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Critical realism and creativity
A Challenge to the Hegemony of Psychological Conceptions

Abstract
Humanist thought has long considered the nature of creativity in workers but the dominant framework for conceptualising creativity, rooted in psychological theory, has provided inadvertent limits on who might be considered creative at work. This is because creativity is commonly defined through the recognition of produced and valued novelty. This definition obscures all that is unrecognised, unrealised, unexercised, and currently in potential from being considered as creativity. Given that creativity can sometimes exist in potential, and that some workers have their creativity actively prevented from being recognised, researching and understanding the unrecognised creative person can be seen as an important goal for humanist scholars. The goal of this paper then is to unpick the contradiction between unrecognised creativity and dominant definitions of creativity in order to enable a deeper understanding of creativity at work. The paper proceeds with an immanent critique of the dominant framework and its definition of creativity, before proposing a critical realist inspired ontology of creativity, including an augmented definition of creativity. The consequences of this research for understanding creativity in organisations are briefly reflected upon.

Introduction
Within the social sciences there seems to be growing interest in human creativity. At the same time, there is a long tradition of humanist thought that has always placed the issue of creativity, and particularly its absence, close to the centre of its analysis. Humanists of various shades have long enquired why, if to be human is to engage in creative work, human creativity sometimes rarely manifests in the workplace.[1] So there are both new and old traditions placing, and keeping, creativity on the intellectual radar screen. This humanist tradition has guided my research on the sometimes forgotten creative workers, those whose creativity remains unrecognised and/or unrealised.

Investigating the unrecognised and unrealised creativity of workers in organisations reveals that the dominant conceptual framework for creativity studies can preclude these categories of people from being considered creative. This dominant framework is typified by research published in journals that focus entirely on creativity, such as the *Creativity Research Journal*, but extends to research in the specialist publications of organisational research, psychology, management science and human resource management. Within this framework, creativity is commonly defined as the recognised production of something useful, appropriate and novel. There are variations on this definition, for example the recognised production of valued novelty or adaptive novelty, but each has similar meaning. These definitions presuppose that

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[1] E.g. Bertell Ollman, *Alienation: Marx's Conception of Man in Capitalist Society* (Cambridge: CUP, , 1976) and Itsvan Mészáros, *Marx's Theory of Alienation* (London: Merlin Press, 1975).

for an act to be classed as creative it has to both be recognised as creative, a corollary of which is that creativity can not exist unrecognised; and be actualised, a corollary of which is that creativity can not exist in an unrealised state; and further that, to the extent that creativity is considered to exist as a potential (and this is an ambiguous consideration at best), it can only be inferred through its manifestation in creative performance.

It seems then that the humanist tradition, which considers workers as having the power to be creative even if they are not acting as such, is in conflict with this conventional definition of creativity. An exploration and critique of the conventional definition of creativity seems necessary to, in effect, rescue humanist thought from the theories of creativity developed within this dominant framework, which inadvertently preclude the unrecognised and unrealised from consideration. In what follows I present an immanent critique of the conventional definition and suggest that the tensions within the psychological creativity literature that have led to neglect of the unrecognised and unrealised can be reduced when the principles of critical realism are used to inform research. The critique begins with an overview of the dominant conceptual framework and the conventional definition of creativity within it. It suggests that reliance on recognition and problems with the concept of novelty have led to difficulties that creativity researchers have so far struggled to overcome. An augmented conceptual framework of human creativity, consistent with the principles of critical realism, is then proposed, and the implications of this for understanding creativity at work is briefly discussed. The new framework suggests that discovery rather than novelty is an important defining feature of creativity, and the significance of this is considered.[2]

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[2] Bhaskar's work on creativity is not considered part of the dominant conceptual framework so a critique of it will not be offered. However, its relevance to the proposed augmented conceptual framework will be explored later.

The Dominant Conceptual Framework

The dominant conceptual framework for creativity research has been heavily influenced by psychological research.[3] This has led to four broad areas of research interest: research that has as its focus the creative person,[4] the creative product,[5] the creative process,[6] and creative systems.[7] Whilst diverse theoretical accounts of creativity have emerged, common to them is the conventional definition of creativity based on the recognised production of appropriate novelty. This form of definition was proposed as a pragmatic stop-gap because creativity was regarded as difficult to define. This enabled researchers to continue empirical work on creativity with the simple premise that they could 'know it when they see it'.[8] However, despite the underlying tensions being unresolved, the definition has survived and is now largely accepted without reflection.

This has inevitably restricted the type of research conducted and the subsequent theories of creativity proposed. For example, research on creative people initially explored those individuals who were considered undoubtedly creative, often referred to as having genius-level creativity (Nobel Prize winners, international authors and so on). Measures of their personality type, motivation and cognitive processes were explored and norms established for the selected groups. In the workplace, it is assumed that employees can also be tested and their characteristics compared to the norms of the 'genius' sample.[9] These tests are seen as measures of an individual's likelihood of being creative in the future or their creative potential. As research developed, genius samples were no longer thought necessary, as the criteria for creative performance had supposedly been established. However, it has been noted that this created a selection bias in creativity theorising as only those who actualise

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[3] For evidence of this, see Roisin Donnelly, 'Fostering creativity within an imaginative curriculum in higher education', *The Curriculum Journal* 15(2) (2004): 155-66.

