physical space, and so gained knowledge of the geography of the region. They also explored the space of navigational possibilities, and so came to understand how to orient themselves during their travels. What makes this a successful case of exploration is, at least in part, the knowledge and understanding that the explorers gained. This captures the epistemic value condition of creativity (5). The value of creativity is, at least in part, what you discover: what you gain epistemically from your exploration.

Another important feature of the exploration that is constitutive of creativity is that it is non-formulaic.<sup>34</sup> This feature specifically characterises the narrower sense of exploration I have been operating with. When one is closely following a map, a pattern, a script, a recipe, or a set of instructions, one is not exploring in this sense. These are ways of staying firmly on the beaten track. What they have in common is that they are formulaic. These are ways of following a prescribed course of action, and thus do not count as exploratory in the relevant sense. They are also paradigm cases of uncreative processes. Gaut (2003) nicely illustrates this point when he argues that the chess-playing computer Deep Blue's procedure for playing chess (mechanically surveying the possible

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<sup>33</sup> See Thompson (2019).

<sup>34</sup> This condition resembles the spontaneity condition discussed by Chung (2022).

moves and selecting the one with the highest expected value) is an uncreative process. Garry Kasparov, on the other hand, plays without using this mechanical formula. His playing, unlike Deep Blue's, is creative.<sup>35</sup> To the extent that someone's process involves following a formula, it is not exploratory. And to that extent, it is not creative.<sup>36</sup>

Note that the features of exploration I've identified here come in degrees. For example, something can be more or less subjectively novel. A scientist might come up with a minor adjustment to their hypothesis. This would be somewhat subjectively novel, but less subjectively novel than coming up with an entirely new hypothesis. It would also be less creative, all else equal. Likewise, processes can be more or less formulaic. Loosely following a recipe but trying out a few tweaks one thinks up along the way is less formulaic than following the recipe to the letter.<sup>37</sup> The former chef is cooking more creatively than the latter. This tracks feature (3) above. Some processes are more creative than others, and we can explain this in terms of their being more exploratory.

I have also emphasised that creativity should be understood as *successful* exploration. This is because it's possible to fail in one's attempt at exploration. When that happens, one also fails to be creative. Imagine a standup comedian sitting down with her pen and paper to write jokes for an upcoming set. She thinks of something funny and writes it down. Upon reflection, she realises the joke she wrote down was not original. She

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<sup>35</sup> One may naturally wonder if contemporary artificial intelligence models have better prospects for achieving creativity. Halina (2021: 326) argues that one such model, AlphaGo, is creative in the sense that it transforms the conceptual space of the game Go (although not creative in other senses). One might worry that my non-formulaicness condition rules out the creativity of such models. However, it's not fully clear that deep-learning models like AlphaGo count as following a prescribed course of action, so they may not be ruled out as creative on this score. In other work, I argue that contemporary artificial intelligence models are incapable of full-fledged creativity, not because they are formulaic, but because they lack agency (Brainard 2023).

<sup>36</sup> Kronfeldner (2009, 2018) argues that creativity requires freedom from certain causes, which accords with my non-formulaicness requirement.

<sup>37</sup> Gaut (2009: 90) illustrates this with his chocolate cake example.



briefly forgot that she'd heard that exact joke in another comedian's set and had momentarily confused it for her own idea. The comedian managed not to explore anything subjectively new in this attempt. She merely revisited an idea she'd already entertained. It's important for an account of creativity to allow for the possibility of creative failure, given the ubiquity of experiences such as writer's block and a lack of inspiration among those who set out to do creative things. One can aim for exploration but find oneself merely retracing old steps.

From the idea that creativity is a kind of successful exploration, we've arrived at a set of necessary conditions for creativity. To summarise, if creativity is properly understood as a kind of successful exploration, then it is:

1. a kind of process
2. something only agents can achieve
3. something that comes in degrees
4. subjectively novel
5. epistemically valuable
6. non-formulaic

Understanding creativity in this way therefore nicely captures all the conditions I identified in §§1-3 (conditions 1-5).<sup>38</sup> Moreover, attending to the sense of exploration relevant to creativity has illuminated a further condition (condition 6). This non-formulaicness condition is necessary to distinguish the relevant sense of exploration from a broader sense that includes uncreative endeavors, like exploring a new city by taking a guided tour. Importantly, my account doesn't treat conditions 1-6 as intuitively plausible but independent desiderata. Rather, it illuminates what ties all of these independently plausible conditions together.

