

ORIGINAL ARTICLE

The consequences of seeing imagination as a dual-process virtue

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Abstract

Michael T. Stuart (2021 and 2022) has proposed imagination as an intellectual dual-process virtue, consisting of imagination₁ (underwritten by cognitive Type 1 processing) and imagination₂ (supported by Type 2 processing). This paper investigates the consequences of taking such an account seriously. It proposes that the dual-process view of imagination allows us to incorporate recent insights from virtue epistemology, providing a fresh perspective on how imagination can be epistemically reliable. The argument centers on the distinction between General Reliability (GR) and Functional System Reliability (FSR), for example in relation to Kengo Miyazono and Uko Tooming's (2023) argument for epistemic generativity. Furthermore, the paper claims that the dual-process virtue account enables us to integrate a wide range of findings from the literature on epistemology and imagination. Moreover, it suggests a novel way to distinguish the virtues of creativity and imagination and presents a case for viewing imagination as a virtue rather than a skill.

KEYWORDS

dual-process cognition, Functional System Reliability, General Reliability, imagination, reality constraints, reliabilism, responsibilism, virtue epistemology

1 | INTRODUCTION

According to an ordinary understanding, a virtue is an excellence that enables a person to perform the activity of being human well. As Aristotle stated in *Nichomachean Ethics* (1984, 1103a1–10), however, one should distinguish between moral virtues and intellectual virtues. In

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the present article, I focus on intellectual virtues. For an ability, competence, or character trait to be considered an intellectual virtue, it must be connected to some highest epistemic good, such as knowledge, truth, or different forms of intellectual well-being. Furthermore, a virtue must play a crucial and prominent part in achieving this positive outcome.

In what follows, I examine the consequences of viewing imagination as an intellectual virtue that involves two kinds of cognitive processes known as Type 1 and Type 2 processing in contemporary literature.¹ The purpose of this essay is to expand on Michael T. Stuart's (2021 and 2022) notion that our ability to imagine (imagination₀) entails Type 1 imagining (rapid, unconscious, and uncontrolled imagination₁) and Type 2 imagining (slow, conscious, and controlled imagination₂). On Stuart's account, these relate to the two basic approaches to virtue epistemology (reliabilist and responsibilist virtues). Thus, while taking for granted that imagination *is* an intellectual virtue, I investigate the outcome of approaching it from the perspective of dual-process virtue epistemology.

1.1 | Imagination—a point of departure

To imagine, according to Shen-yi Liao and Tamar Gendler (2020), is to “represent without aiming at things as they actually, presently, and subjectively are.” Therefore, one can use imagination “to represent possibilities other than the actual, to represent times other than the present, and to represent perspectives other than one's own.” Thus, when a subject imagines, it is not required that she consider the content of the imagining to be the case—which is something that, by contrast, is demanded by mental states such as belief and perception.²

Few would contest the importance of imagination in coming up with ideas and discovering new things. Nevertheless, a number of philosophers have recently contended that imagination also might serve as a source of justification.³ In what follows, this is one of the aspects that I examine in the context of dual-process virtue epistemology. This involves, among other things, the question of how epistemic reliability is to be understood in relation to imagination₁ and imagination₂.

2 | DUAL-PROCESS VIRTUE EPISTEMOLOGY

Before I present Stuart's proposal, it will be necessary to provide an outline of the previous discussions of the dual-process model of cognition in the context of virtue epistemology.⁴

2.1 | Type 1 processes and virtue reliabilism

In accordance with the dual-process model of cognition, two distinct kinds of cognitive processes participate in thinking.⁵ Type 1 processing enables basic interactions with the outside world, such as how we interpret information from our visual nerves. The term generally refers

¹Tversky and Kahneman 1983; Sloman 2002; Evans 2010; Kahneman 2011; Evans and Stanovich 2013; Roberts and West 2015.

²As one insightful reviewer pointed out, the epistemic role of imagination has been a central theme in the writings of pragmatist philosophers. Even though this paper does not specifically address the pragmatist viewpoint, there are indeed important aspects of imagination that we can learn from C. S. Peirce's work on abduction and hypothesis formulation, John Dewey's writings on moral imagination, and William James and George Santayana's discussions of how imagining contributes to human existence.

³E.g., Williamson 2007, 2016; Kind 2016, 2018; Balcerak Jackson 2018; Myers 2021; Williams 2021.