[4] E.g. Gregory Feist, 'A meta-analysis of personality in scientific and artistic creativity', *Personality and Social Psychology Review* 2(4) (1998): 290-309.

[5] E.g. Beth Henessey and Teresa Amabile, 'Consensual Assessment', in *The Encyclopedia of Creativity: Volume I*, eds. Mark Runco and Steven Pritzker, London: Academic Press, 1999, 347-359.

[6] E.g. Margaret Boden, *The Creative Mind: Myths and Mechanisms* (London: Routledge, 2004).

[7] E.g. Mihaly Csikszentmihalyi, *Creativity: Flow and the Psychology of Discovery and Invention* (London: Harper Collins 1996).

[8] For a review of this logic see Teresa Amabile, *Creativity in Context* (Oxford: Westview Press,1996).

[9] E.g. Jonathan Plucker and Joseph Renzulli, 'Psychometric approaches to the study of human creativity', in *Handbook of Creativity*, ed. Robert Sternberg (Cambridge: CUP, 1999), 42-4.

their creativity were examined for the components of creative potential.[10] This can lead to a tendency within theory to assume that only a small percentage of the population have the potential to achieve such creativity, and this risks providing fuel to those who advocate elitist ideas and policies. This issue has also influenced, albeit with a different emphasis, approaches to understanding creative processes, products and systems.

All creativity research within this dominant framework explicitly or implicitly relies on the recognition of the creative act in some form. Some researchers take this further by arguing that recognition of the creative act is more than just a research facilitator, it ultimately defines creativity. Mihaly Csikszentmihalyi,[11] for example, claims that 'if creativity is to retain meaning it must refer to a process that results in an idea or product that is recognised and adopted by others … without some form of public recognition they do not constitute creativity'. Clearly, the role of recognition needs unpicking, especially as this research seems to depend on a form of the epistemic fallacy Roy Bhaskar has identified, whereby the ontological components of creativity are collapsed into the epistemological apparatus of researchers, in this case the recognition of the creative act.

Is recognition essential to a definition of creativity?

Clearly recognition is important to creativity, which cannot effect far-reaching change without it. However, is it necessary to argue that creativity is meaningless without recognition? If the answer is yes, research on unrecognised creativity would appear problematic, as would some of the claims within the humanist tradition. If the answer is no, then perhaps an alternative definition is required for research to progress. Whilst critical realism can offer a route to understanding the existence of creativity prior to its recognition, it is first important to ask whether the philosophies of science underpinning existing creativity research can also provide sustainable answers. The answer, it seems, is no.

On the one hand, research is informed by, in broadly defined terms, empirical realism or positivism. This form of research, with its focus on studying only the empirical requires creativity to be seen or recognised in order for it to be suitable for empirical investigation. It is perfectly consistent with this approach to define creativity in terms of its recognition. Yet Marc Runco[12] acknowledges that this creates a problem when considering how we come to *know* creative potential, which is by definition prior to

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[10] Mark Runco, 'Commentary on personal and potentially ambiguous creativity: you can't understand the butterfly unless you (also) watch the caterpillar', *Creativity Research Journal* 15(2 and 3) (2003): 140.

[11] Mihaly Csikszentmihalyi, 'Implications of a systems perspective for the study of creativity', in *Handbook of Creativity*, ed. Sternberg, (Cambridge: CUP, 1999), 314.

[12] Mark Runco, 'Commentary', 138.

recognition. His position is to accept that creative potential exists but to claim that it is only after it is manifest that we discover whether the potential existed in the first place. He realises that in terms of the philosophy of science used to inform his research this can cause difficulties:

> I am fully aware that my position on potential does not lend itself to an entirely objective science. However, it may be that we have to modify our methods such that they aren't maximally objective but are as objective as possible and still cover the topic at hand, namely, creativity.

However, although he recognises the tension, he does not deal with it. The temporary suspension of objectivity does not necessarily reconcile empirical realism with creative potential. The emphasis on empirical data and the lack of a conception of potential within his meta-theory has left Runco in a position whereby he recognises the importance of potential but his attempts to explain it are obstructed by the epistemological assumptions held about how we come to know it. How he comes to theorise creative potential is therefore restricted not by theoretical issues but by deeper meta-theoretical problems.

On the other hand, creativity research has been informed by a poststructural or postmodern perspective. Although there are exceptions, those who operate from within this broadly defined meta-theoretical perspective tend to prioritise epistemology. Whilst considering epistemology is, of course, perfectly acceptable, there is also a tendency within these approaches to commit the epistemic fallacy. There seems to be a chain of argument that runs as follows: We start off asking 'What exists?' We then recognise that to gain knowledge of what exists we have to access it via our linguistic or discursive apparatus. Then an unwarranted step can follow whereby the conclusion is drawn that, because knowledge of what exists is mediated by our linguistic or discursive practises, social reality becomes something that is entirely constructed through such practises. In creativity research, the moment of recognition can sometimes be regarded in this light. For these researchers, it is therefore perfectly consistent to define creativity through its recognition and to subsequently, and inadvertently, ignore questions of creative potential and unrecognised creativity in their research.

Steve Fleetwood[13] demonstrates this form of reasoning in the work of Kenneth Gergen,[14] Robert Chia[15] and Karl Weick[16] within the field of management and organisational analysis, and similar examples can be seen within creativity studies.

[13] Steve Fleetwood, 'The ontology of organisation and management studies: a critical realist approach', *Organization* 12(2) (2005): 197-22.