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<sup>38</sup> Conceiving of creativity in terms of exploration fits with Finke et al.'s (1992) Geneplore model.

On my account, creativity is necessarily valuable because it necessarily yields epistemic value. One reason that the necessary epistemic value of creativity has been overlooked, I believe, is that many of the achievements that readily spring to mind at the mention of creativity are achievements in the arts. The creation of art is celebrated for many reasons, but not primarily because artists are seen as gaining knowledge through their creative work. Because philosophers so often focus on knowledge as a bearer of epistemic value, it can be easy to overlook the other bearers of epistemic value we gain from engaging in creative work, especially in the arts.

Understanding is one form of epistemic value that is often associated with artistic creativity. For instance, in his 2007 commencement speech at Stanford University, Dana Gioia, poet and then chairman of the National Endowment for the Arts, argued that ‘Art is an irreplaceable way of understanding and expressing the world—equal to but distinct from scientific and conceptual methods’.<sup>39</sup> While it’s not always easy to identify what special expertise creative artists have, it’s highly plausible that they gain new understanding through creating new art. Increasingly, epistemologists argue that understanding is an epistemically valuable cognitive achievement that is distinct from knowledge.<sup>40</sup> The distinguishing feature of understanding is typically taken to be a special grasp of the subject matter attained by the agent.<sup>41</sup> How this notion of grasp is understood varies among philosophical accounts, but a common thread is that it involves some sort of cognitive state distinct from the sort of belief typically associated with knowledge.

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<sup>39</sup> Haven (2007).

<sup>40</sup> See Pritchard (2009) and Hannon (2021) for helpful overviews.

<sup>41</sup> See, for example, Grimm (2006), Strevens (2013), Hills (2015), Dellsén (2016), and McSweeney (forthcoming).

Catherine Elgin argues that, whereas knowledge may be restricted to facts, the same is not true of understanding. She explains:

We understand rules and reasons, actions and passions, objectives and obstacles, techniques and tools, forms, functions, and fictions, as well as facts. We also understand pictures, words, equations, and patterns. Ordinarily these are not isolated accomplishments; they coalesce into an understanding of a subject, discipline, or field of study. (1993: 14)

Recognizing understanding as a bearer of epistemic value makes it easier to see why creativity in the arts, and not just the sciences, necessarily involves epistemic value. Through their creative work, painters come to understand aesthetic properties like color and proportion. Dancers come to understand the expressive capacities of the human body. Stand-up comedians come to understand timing and crowd dynamics. If Gioia is right, the arts may be unique in the kind of understanding they foster.

Moreover, as the examples I've discussed in this paper show, we can exercise creativity to understand many and varied things, including possibilities (as in Tesla's thought camera), how to achieve our goals (as in the creative serial killer), humor (as in Ted the TikTok Teen), social ills (as in some of Banksy's work), aspects of the natural world (as in the sciences), beauty and the human experience (as in many works of art). Creative work is, of course, not the only way to achieve understanding. And understanding may not be the only sort of epistemic value we obtain through creative work. But recognizing the potential of creativity to yield understanding is important for understanding why creativity is always epistemically valuable, even when it's unclear whether it results in knowledge.

Something that is epistemically valuable may or may not have other kinds of value, such as prudential value, moral value, or aesthetic value. It can even have negative value in one or more of these senses. For an indecisive person trying to make a decision,

knowledge of the many options available can have negative prudential value. In the wrong hands, understanding of how to build a pipe bomb has tremendous negative moral value. Learning how to unclog a toilet may be prudentially valuable, but it seems aesthetically neutral at best. But in all these cases, something of epistemic value is gained. Because creativity always involves some sort of learning, it always has epistemic value even when it is in other ways worthless, or even bad.

### **Concluding Remarks**

I began this paper with the observation that there is much ado about creativity. In light of how difficult creativity is to pin down, some may conclude that this is much ado about nothing. But I hope to have shown that this is not so. Creativity is indeed an important and valuable achievement, and once we understand what creativity is, it becomes clear why. As I have argued, creativity consists in a kind of successful exploration. Understanding creativity in this way unifies its deliberateness, novelty, and non-formulaicness. It also shows how creativity must be in the first instance a property of processes, and how the creativity of products and persons is derivative from the creativity of processes. And it's precisely because the creative process is a process of discovery that creativity is necessarily valuable. We prize creativity because we prize the opening of new avenues for learning about ourselves and the world around us, avenues that are opened only when we stray, as Bell puts it, off the beaten track.

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