⁴E.g., Axtell 1997, 2017; Samuelson and Church 2015; Mi and Ryan 2020; Ohlhorst 2022.

⁵Tversky and Kahneman 1983; Sloman 2002; Evans 2010; Kahneman 2011; Evans and Stanovich 2013; Roberts and West 2015.

to a fast and automatic type of cognition that occurs below the level of conscious awareness. Furthermore, this is a highly specialized mechanism that adapts to various circumstances and tasks. As a result, Type 1 cognition is especially useful when we need to make a quick decision or when we do not have enough knowledge on which to base our conclusions. Because of the speed with which it operates, however, there is a risk that this kind of cognition leads to inaccurate or simplified interpretations of a situation—for example, being influenced by cognitive biases or stereotypes.⁶ Accordingly, the interpretations are reliable in specific settings, but “outside of those contexts they become unreliable” (Ohlhorst 2022, 2246).

In dual-process virtue epistemology, Type 1 cognition is linked to virtue reliabilism.⁷ On this account, virtues can be whatever stable faculty or ability that reliably causes us to attain true beliefs. The paradigm cases are cognitive faculties, such as vision and memory. Furthermore, this position is also connected to an externalist view of knowledge, which holds that the factors supporting a belief do not have to be internal to the epistemic agent's perspective. Instead, it is argued that the epistemic justification of a belief is related to its causal history—that is, being produced by faculties or competences that “reliably produce true belief, at least when operating under appropriate circumstances and in appropriate environments” (Greco and Reibsam 2017, 727). In addition, it is not required that reliabilist virtues involve a motivation to attain true beliefs. Take, for instance, a person who, because of his well-functioning visual perception, can form true beliefs about his surrounding environment without being consciously motivated to do so.

2.2 | Type 2 processes and virtue responsibilism

By contrast, Type 2 processes are slow, controlled, and rule based. Hence, they perform effortful, sequential thinking and reasons according to logical standards. Moreover, rather than being limited to a specific context, this type of cognition is domain general and applicable universally. Therefore, it is a versatile tool for enabling many uniquely human capacities and various kinds of problem-solving (inferential reasoning, mental modeling, constructing counterfactual scenarios, and so on).⁸

In virtue epistemology, Type 2 processing is linked to the virtues that are the focus of virtue responsibilism.⁹ In this context, intellectual virtues are thought of as acquired character traits or habits that are deeply integrated into the whole of a person's life, such as open-mindedness and intellectual humility. On this account, excellent thinking entails active-agency features (motivations, actions, and so on) for which we bear some responsibility. At the same time, it should be noted that responsibilist virtues are not truth conducive in the same direct way that reliabilist virtues are. For example, while open-mindedness allows an agent to remain open and attentive to alternatives that may correct their understanding of a subject, it does not guarantee that they will develop true beliefs. It is rather the case that a responsible use of open-mindedness necessitates that they exploit this character trait wisely and proportionately in the task at hand.

Authors have expressed differing views on the requirement for responsible qualities to be reliable. Some argue that virtues can be epistemically valuable regardless of their reliability (e.g., Wright 2010; Baehr 2011; Battaly 2015). This, however, is a perspective that stands in direct contrast to Linda Zagzebski's (2020) account. She argues that an intellectual virtue includes both a motivation and a success condition. As a result, Zagzebski defines it as “an

⁶E.g., Carruthers 2009, 109–10; Frankish and Evans 2009, 15–18; Evans and Stanovich 2013, 224–25, 236–37; Ohlhorst 2022, 2242–43.

⁷Samuelson and Church 2015, 1099–1102; Ohlhorst 2022, 2246–47.

⁸Carruthers 2009, 110–11; Frankish and Evans 2009, 15–18; Evans and Stanovich 2013, 235–36; Ohlhorst 2022, 2242–44.

⁹Samuelson and Church 2015, 1102–6; Mi and Ryan 2020; Ohlhorst 2022, 2247–50.

admirable intellectual motive disposition and reliable success in reaching the truth because of the behavior to which that motive leads” (Zagzebski 2020, 103). In this article, I assume that both reliabilist and responsibilist virtues are connected to a success condition (albeit in diverse ways).