[14] Kenneth Gergen and Tojo Thatchenkery, 'Organizational science in a postmodern context', in *The Realm of Organization: Essays for Robert Cooper*, ed. R. Chia (London: Routledge, 1998).

[15] Robert Chia and Ian King, 'The language of organization theory', in *The Language of Organizations*, eds R. Westwood and S. Linstead (London: Sage 2001), 217-240.

[16] Karl Weick, *Sensemaking in Organizations* (London: Sage 1995).

For instance, Tudor Richards, drawing upon Weick's analysis,[17] discusses the situational approach to creativity studies and claims:

> A liberating aspect of Amabile's[18] work is that it steps away from the search for an ultimate criterion of creativity … the pragmatic point is that social reality is strongly determined by the beliefs of those considered most informed. [19]

Later in the article, when discussing the difficulties in defining creative organisations, Richards suggests that the problems in doing this can be overcome merely by discussing companies 'interested in creativity', stating that this 'paradigm switch effectively shifts attention to creativity as a socially constructed phenomenon'.[20]

Similarly, when discussing creativity and innovation,[21] Richards draws on Peter Winch[22] and claims that to understand what *constitutes* social reality (in this case creativity and innovation), we are required to understand the *concept* of social reality.

So in both forms of research there is little within the philosophy of science underpinning it to suggest a problem when defining creativity in terms of its recognition. The investigation of creativity that is unrecognised, unrealised or currently in potential has therefore remained either excluded from psychological research or hampered by the conventional definition and dominant conceptual framework as, arguably, they appear inconsistent with it. Whilst it is important to establish the role of recognition in creativity, it is equally important to establish how creativity can exist prior to and independently of recognition. To establish this, it is first necessary to tackle the issue that led creativity researchers to suggest that 'knowing it when we see it' is the only sustainable approach to defining creativity. That, I argue, is the issue of understanding novelty.

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[17] Weick, *Sensemaking.*

[18] Amabile, *Creativity in Context.*

[19] Tudor Richards, 'Assessing organisational creativity: an innovative benchmarking approach', *International Journal of Innovation Management* 2(3) (1998): 367-82, 370.

[20] Ibid., 371.

[21] Tudor Richards, 'The management of innovation: recasting the role of creativity', *European Journal of Work and Organisational Psychology* 5(1) (1996): 13-27, 16.

[22] Peter Winch, *The Idea of a Social Science and its Relation to Philosophy* (London: Routledge 1990).

De novo or ex nihilo? The problem of novelty

Novelty, the existence of something for the first time and distinct from other moments and things in existence, has proven problematic for creativity researchers to explain. If novelty is de novo, the recombination of previously existing things, it is difficult to separate creative novelty from all other novel moments. If we wish to maintain that there is something new and distinctive in creative novelty, a form of ex nihilo creation, creation from nothing, can be smuggled into the definition of novelty. This last point is especially true if an adequate understanding of potential is lacking from the philosophy of science underpinning the definition.[23] Both these positions have troubled creativity researchers. The solutions offered to date have failed to remove these tensions and, arguably, resulted in the continuing need to rely on recognition as the ultimate defining feature of creativity. Taking each of these problems in turn, Robert Epstein[24] provides an excellent summary of the problems for creativity researchers if novelty is conceived of as de novo:

> The behaviour of organisms has many firsts, so many in fact, that it's not clear that there are any seconds. We continually do new things, some profound, some trivial. We 'solve problems' which by definition means we're doing new things in situations we've never faced before. We write poems and improvise on the piano and devise scientific theories. We speak new utterances all the time … When you look closely enough, behaviour that appears to be repeated proves to be novel in some fashion … Even if you managed to repeat the same response precisely, it would still be novel in the sense that each occurrence is the product of a changed organism.

Epstein's analysis reveals that in some sense all things are novel. This begs the question: Can novelty be used to differentiate creativity? Creativity researchers, when describing how some unique combinations of events and things are considered creative novelty, such as Albert Einstein's contributions, while other combinations are considered meaningless or mundane forms of novelty, such as the next time I wash my hands, inevitably struggle. The frequently provided answer is a pragmatic one. It is argued that true creative novelty needs to be valuable, and judged as such, by an appropriate group of observers; hence, the reliance on recognition.

The current alternative, to accept a form of ex nihilo creation in creative novelty, seems equally problematic. Some creativity researchers[25] claim that novelty inevitably contains the presupposition of ex nihilo creation. They argue that for a thing to come into existence and be classed as truly novel it must, in some sense, not

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[23] For a discussion of this see Frank Barron, *Creative Person, Creative Process* (London: Holt, Rinehart and Winston, 1968).

[24] Robert Epstein, 'Skinner, creativity and the problem of spontaneous behaviour', *Psychological Science* 2(6) (1991): 362.

[25] See: Boden, *The Creative Mind* and David Perkins, 'Creativity: beyond the Darwinian paradigm', in *Dimensions of Creativity*, ed. Margaret Boden (London: Bradford Books, 1994).

have had any previous existence. David Perkins[26] argues that in order for us to understand creativity we must also explain how creative novelty can come into existence from nothing. He argues that ex nihilo creation *is* possible: we know that such moments of novelty occur, therefore they must be possible. However, this does not *explain* ex nihilo novelty; what is missing is a non-contradictory commentary on *how* it is possible.