3 | IMAGINATION AS AN INTELLECTUAL VIRTUE

Drawing on the framework of dual-process virtue epistemology, Stuart (2021) contends that the ability to imagine (imagination₀) can be manifested in either of two cognitive processes: imagination₁ and imagination₂. In addition to categorizing these styles of imagining as Type 1 or Type 2 processing, Stuart (2022) connects them with the two main forms of intellectual virtues. Thus, while the link between imagination and the dual-process model have been noticed elsewhere (Walton 1990; Gendler 2007; Williamson 2016; Arcangeli 2017), Stuart expands on this idea by situating it within virtue epistemology.

3.1 | Imagination₁ and imagination₂

If the imagining is unconscious, uncontrolled, and effortless, Stuart (2021) refers to it as an example of imagination₁. As an example, he offers “the process whereby we effortlessly conjure the mental image of a purple elephant when one is mentioned, even when we are explicitly trying to avoid doing this” (Stuart 2021, 1337). Hence, if we accept the dual-process model of imagination, we must assume the existence of imaginative processing that the subject is consciously unaware of. Traditionally, the dominating view among philosophers has been that imagination is “essentially a conscious phenomenon” (Kind 2021, 13121). Nonetheless, several authors argue that imagining can also occur on an unconscious level.¹⁰ While this is a topic worthy of further exploration, for the purposes of this article, I take for granted that unconscious imagining exists.

Stuart states in the context of dual-process virtue epistemology that imagination₁ is linked to Type 1 processing and reliabilist virtues (Stuart 2022, 527–28). Nevertheless, in this case it is important to recognize that this type of imagining, even if it is supported by the same processing type as, say, Type 1 perception, has a distinct relationship to the world. That is, whereas perception is truth normed (and thus generally reliable in relation to our external environment), Type 1 imagining does not have a similar inherent connection to truth.

Thus, if we understand imagination₁ in virtue reliabilist terms, we must explain how its epistemic reliability is determined. Not least, this relates to the “problem of poverty,” which, according to Stuart, imagining₁ is the target of (McAllister 2013, 14–15; Stuart 2021, 1340–41). On this account, the epistemic reliability of imagination₁ is harmed by its being *overconstrained* by conceptual or psychological architectural constraints (related to a subject's cognitive makeup and previous experiences). For that reason, there is a risk that his ability to imagine becomes “insufficiently creative” to apprehend reality. Stuart believes that one way to improve the reliability of imagination₁ is to train it (through relevant experience) to produce reliable results in a given context. As an example of this, he cites a firefighter who “automatically imagines a back draft before opening a door, and rightly decides not to open it” (Stuart 2021, 1341). Moreover, Stuart's proposed solution to the problem of poverty is to balance the tendency toward constraints with imagination₂, which is less constrained.

On other occasions, our imaginings are consciously accessible to us and under our voluntary control. Stuart explains that this type of effortful processing “allows us to take the

¹⁰Walton 1990; Goldman 2006; Nanay 2013; Spaulding 2016; Brogaard and Gatzia 2017.

aforementioned purple elephant and make it juggle while riding a unicycle down Fifth Avenue” (Stuart 2021, 1337). Consequently, it is this kind of imagination that we use when we intentionally operate on the imagined content of a fictional novel or when we imagine possible outcomes of a hypothetical scenario. In this case, it involves a slow and analytical process that Stuart refers to as imagination₂. Contrary to imagination₁, it is not overconstrained by our background knowledge. Hence, it allows us to imagine and predict phenomena of which we have little or insufficient experience. Stuart associates this imaginative process with the controlled and deliberate operations of Type 2 cognition. In this case, it is up to the involved agent to freely choose how much—and in what way—she wants to constrain her cognitive processing/imagining.

In terms of intellectual virtues, Stuart links imagination₂ with responsibilist virtues (Stuart 2022, 527–28). At the same time, he recognizes that such imagination is subject to the so-called problem of arbitrariness (McAllister 2013, 13–14; Stuart 2021, 1340–41). On this account, the epistemic reliability of imagination is negatively affected by its being *underconstrained*. That is, because imagination₂ develops independently of epistemic constraints (for example, regarding representational accuracy), it is prone to arbitrariness.¹¹ Nonetheless, as in his argument about the problem of poverty, Stuart proposes that it is up to the epistemic agent to choose to imagine₂ in epistemically reliable ways.