Margaret Boden[27] (*pace* Perkins) argues that we believe creativity (defined as the recognised production of valued novelty) is real because we experience it in practise, although theoretically and conceptually it seems impossible because of the ex nihilo issue surrounding novelty. She claims that the task for creativity researchers is therefore to explain novelty and creativity without referring to miracles. Boden's solution to this 'magic' is to claim that genuine creativity has to be in some way previously impossible (as ex nihilo creation also seems impossible). She therefore proposes that a new idea must have been *incapable* of being produced before it happened; that it quite simply could not have occurred. She explains how this can happen by claiming that a merely novel idea is one that is produced by the same set of generative rules as are other, familiar ideas. A radically original idea, in her definition a creative one, is one that could not be, and it would be considered surprising or even shocking to those who recognise it. She labels the first form of creativity exploring a conceptual space, and the second going beyond the conceptual space.[28]

Boden's work is widely recognised within creativity research as advancing our understanding of the processes of the mind associated with creativity. However, the solution to ex nihilo creation proposed is arguably incomplete. First, she claims that, as ex nihilo is impossible, if you can explain prior impossibility of ideas, then you also explain the impossibility of ex nihilo creation. This is a 'sleight of hand solution' to borrow a phrase from magicians. Many things share the features of impossibility,[29] and to solve one of them does not necessarily mean that you solve the others. Second, even if we accept that ex nihilo creation and prior impossibility share the same features, if an idea genuinely could not have been produced it must not be capable of production. If it subsequently does happen, then it can not be considered to have been impossible in the first place. There is of course a temporal dimension to this, some ideas only become possible when social preconditions are suitable but even within those constraints, if an idea does occur it could not have been a prior impossibility.

[26] David Perkins, 'The possibility of invention', in *The Nature of Creativity*, ed. Sternberg, 362-85.

[27] Boden, *The Creative Mind*.

[28] Ibid., 51.

[29] There is no need to discuss the nature of impossibility within this argument. For a useful overview of these arguments referred to above, see John Barrow, *Impossibility: The Limits of Science and the Science of Limits* (Oxford University Press 1998).

The fact that it surprises or shocks the recipients of the idea,[30] or that it goes beyond the conceptual space she described, does not overcome this. The idea simply could not have been impossible in the first place. Therefore her work does not offer a complete solution to the ex nihilo problem. Whether de novo or ex nihilo, definitions of creativity that contain the concept of novelty are problematic. Dealing with these issues through empirical investigation and subsequent theorising has so far failed to offer a resolution. A deeper engagement with philosophy of science may therefore prove fruitful in the search for a sustainable and non-contradictory creativity definition.

Critical Realism and Creativity

Rather than engage a critique of the philosophies of science underpinning existing creativity research, I will attempt to show how critical realism can provide an alternative meta-theory for creativity researchers. In doing so, the relationship between creativity and the recognition of creativity will be explored and an ontology of creativity, consistent with critical realism, proposed. It will be suggested that the ontological commitments of critical realism, namely the conceptions of causal powers, the stratification of reality and conceptions of absence enable a definition of creativity that may resolve the highlighted problems with the concept of novelty and explain how creativity is both independent of recognition and related to it.

Critical realism contains a distinct notion of causality which provides the basis for claims of the existence of the world independently of our knowledge of it, or in terms of definitions of creativity, of our recognition of the creative act. This notion of causality is also distinct from conceptions of causality underpinning a great deal of the psychological theories of creativity, especially those theories rooted in positivism and empiricism whereby, in general terms, causality is seen as synonymous with regularity between events. So if event x and event y are regularly conjoined, it is presumed that one causes the other.

Bhaskar[31] rejects this notion of causality and argues that the concept of causal powers is more consistent with the ontology of the natural and social world. He argues that the real basis of causality lies in the independence of the generative mechanisms from the events they generate and that mechanisms endure when not acting. It is therefore commonly argued that the causal power of something, for example gunpowder, exists as a result of its necessary internal relations, its essential qualities. These qualities are dependent upon external relations for them to be exercised but these external relations are contingent – on the presence of a spark for gunpowder to explode.

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[30] There is a reductio ad absurdum in her logic which goes as follows: the more surprised we are by creativity, the more creative it is. The less intelligent we are, the more likely we are to be surprised, subsequently, the less intelligent we become, the more creativity is possible.

[31] Roy Bhaskar, *The Possibility of Naturalism: A Philosophical Critique of the Contemporary Human Sciences* [*PON*] (London: Routledge 1998).

This means that for Bhaskar 'whilst the positivist (Humean) tradition is correct to stress there are causal laws, generalities at work … it errs in the reduction of these laws to empirical regularities'.[32] In other words, relying solely on the co-variation of observed events to establish and then explain causality contains an ontological error; it assumes that the world has the same properties as the way we come to know the world. These insights enable Bhaskar to claim that reality can be considered stratified into the levels of the real, the actual and the empirical. He states that 'there is a distinction between the *real* structures and mechanisms of the world and the *actual* patterns of events they generate' [33] and that these mechanisms and events can exist beyond our *empirical* perception. In terms of human potential this subsequently enables Bhaskar to recognise that we have real *capacities* (the potential to develop certain skills and competencies) and *capabilities* (developed skills and competencies).

Language use provides a good example of the explanatory power of this ontological position. When speaking, the *capability* to use speech becomes observable and audible and therefore enters the *actual* and empirical level of reality but it also still exists at the level of real, as it is still a real capability. When not speaking, the capability to speak remains but it now exists at the level the real only; it is a real capability not in use. The *capacity* for human beings to learn language demonstrates the depth within the category of the real. This capacity exists only in potential at birth as the capability to use language has not developed. This conception of stratification enables theories informed by critical realism to consider not only that which is observed (and therefore open to recognition) but also other forms of potential such as capacities and capabilities, and their modes of operation. When applied to creativity this suggests that creative potential can exist at three levels: as a real potential, or capacity; as an acquired capability that is currently unexercised; and as a capability exercised but not available to the empirical observation of others.[34] Hence, critical realism enables us to consider aspects of creativity that exist prior to recognition, suggesting that a definition that encompasses these characteristics is necessary.

Whilst critical realism seems to give us the ability to consider creativity prior to its recognition, the question of the status of novelty and whether it is ex nihilo or de novo remains. As it is difficult, if not impossible, to explore ex nihilo creation empirically, we are reliant on philosophical enquiry to examine its possibility. Bhaskar's *Dialectic: The Pulse of Freedom*[35] provides a useful base from which to explore this issue as it provides a sophisticated understanding of absence. To explain ex nihilo creation one must also explain the existence of the nothing that is presupposed by it. In *Dialectic*,

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[32] Bhaskar, *PON*, 21.

[33] Roy Bhaskar, 'Philosophy and scientific realism', in *Critical Realism: Essential Readings*, eds M. Archer, R. Bhaskar, A. Collier, T. Lawson, and A. Norrie (London: Routledge 1998), 34

[34] A fourth level will be developed and explained below.

[35] Roy Bhaskar, *Dialectic: The Pulse of Freedom* [DPF] (London: Verso 1993).

whilst arguing against forms of actualism, Bhaskar recognises that the possibility of absolute nothing cannot be ruled out a priori:

> This being granted takes me to my fourth argument against the ontological dominance of the positive. If a totally positive material object world – a packed world without absences – is impossible, there is no a priori reason to exclude the opposite – namely a total void, literally nothing.[36]

> Now, employing a strategy of dialectical detachment from our initial premise – positive existence – in the metacritical end game, we can argue that not only is a total void possible but if there was a *unique* beginning to everything it could only be from nothing by an act of radical autogenesis. So that *if* there was an originating Absolute, nothing would be its schema or form, constituted at the moment of initiation by the spontaneous disposition to become something other than itself. Similarly, if there was a complete end to everything it would involve a collapse to actualised nothingness, absolutely nothing. In sum, complete positivity is impossible but sheer indeterminate negativity is not.[37]

The existence of nothing described here is unproblematic in the sense of a theoretical collapse into actualised nothingness. This seems logically consistent, if that nothingness included the end of all potential also. However, when exploring the argument for radical autogenesis as the start of all things, Bhaskar recognises that this originating nothing would also require the 'spontaneous disposition to become something other than itself'. This position implies that creation from an originating Absolute requires a potential in the form of a spontaneous disposition.

To argue for autogenesis from nothing, or ex nihilo creation, is also to argue that the *potential* for the creation of that something did not pre-exist it. If the pre-existing 'nothing' does not contain a potential, then the subsequent existence of this something (out of nothing) would contradict the critical realist interpretation of the natural and social world.[38] If it does contain a potential, as Bhaskar posits in his analysis, then ex nihilo creation is not possible, as the originating nothing is in fact something, a potential. The creation of a new thing must therefore presuppose the potential for it. Generalising this analysis to definitions of creativity, it is clear that ex nihilo creativity is inconsistent with the principles of critical realism, as a necessary but not sufficient condition for creativity to occur must include the potential for it to occur, hence creation from something, not nothing.

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[36] Ibid., 46.

[37] Ibid., 46–7.

[38] See Mervyn Hartwig, 'Creativity', in *Dictionary of Critical Realism*, ed. M. Hartwig (London: Routledge, 2007), 86-9.

An augmented definition of creativity

This review of difficulties associated with the conventional definition of creativity has demonstrated a struggle to resolve what Boden and Perkins class as the paradox of novelty and creation. It suggests that definitions of creativity have relied, in some way, on references to the production of novelty that is *valuable*, useful, appropriate and *recognised* by some group or other. This has become the standard and most popular form of definition within psychological research on creativity, in many cases it would seem without much reflection.[39]

Consequently, creativity is deemed to be reliant on the judgment of others for its existence, whether through its recognition in human acts or via a judgement of the value of a creative product. By implicitly and explicitly requiring reliance on recognition, the conventional definition is incompatible with some facets of creativity that are prior to recognition, such as creative potential and particularly unrecognised creativity. The problem with this reliance on recognition is that it commits the epistemic fallacy; it defines reality through how we come to know it and is therefore both conceptually flawed and inconsistent with the way the world is, according to the principles of critical realism. This also introduces inconsistency into psychological accounts of creativity. In order for research on unrecognised creativity and creative potential to proceed, an augmented definition of creativity is necessary.