4 | A COMPARISON WITH CREATIVITY

To develop Stuart's claim, consider how it resembles and differs from the assertion that creativity is an intellectual virtue. In general, creativity is defined as an agent's disposition to produce something new and valuable—that is, it is the nonaccidental result of an agent's creative performance. In many cases, imagination is regarded as one of the cognitive components that contribute to this type of successful outcome. To be identified as an exemplary creative person (being “fully virtuous”), however, a person must be “disposed to seek out and perform creative acts” and “to do so for the right kinds of reasons” (Kieran 2018, 168). Therefore, for creativity to be classified as an intellectual virtue, both a successful outcome and an admirable motivation are required. Nevertheless, while the success condition is shared by reliabilist and responsibilist virtues (though defined differently), the requirement of conscious agency and proper motivation places creativity in the category of virtue responsibilism. For this reason, creativity is typically thought of as a character trait or habit of an agent. In epistemic applications of creative cognition, the agent is held responsible for evaluating and developing his mental operations in epistemically relevant ways.

Even though creativity may involve Type 1 as well as Type 2 cognitive processing, only the latter—the level of the agent's conscious mental operations—has traditionally been considered a virtue. By contrast, to make imagination a dual-process virtue, we must attribute epistemic excellence both to conscious and to unconscious forms of imagining. Despite these differences, the comparison with creativity raises a question that is also relevant to our study of imagination. More exactly, what does it mean for this kind of virtue (creativity or imagination) to be regarded epistemically successful?

Whereas Matthew Kieran acknowledges that epistemic creativity occasionally aims directly at knowledge or justified truth, he argues that more commonly it entails finding “new, epistemically promising ways of inquiring into and conceiving of the world” (Kieran 2018,

¹¹The problem of arbitrariness reflects a perspective on imagination that we have come to associate with Jean-Paul Sartre (2004) and Ludwig Wittgenstein (1958 and 1967). According to them, because it is up to us to decide what we imagine, imagination cannot teach us anything new: “I can keep an image in view as long as I want: I will never find anything there but what I put there. This remark is of the utmost importance in distinguishing the image from perception” (Sartre 2004, 9).

170). While this may include the production of knowledge and justified belief, creative cognition encompasses a broader range of epistemic goods. In accordance with Will Fleisher's (2017) categorization, creativity should therefore be identified as a Discovery Competence rather than a Justificatory Competence.¹² On this account, it belongs to a group of virtues that have "success conditions of which involve effective creativity, e.g., novel ideas, new experimental design, or new data" (Fleisher 2017, 2981). Hence, while these virtues are employed in the pursuit of knowledge, they do not create or directly enable knowledge. Accordingly, creativity also belongs with Fleisher's group of Auxiliary Competences (rather than with Constitutive Competences).¹³ According to this definition, creativity is a skill that "assists or enables a constitutive competence, but whose exercise is not a component of an individual instance of knowledge" (Fleisher 2017, 2979).

While acknowledging that creativity does not consistently yield true beliefs, however, Kieran argues that, to count as an intellectual virtue, it must systematically tend "toward realizing the broader range of epistemic goods ... with some degree of reliability across relevant circumstances in the face of pressures to do otherwise" (Kieran 2018, 172). As we will see, keeping this broader notion of "reliability" in mind will be useful in our examination of imagination₁ and imagination₂.

5 | THE JUSTIFICATORY FORCE OF IMAGINATION

To qualify as intellectual virtues, both imagination₁ and imagination₂ must be epistemically reliable. While they represent two types of cognitive processing, they both contribute to—or detract from—the level of reliability that can be attributed to imagination₀. In a narrow sense, reliability is defined primarily by its truth conduciveness, or ability to generate justified true beliefs. Accordingly, this is the type of competence that corresponds to Fleisher's Constitutive Competence and Justificatory Competence (see my footnotes 12 and 13). Though few would contest that imagination plays an important role in the generation of ideas and discoveries (corresponding to Fleisher's Discovery Competence and Auxiliary Competence), a stronger claim would be that it can serve as a source of justification, as recently proposed by several philosophers.¹⁴ In the current section, we are concerned with this type of epistemic reliability.