Before offering such a definition of creativity, it is necessary to explore existing accounts of creativity informed through critical realism to examine whether these issues have already been fully resolved. In Mervyn Hartwig's D*ictionary of Critical Realism*[40] an overview of critical realist thinking is provided and the definition of creativity offered is 'the capacity to produce something new and valuable'. The term capacity in the definition means that existing critical realist accounts of creativity view it first and foremost as a potential. The process by which creativity occurs is also explained and here there is also a rejection of ontological ex nihilo creation through the recognition that creativity involves emergence from an 'implicit or enfolded potential'.[41] This reflects Bhaskar's main work on creativity[42] in which he defines creativity first as the production of something new[43] and then recognises that this 'newness' emerges from what was implicitly in potential beforehand. Hence, he too rejects ex nihilo creation considered from an ontological point of view.

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[39] For a review of the lack of reflection on definitions in journal articles see Jonathon Plucker and Ronald Beghetto, 'Why creativity is domain general, why it looks domain specific and why the distinction doesn't matter', in *Creativity: From Potential to Realisation*, eds Robert Sternberg, Elena Grigorenko, and Jerome Singer (London: American Psychological Society, 2006). 154-168

[40] Hartwig, 'Creativity'.

[41] Ibid., 86.

[42] Roy Bhaskar, *Meta-Reality*: *The Philosophy of Meta-Reality, Volume I, Creativity, Love and Freedom* (New Delhi: Thousand Oaks, and London: Sage, 2002).

[43] Ibid., 105.

As we have seen, the concept of novelty is problematic. Critical realism seems to enable a definition of creativity to include 'valuable novelty' as the presupposition of ex nihilo creation can be dealt with. However, there is still the de novo issue to contend with. Some new things or moments can meet the criteria of this definition but may not be the result of a capacity for creativity. For example, and I know it's trivial, making a cup of tea. It's a novel moment, the precise combination of events that results in the end product – a cup of tea – would not have previously occurred in exactly the same way and the end product would be unique and valuable. Bhaskar recognises the ex nihilo problem but the use of novelty and value in a definition of creativity requires further exploration for it to be sustainable. The missing link between the emergence of these new phenomena and a consistent definition of creativity must therefore be supplied. I argue that the moment of discovery Bhaskar refers to later in his work,[44] when expanded upon, can hold the key to reconciling these underlying issues with a definition of creativity that accepts that the emergence of creative novelty can occur. Utilising the meta-theoretical insights of critical realism and drawing upon some of the ideas captured in the existing psychological literature on creativity, I therefore offer the following definitions, which build sequentially to an overall definition. Each component of the definition is first presented and then explained.

Human creativity is the capacity to discover the causal powers of the world.

This first clause of the definition provides an overarching account of all forms of human creativity and as such can refer to creativity as a personal capacity for moments of discovery, whether of local or historical significance. It is therefore consistent with this definition to recognise Boden's[45] contribution to the understanding of creativity and accept that personal and historical creativity have different outcomes by adding:

These discoveries can occur for the first time in human history or for the first time in relation to the individual or individuals concerned.

This recognises the importance society places on historical and radically new contributions but does not reduce creativity to such contributions. It also reconciles the ex nihilo issue of novelty as it recognises that a thing can be discovered for the first time but that it will also pre-exist the discovery, either in potential or otherwise. Likewise the inclusion of discovery enables the emergence of creative novelty to be differentiated from other novel moments or things and therefore overcomes the problem of de novo novelty. Finally, it is possible to acknowledge the role personal

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[44] Ibid., 109.

[45] Boden, *The Creative Mind*, 43.

and societal recognition plays[46] in the uptake of creativity and therefore make the following addition:

> These discoveries may (or may not) be recognised by the individual and subsequently communicated. If recognised and communicated they may (or may not) gain individual, group, organisational, community or global recognition and this process of recognition can be influenced by many factors including (but not limited to) economic, political and power processes.

This allows that personal recognition of creativity does not always occur, as the importance of some discoveries can remain hidden to those who discover them. If it is personally recognised and communicated, the discovery can go on to gain wider recognition (or not). This process of recognition includes the need for communication and can be influenced by many factors. Having proposed a new definition of creativity, a detailed explanation of each component will be offered in turn whilst demonstrating both the usefulness of critical realism and the potential of this definition to solve the tensions identified within the existing conceptual framework for creativity.

Creativity is the human capacity …

Critical realism holds that causality refers to the power or capacity of a thing to act. This power can have both internal relations (the essential properties of a thing), and external contingent relations with other causal powers operating on and around it. In agreement with Bhaskar, we can therefore claim that creativity in the social sphere is first and foremost a human capacity. One can recognise the enabling and constraining effects of society on these capacities and capabilities, but creativity ought not to be reduced merely to the existence of these effects, such as those produced by processes of recognition. One can also recognise that human creativity is dependent upon a world in which discoveries are possible, and that non-human systems can be creative (such as nature's creativity in processes of evolution). However, the human capacity for creativity resides *both* within our own capacities and capabilities for making such discoveries (for example, our powers of imagination, problem solving, ideation, insight, combinational thinking, language and rational thinking) *and* in the nature of the world around us that lends itself to discovery.

Once we accept that creativity is a human capacity, theory can begin to explicitly uncover these human powers and capacities for creativity, how they operate and interact, what is crucial to their development and how they can best be actualised. Whilst explanation in theory is beyond the scope of this paper, it is possible to theorise about the human capacity for creativity at a number of levels:

1. As a power or capacity in potential

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[46] Amabile, *Creativity in Context* and Csikszentmihalyi, *Creativity.*

2. As a power or capacity that is realised (a capability) but not necessarily exercised
3. As a capability that is exercised but does not necessarily result in a discovery
4. As a capability that is exercised and results in a discovery

Level (1) refers to the existence of creative potential as a latent skill or ability. Level (2) recognises that even if this capacity is realised as a capability we may choose, or be forced, not to use it. Level (3) allows for a realised capability to be used ineffectively due to countervailing powers in the environment and the self, which prevent discovery. Level (4) refers to the moment of discovery, which can still be unrecognised and therefore still exists as a form of potential, or latent creativity. The role of theory is, at least in part, to explain *each* of these levels and offer explanation of the interactions between them.