To understand the epistemic role of imagination₂, Joshua Myers (2021) suggests viewing it through the lens of "imaginative reasoning." In his view, imaginative reasoning allows us to move from input states (beliefs, memories, perceptions, and so on) to output states (new doxastic states). As an example, Myers discusses the prediction of the outcome of a physical event—in this case, determining whether a Jenga tower will fall over. On his account, if the reasoning is successful, the imaginers can "infer new information (the output state) from information that [they] already possess (input states)" (Myers 2021, 107). Nevertheless, while this is only possible provided the input states are justified, Myers contends that justification is also controlled by "how well one reasons." That is, while justified input states constrain the imagining (thereby serving as cases of prior justification), skilled imaginative reasoning integrates and develops these input states so that we can trace out "their entailments ... in an epistemically appropriate manner" (Myers 2021, 116).

Regarding imagination₁, the situation becomes more complicated. In this case, the key question is whether any justificatory force can be attributed to an unconscious form of imagining

¹²According to Fleisher, Justificatory Competences are "operative when the subject is forming a belief. Such competences are those that constitute knowledge, deploy constitutive competences, or otherwise directly enable knowledge" (Fleisher 2017, 2982).

¹³A Constitutive Competence is "constitutive just when its exercise is part of what constitutes a particular instance of knowledge. The successful manifestation of a constitutive competence results in knowledge" (Fleisher 2017, 2978).

¹⁴E.g., Williamson 2007, 2016; Kind 2016, 2018; Balcerak Jackson 2018; Myers 2021; Williams 2021.

that lacks the proper constraint setting performed by a conscious, epistemic agent. Furthermore, while architectural constraints influence both imagination₁ and imagination₂, in the former case there is no conscious subject that can compensate for architectural limitations (“the problem of poverty”). For this reason, one could easily conclude that this type of imaginative process is useful for generating ideas and making discoveries, but not for justifying beliefs.

Nonetheless, Timothy Williamson (2007 and 2016) makes the opposite claim, arguing that both voluntary (conscious) and involuntary (unconscious) cases of imagination can be sources of justification. Williamson asserts that our ability to imagine has become reality constrained along the evolutionary process. He uses the example of a group of distant human ancestors traveling across a challenging region previously unknown to them. He believes that conscious as well as unconscious imagining will alert them to potential dangers. In this case, he contrasts our ability to imagine with voluntary and involuntary modes of attention, arguing that imagination is “a form of attention to possibilities” (Williamson 2016, 115). On his account, rapid unconscious imagining is the ability of group members to detect “a slight movement at the periphery of vision, perhaps a predator or prey, despite our previous intention of watching something else” (115).

Contrary to Williamson's proposal, it is easy to see how an unsuccessful case of imagination₁ could produce “imagination-driven perceptual distortions”—such as mistaking “branches at night as the limbs of fearsome monsters” (McGinn 2004, 49, 50). Hence, this exemplifies a situation in which Type 1 processing extrapolates an incorrect interpretation pattern from the environment. In that sense, one could argue that this supports the notion that automatic Type 1 processing frequently results in errors and cognitive biases. This is especially likely if the imagining takes place in a setting in which we cannot deduce from previous experience. Take, for instance, how insufficient our ancestors' “attention to possible dangers” would be during a (for them) unpredictable ride on a ghost train at a modern amusement park!

Another criticism leveled at Williamson's “argument from evolution” account is that it fails to explain how the imagination, both conscious and unconscious, can generate knowledge. For example, Ori Kinberg and Arnon Levy (2023) argue that just because a capacity is naturally selected does not mean that it is epistemically reliable. While this is a valid objection, the dual-process model of cognition takes us one step closer to understanding the epistemic role(s) of imagination. This is specifically about Kinberg and Levy's claim that our ability to imagine is not chosen for a single task but rather serves multiple functions and is subject to competing demands. In their view, it may be good from an “overall standpoint” but is less efficient in relation to each activity, such as truth tracking and knowledge production (Kinberg and Levy 2023, 326–27). On my account, this observation is especially relevant given the various cognitive exercises associated with imagination₁ and imagination₂. In fact, as I argue below, this allows us to recognize a broader conception of what it means for imagination to be a *reliable* intellectual virtue.

6 | UNIFIED BY COGNITIVE FOUNDATIONS AND COMPLEMENTARY FUNCTIONS

In a recent article on dual-process virtue epistemology, Jakob Ohlhorst (2022) presents a complementary view of Type 1 and Type 2 virtues (modeled on reliabilist and responsibilist virtues, as well as on Type 1 and Type 2 processing). Instead of looking for a normative goal that unites them, such as producing true beliefs (e.g., Axtell 1997; Greco 2010; Sosa 2015), he advocates for unification based on their equal but complementary roles in a single organism's cognitive apparatus.

Consequently, Ohlhorst rejects the notion that Type 2 virtues play only auxiliary roles in the epistemic process (since they are not as truth conducive as Type 1 virtues). He takes the

view that both virtues are equally constitutive of knowledge because in either case they are “key to explaining human cognition as it really occurs” (Ohlhorst 2022, 2252). With respect to imagination, this is an interesting move, given that Type 1 imagining is typically regarded as the “weak link” in the epistemic process. By revising the conventional view of responsible and reliable virtues, however, Ohlhorst's stance enables us to investigate in greater depth how both types of imagining fulfill their roles as intellectual excellences.

In terms of Type 1 virtues (modeled after reliabilist virtues), Ohlhorst abandons the notion that entire faculties (vision, memory, and so forth) should be defined as virtuous. On his account, it is rather the disposition to operate reliably that is the virtue of Type 1 processing. (That is, while most individuals possess the same process type, their level of excellence may vary.) Furthermore, Ohlhorst rejects the view that a Type 2 virtue (modeled after responsibilist virtues) is a habit or character trait of an agent. Instead, he proposes that we should think of it as a conscious type of processing for which the agent is responsible, and whose virtue is a disposition to function reliably. As a result of this revision, Type 2 virtues are assigned to the same operational level (the level of cognitive foundations) as Type 1 virtues. Nevertheless, contrary to the common view of responsibilist virtues, Ohlhorst argues that a motivation to attain a specific epistemic goal is not constitutively necessary for Type 2 virtues (Ohlhorst 2022, 2249). At the same time, he contends that “the most excellent epistemic performance of Type 2 processes across the board will require a desire for truth” (Ohlhorst 2022, 2248).

Nonetheless, I believe that when applying Ohlhorst's framework to imagination₁ and imagination₂ we must consider what “disposition to operate reliably” means in this context. On my account, while both types of imagining have reliability as their success condition, it is a requirement influenced by their different functional roles.

7 | GENERAL RELIABILITY AND FUNCTIONAL SYSTEM RELIABILITY

Because we use our ability to imagine for a variety of purposes, it is difficult to establish what constitutes an optimal performance of imagination₁ or imagination₂. In epistemic uses of imagination₂ the motivation is to produce, or at least contribute to, knowledge or justified beliefs. At the same time, it may, like the intellectual virtue creativity, encompass a broader range of epistemic goods. Even so, to serve as a source of justification, the imagining must be linked to truth-normativity and reality constraints. In what follows, this is a type of epistemic reliability that I refer to as *General Reliability* (GR).

In terms of imagination₁, however, the concepts of reliability and motivation require further explication. As we have seen, the operation of automatic unconscious imagining may be reliable in some settings but less so in others. Regardless, from the perspective of an individual's overall cognition, this is a “good enough” result, given the advantages it provides in situations where fast imaginative processing is required. For this reason, I argue that the reliability of imagination₁ is determined by its overall function in a complex system of interconnected and complementary components. This is what I refer to as *Functional System Reliability* (FSR). On this basis, imagination₁ is a disposition to be reliable in terms of the function it serves in the cognitive system as a whole. Thus, whereas GR and FSR both refer to familiar forms of consistency, they do not pertain to the same type of epistemic norm.

Another distinguishing feature of imagination₁ is that it does not require an agent's conscious motivation for truth or justified belief. Despite that, it is plausible that the cognitive system as whole benefits from, and thus is motivated to generate, truth-normed mental states. In this case, epistemic uses of imagination₁ may involve an unconscious motivation to create representations that contribute to true beliefs. Take, for instance, Williamson's example of unconscious imagining, which alerts our ancestors to what it perceives to be

real dangers in the environment. (That is, even if automatic imagining detects only potential dangers, it lacks the time to distinguish between possible and actual states of affairs.) Even so, we can return to Stuart's example of the firefighter who “automatically imagines a back draft before opening a door, and rightly decides not to open it” (Stuart 2021, 1341). In this situation, his previous firefighting experiences have made his automatic, instinctive imagining become more reliable.