To make discoveries about the causal powers of the world …

The second fundamental feature of human creativity is that it requires a moment of discovery. In nature and other material systems creativity can be seen as a process of emergence that does not necessarily require a conscious discovery.[47] For human beings, the emergence of something new must also, in some way, include a moment of discovery in human consciousness. This offers a resolution to the ex nihilo paradox as it suggests that in human creativity the discovery emerges from something pre-existing, not from nothing. Therefore we *must* engage in a process of discovery whereby we aid the potential for something to unfold or become manifest and, either simultaneously or later, become conscious of it. Bhaskar recognises the need for this moment of discovery in his work on creativity[48] but this can now be developed further to explore the significance of discovery for a definition of creativity. Hence, this definition suggests the capacity to discover rather than the capacity to produce novelty becomes a central defining feature of creativity.

Defining creativity as the capacity for discovery provides both a sustainable resolution to the ex nihilo paradox of novelty and circumvents the need to reduce creativity definitions to the recognition and value of the creative act. It also enables us to consider that creativity involves the discovery of capacities (powers in potential), as well as capabilities (realised powers). Consequently, this gives us the ability to classify several types of human discovery:

1. The discovery of a capacity or potential (a causal power in its potential state)
2. The discovery of a realised capability that is not necessarily exercised
3. The discovery of a realised and exercised capability, the effects of which are countervailed by other causal powers

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47 Hartwig, 'Creativity', 86.

48 Bhaskar, *Meta-Reality*, 109.

4. The discovery of a realised and exercised capability, the effects of which were previously oblique to human understanding

Some examples may help with distinguishing theses types of discovery. (1) refers to the discovery of things like the (powers of the) motor car; its capacities were unrealised until the combination of other powers enabled it to be discovered (for example, the discovery of the power of petrol to combust, the strength of steel and so on). (2) refers to the ability to discover a hidden capacity such as the ability of a material to conduct electricity. Its capacity can be viewed as realised (that is, as a capability), but only exercised when it comes into contact with an electrical current. (3) might refer to the power of aspirin to reduce heart disease. In its early use as a painkiller, this capability was countervailed as it was not used consistently enough for its powers to fully operationalise. (4) refers to such things as the ability to explain gravity. The power of gravity is realised and its effects are physically apparent but its essential properties were oblique to the understanding of humans for large parts of history; the power of gravity is therefore revealed to human understanding.

This framework also has some applicability to creativity in art. Whilst a complex process, when an artist develops a painting that is subsequently enjoyed by an audience, they have also discovered the capability of that precise combination of things to influence an audience. This capability must have existed as a potential or capacity prior to its development, hence the requirement for the human mind to have a moment or moments of discovery. For example, the capability of human beings to enjoy impressionist art could be predicated upon the capacity and capability of human beings to recognise patterns in incomplete and complex perceptual information. This by no means limits or reduces the process of making art to a simple explanation, it merely highlights some of the common underlying features within such creative processes.

Just as the object of enquiry can determine the method of investigation, these objects of discovery have properties that may require very different human capacities for them to be discovered. For example, discovering a capacity or potential might require the capacity for imagination, whereas understanding the power of gravity may require the capacity for abstraction and reasoned argument.[49] This also presupposes that environments contain powers that enable or constrain certain forms of creativity. In the case of discovering that metal conducts electricity, it is first necessary for the environment to have an actualised power of electricity within it (amongst many other things) in order for the discovery to be possible.

I have no doubt that there are many more possible categories of discovery and further research is required to offer a deeper understanding than provided here. However, my account begins the process of distinguishing between the various types of discovery that creativity can refer to. There is a history in the dominant conceptual framework

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[49] I make no claim as to how similar or not these two types of thought process are; I merely highlight that human beings have many capacities.

of considering discovery part of creativity.[50] However, the conventional definition with its focus on the recognised production of novelty has relegated the role of discovery to something of an afterthought. This definition suggests that discovery is central to any definition of creativity.

For the first time in human history ... or for the first time to the individual ...

Knowing that something is of historical importance may indeed rely upon the agreement of relevant groups of people, but it is important to separate that process of agreement from the thing that is being agreed upon. In agreement with Bhaskar[51] and Boden,[52] this definition suggests that the capacity for creativity is a universal feature of human beings and that re-discoveries are as much a feature of creativity as first-time historically significant discoveries. There might, however, be a difference in the level of difficulty of the relative discoveries.[53] Discovering the potential of water to turn to steam may be a creative discovery for a six-year-old in a primary science class, but may be considered different in the degree of difficulty to the task a scientist faces in attempting to discover the nature of quantum particles. This difference in degree of difficulty has previously led researchers to claim that historical and personal creativity are different types of creativity, in the absence of the necessary ontological toolkit to explain exactly how they are different, or how they might be the same.

My augmented definition gives researchers the ability to theorise about the nature of creativity by explaining which human capacities and capabilities are required, the nature of the discovery, and what enabling and constraining powers are in effect in the environment, with each variable being critical to the success of the creative project. One might suggest that the discovery of the boiling point of water by a six-year-old involves a simple discovery as there are many enabling powers available to aid the discovery and few of the human powers for creativity need to be in operation.[54] Likewise, the discovery of gravity could once have been a difficult discovery. Armed with this framework, theory can seek to understand the conditions that enable and constrain creative discoveries in societies, organisations, groups and individuals.

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[50] E.g. Amit Goswami, 'Creativity and the quantum: a unified theory of creativity', *Creativity Research Journal* 9(1) (1996): 47-61; Tudor Richards, 'The management of innovation: recasting the role of creativity', *European Journal of Work and Organisational Psychology*, 5(1) (1996): 13-27; Arthur Koestler, *The Act of Creation* (London: Hutchinson, 1964); and Ryan Tweney, 'Presymbolic processes in scientific creativity', *Creativity Research Journal* 9 (2and3) (1996): 163-72.

[51] Bhaskar, *Meta-Reality*, 105-109.

[52] Boden, *The Creative Mind.*

[53] See e.g. Howard Gruber, 'The evolving systems approach to creative work', in *Creative People at Work*, eds Doris Wallace and Howard Gruber, (Oxford: OUP, 1989), 3-24.

[54] Although it could equally be argued that it is a difficult discovery precisely because many of the necessary reasoning capabilities are unrealised at age six. Either way, a method of ascertaining developmental individual differences becomes possible.

These discoveries may (or may not) be recognised by the individual …

Some discoveries have occurred the significance of which has been misunderstood by their discoverers. Contemporary folklore suggests that Edison thought the telephone would only be of limited use, and inventors at IBM did not think there was a viable market for computers. By recognising this in defining creativity it enables researchers to explore what it is in the relationship between discoverer, discovered and society that can prevent the powers of a thing from being recognised as important.

Or gain … recognition …

Exploration of just how recognition occurs is important to the understanding of creativity. Recognition is a personal and social process and includes individual, group, organisational, community and possibly global processes. The study of recognition as it relates to creativity is both important to our understanding of creativity and yet distinct from it. Personal creativity is not reliant on recognition but the power of creativity to affect change requires recognition. It can involve many processes not necessarily directly involved with creativity itself, such as psychological conditions,[55] communication skills and, perhaps most importantly within the organisational setting, power and political influences.

Conclusion

The aim of this paper was not to explain creativity but to provide some meta-theoretical ground clearing or underlabouring to establish a definition of creativity that is both consistent with humanist thought and critical realism. Through exploring the issues of recognition and novelty within the dominant conceptual framework and drawing upon the ontology of critical realism, it has been proposed, in agreement with Bhaskar, that creativity should first and foremost be considered a universal human capacity, a definition which, when linked to discovery, enables the resolution of issues within the dominant conceptual framework. It is not without precedent to define creativity as a potential but rarely has discovery been placed at the heart of the definition. For example, in a recent review of how to improve creativity there was little explicit mention of the role of discovery.[56] Using critical realism to inform research on creativity suggests that discovery should be not considered a relatively insigificant aspect of creativity but one of its central defining features.

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[55] E.g. Kasof's seminal piece: Joseph Kasof, 'Explaining creativity: the attributional perspective', *Creativity Research Journal* 8(4) (1995): 311-66.

[56] Raymond Nickerson, 'Enhancing Creativity', in *Handbook of Creativity*, ed. Sternberg, (Cambridge: CUP, 1999), 392-430.

This paper also explored the depth of creative potential that critical realism enables us to theorise, in a consistent and sustainable way. This is extremely important as humanist thought presupposes the existence of such latent capacities in workers. However, rather than develop an explanation of creativity and how it emerges, I would like to speculate, for now, on the political consequences of this paper.

If creativity can exist as a potential, unrecognised, unexercised and unrealised, then the fact that we rarely see creative activity displayed in contemporary organisations should not (mis)lead us into believing that millions of people simply lack creative potential. Such misleading ideas fuel policies aiming to make intellectual education available only to those deemed to be 'creative' and vocational education available to those deemed to lack creative potential. Rejecting these deceptive ideas should lead us to ask far more searching questions, not just of people *qua* agents, but of the class, gender, and race-based social structures, institutions and organisations with which people find themselves interacting.

If people are potentially creative, future research should enquire what it is about these social structures, institutions and organisations that not only prevent workers' creative powers being realised and exercised, but also prevent their exercised and realised creative action from being recognised. This clearly means that issues of politics and power need addressing. The effect of these constraining factors is not, of course, a new discovery. Organisational theory is littered with accounts[57] of the negative effect of management control on employee performance and motivation. Nevertheless, critical realism provides the wherewithal to explore the consequences of these barriers to creativity, enabling unrecognised and unrealised creativity to be considered real, as well as providing a means for studying types of creative potential. This means we can begin to seek out the creativity, not only the few, but of the many. Until such time as access to wealth, resources and their subsequent power and political advantages are proven not to hinder creative potential, the position of assuming that all members of the population who do not display creativity do not have any creative potential should perhaps be abandoned. A deeper explanation of exactly how creative potential can fail to be realised is very necessary indeed.

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[57] For example: Richard Sennett, *The corrosion of character* (London: W. W. Norton, 1998).

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