Berit Brogaard (2018) points out that something similar can be said about the way in which expert chess players go through a process of perceptual learning. Through this kind of training, they can learn how to “automatically recognize chess configurations as units rather than having to analyze every configuration presented to them during a chess game” (Brogaard 2018, 453). Consequently, this helps them to increase their visual span and overall fixation on the chessboard pieces. While Brogaard focuses on perceptual Type 1 processing, it is likely that the imaginative ability to detect possibilities also plays a role in this process.¹⁵

This observation is important for our understanding of imagination₁ because it demonstrates that, under certain conditions, the agent can control her automatic imagining—in this case, through a conscious choice to train it to become more reliable than imagination₂. In that respect, it is related to Jonathan Evans and Keith Stanovich's (2013) critique of the common assumption that Type 1 processes “are responsible for all bad thinking,” whereas reflective and analytic Type 2 processes “lead to correct responses” (Evans and Stanovich 2013, 229). Furthermore, as I have argued concerning imagination₁ and imagination₂, whether the processes are recognized as epistemically reliable or not is a case of what kind of reliability (GR or FSR) we apply.

8 | REGULATIVE VIRTUES AND INACCESSIBLE CONSTRAINTS

To be an excellent cognizer, a subject's various cognitive abilities must interact with, and in some cases adjust and constrain, one another to meet the current epistemic situation. In virtue epistemology, this is reflected in the idea that some virtues, because of their close relationship to a highest epistemic good (for example, truth or knowledge), can be used to regulate virtues that are not as directly tied to an ultimate epistemic goal. For this reason, James Montmarquet (1987 and 1993) claims that the virtue of “conscientiousness” (a desire for truth) plays a normative role in virtuous cognition. In his view, if we are epistemically conscientious (being properly motivated by a love of truth), we have met the basic requirements for intellectual virtue. But for conscientiousness to not lead astray—for example, by turning into dogmatism or fanaticism—Montmarquet emphasizes that it needs to be supplemented by additional regulating virtues that promote impartiality, sobriety, and intellectual courage. Hence, these are virtues that stimulate openness to the ideas of others, prompts us to carefully consider all evidence before coming to a conclusion, and disposes us to defend views that are unpopular (Montmarquet 1993, 21–23).

In a sense, the function of a regulative virtue is like the work of an Auxiliary Competence, as defined by Fleisher. On his account, it is a virtue that assists and enables a Constitutive Competence, “but whose exercise is not a component of an individual instance of knowledge” (Fleisher 2017, 2979). While regulative virtues and Auxiliary Competences do not completely overlap, I refer to them as having familiar, nonconstitutive roles in the epistemic process. Applying this perspective to imagination₀, we may conclude that it falls primarily into Fleisher's categories of Discovery Competences and Auxiliary Competences. For example, it

¹⁵For example, one way to argue for such involvement would be to accept Balcerak Jackson's (2018) claim that our perception-like imaginative states simulate perceptual states.

could be argued that Myers's imaginative reasoning, due to its reliance on prior justification, serves only an auxiliary role in the epistemic process. Despite this, Williamson's example of the ancestral imager proposes that imagination₁ and imagination₂ are reality-constrained as a result of the evolutionary process.

Kengo Miyazono and Uko Tooming (2023) recently expanded on Williamson's proposal, asserting that some cases of imagination can serve as generative sources of justification (rather than simply preserving prior justification). On their account, this is achieved through imaginative constraints that are “cognitively inaccessible” to nonimaginative, belief-forming processes. One example, they argue, is so-called core cognition, which refers to the diverse classificatory and inferential principles unique to different representational domains (for example, geometric properties and spatiotemporal principles). Miyazono and Tooming contend that, despite being inaccessible to our central cognition, these properties/principles constrain both our perceptual and our imaginative processes.

As an example, they refer to a person imagining whether a sofa will fit through the door of their living room. On their account, this exercise is constrained by the spatiotemporal principles of cohesion, continuity, and contact.¹⁶ Because these principles are inaccessible to other belief-forming processes, the person is “not in a position to reasonably believe, by a non-imaginative process, that the sofa would not fit through the door” (Miyazono and Tooming 2023, 16). Consequently, these inaccessible constraints appear to operate on the same level as architectural constraints. While Stuart associates the latter with the problem of poverty, Miyazono and Tooming argue that inaccessible constraints transform some cases of imagination into generative sources of justification. Hence, if this is a correct conclusion, it is possible that both imagination₁ and imagination₂ in fact belong under Fleisher's Justificatory and Constitutive Competences categories (because both types of imagining are influenced by architectural constraints).

9 | IMAGINATION AS A VIRTUE RATHER THAN A SKILL

Taking up the dual-process virtue account of imagination also presents us with an argument against Amy Kind's (2020) contention that imagination should be regarded as a skill rather than a virtue. She claims that skill-based activities have three main components: they (1) require a specific type of expertise, (2) are under one's intentional control, and (3) can be improved through practice (Kind 2020, 336). While acknowledging that the activity of imagining may not always be under the imager's intentional control, Kind asserts that there are many types of imagining that *can* be.

Before subjecting imagination₁ and imagination₂ to these three criteria, we should consider the common belief that skilled action, as opposed to virtuous action, requires the ability to make voluntary errors. By way of illustration, Gilbert Ryle (1949) explains that a clown's skillfulness consists in tripping and tumbling “on purpose and after much rehearsal and at the golden moment and where the children can see him and so as not to hurt himself” (Ryle 1949, 33). On that note, a skilled agent can make a deliberate decision about whether to demonstrate a skill. In contrast, virtues must be exercised on all appropriate occasions.

Regarding imagination₂, it is clearly under the agent's conscious control (criterion 2) and can be improved by practice (criterion 3), sometimes reaching the level of expertise (criterion 1). Even so, when it comes to the ability of making voluntary errors, things become more complicated. If we recognize imagination as a regular responsibilist virtue, this implies that it is an acquired character trait (“imaginativeness”) deeply integrated into a person's life and, for this

¹⁶Moving as a connected and bounded whole (cohesion); moving on connected, unobstructed paths (continuity); not interacting at a distance (contact) (Miyazono and Tooming 2023, 15).

reason, cannot easily be “switched off.” Furthermore, by identifying the virtue of imagination₂ as a disposition to function reliably (as described by Ohlhorst), it refers to a similar dependable property (although it is a cognitive process rather than a character trait). In this case, however, I contend that the term “acquired” does not adequately describe the frequently ambiguous line between conscious and unconscious imagining.

Consider, for instance, some forms of daydreaming, in which an agent switches between a conscious and an unconscious mode of imagining. Even if she can decide to stop consciously imagining a particular state of affairs, her involuntary imagining may nevertheless intrude on her daily thoughts (by unexpectedly popping up in her mind). In such cases, the imaginer definitely does not have conscious control over her imagination₁. At the same time, as I argued above, this is a form of imagining that we indirectly can train by exposing ourselves to relevant experience. In some ways, this may result in a certain “expertise”—such as the firefighter who automatically imagines a back draft before opening a door.

Even so, while this boosts our chances of imagining reliably in some situations, it does not account for all our occurrences of imagination₁. Kind argues that it is enough that some instances of imagining meet the criteria for skills (for example, being subjectable to intentional control). On my account, a more promising way is to see the two types of imagination as complementary dual-process virtues tied to either General Reliability or Functional System Reliability. By doing so, we will get a better understanding of how imagination₁ and imagination₂ contribute to “human cognition as it really occurs” (to use Ohlhorst's phrase) and the many ways in which they participate in excellent intellectual cognizing.

10 | CONCLUSION

In this paper, the objective has been to explore the consequences of taking up a dual-process virtue account of imagination. Because it serves multiple functions in human cognition, imagination transcends the boundaries of reliabilist and responsible virtues. On my account, one advantage of taking up this dual-process framework is the way in which it allows us to recognize a broader conception of what it means for imagination to be a reliable intellectual virtue.

The current investigation has yielded a novel distinction between General Reliability and Functional System Reliability. This distinction allows us to incorporate recent insights from virtue epistemology (such as Ohlhorst's) that provide a fresh perspective on how imagination can be epistemically reliable. In this case, a novel component of my argument is that it considers Miyazono and Tooming's proposal that certain instances of imagination can serve as generative sources of justification (rather than simply preserving prior justification). According to my understanding, if we combine this perspective with Ohlhorst's theory of dual-process virtues, we will be in a better position to grasp how the complementary functions of imagination₁ and imagination₂ contribute to cognitive excellence.

Another benefit of using the dual-process virtue account is that it enables us to bring together many disparate insights in the epistemology of imagination literature (such as those of Myers, Williamson, and Miyazono and Tooming). Furthermore, this framework provides us with novel ways to distinguish the virtues of creativity and imagination (while also acknowledging that both benefit from a broader understanding of reliability). Aside from that, the discussion presents a case for viewing imagination as a virtue rather than a skill.

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