

# Post-creativity and AI: Reverse-engineering our Conceptual Landscapes of Creativity

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## Abstract

This paper introduces the notion ‘post-creativity’ as a reference point for discussing the ways in which the computational simulation of creativity perpetually seems to hinge upon conceptions of creativity that are both much-too-human and non-contingent. Taking issue with the often implicit idea within the artificial creativity-agenda that creativity somehow exists before the fact, this paper, drawing upon Michel Foucault’s notion of the ‘dispositif’, insists that we must keep a steady eye on the historicity of the ideas and practices of ‘creativity’ in order to fully comprehend the ways in which computational/artificial creativity is part and parcel of the perpetual re-creation of creativity and hence, at best, contributing to a conceptual reverse-engineering of ‘creativity’.

## Post-creativity

This paper takes its cue from the notion ‘post-creativity’, an abbreviation of post-*anthropocentric* creativity, which hints at a notion or understanding of creativity that is not solely focusing on the human aspects of creativity.

An initial disclaimer is in order. This notion is not advocated in order to suggest that we have moved beyond creativity. It is not *after* creativity. The ‘post’-prefix rather hints at the human-centric tendencies within creativity studies and related disciplines and practices, including Computational Creativity (CC).

This becomes relevant as we are moving into an area in which the human factors are increasingly less at the centre of things, also in relation to creativity, and have been so for quite some time. This shift is the case both in relation to *productive* creative practices, where there are a lot of practical experiments happening these days. And it is the case in relation to our mindsets. There is something going on in relation to our *conceptual understandings* of those practices we label ‘creative’. So, ‘post-creativity’ both has to do with changes in the *making of stuff*; and with the *making sense of making stuff* (and as I will make clear a bit later,

these two levels — of making, and of making sense of making — are dialectically interwoven).

The main reason we need a notion like this now is the increasing entanglements of humans and machines in the making of art, especially various forms of art generated by or in collaboration with AI. Given that most art-making today at some level involves digital technologies, this actually happens much more often than we perhaps realize. Digital technologies tend to precondition our workflows and influence the aesthetic characteristics of the outcome of our creative efforts (e.g. Bardzell 2007). Or to be more precise: they precondition, influence and shape the efforts we engage in, whilst we understand and often explicitly frame them as being ‘creative’ (or as emerging out of ‘creative processes’).

Despite the proliferation of human-technology entanglements on numerous levels of so-called ‘everyday creativity’ (cf. Runco and Bahleda 1987; Richards 2010); and despite the fact that this kind of entanglement is quite interesting since these kinds of objects, as Bruno Latour has noted, “no matter how important, efficient, central, or necessary they may be, tend to recede into the background very fast [...] — and the greater their importance, the faster they disappear” (2005: 79-80); this paper will mostly focus on forms of creative art-making that originates in some variant of autonomously working AI — and does so explicitly. This paper will in other words engage with practices and assumptions about creativity that are *on par* with CC’s ambition to explore “the potential for computers to be autonomous creators in their own right” as it is stated in the call for papers for this year’s conference.<sup>1</sup> Or as d’Inverno and McCormack have labelled it: ‘Heroic AI’, in

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<sup>1</sup> <http://computationalcreativity.net/iccc20/full-papers/>. It is, however, worth noting that this ambition is quite different from the one given in the “Welcome to the Eleventh International Conference...”, which defines “computational systems” as entities that “exhibit behaviours that unbiased observers would deem to be creative.” (<http://computationalcreativity.net/iccc20/>) Whereas one relates to *being* creative, the other relates to *leaving the impression* of being creative (although the next sentence gradually slides back into essentialist thinking: “formalising what it means for software to be creative” (ibid.; my emphasis)).

which “the software takes on the role of the lone creators” (2015: 2438).

I will focus on this agenda of autonomous artificial creativity whilst simultaneously being aware that at closer scrutiny, this perhaps never really happens at all. Setting up Generative Adversarial Networks (GAN) and appropriate training datasets or in other ways designing relevant “learning environments” for Deep/Machine Learning algorithms and so on inevitably means getting another host of humans involved (Yanisky-Ravid 2017). Though we do, of course, tend to think of these people as ‘non-creatives’, thus keeping up the impression (or ideal) of autonomous machinic creation; but that’s another story.

Yet, even if this constant re-entanglement with the human-social was a factor that could be dealt with — if we could somehow subtract all human engagement from creative computational processes all down the production line — I would still argue that a much more fundamental problem is at stake, namely the assumed existence of creativity as something already being “out there”, “in here”, “up there”, etc. In short: the implied existence (*being*) of an *un-artificial* creativity, that either could somehow be uncovered in advance and then reproduced or artificially simulated; or which computational approaches could bring us closer to understanding — just to paraphrase the two most commons agendas for working with artificial creativity.

## Being Creative, Being Man

Thus, the issue of creativity *being* (this or that) is closely related to one of the main reasons people often mention for finding art generated by AI particularly interesting, namely that it challenges our conception of what creativity *is*, and subsequently often also how creative products come into being, through which processes, etc. (Stephensen 2019). It allows us, or perhaps even forces us, it is often argued, to rethink the nature of human creativity and to pose fundamental questions such as “what does it mean to create?” and “how are things brought into being?”

But on top of that, it even forces us in much more general terms to rethink what it means to be human. This might, of course, come across as a tall claim, an overstatement. But if we look at the ways in which we over the recent half century (since World War 2 and in particular since the 1960s) have *invented creativity* it becomes obvious, that in our minds creativity has become one of those things that define who we are. Yet, in the long history of ideas, we have never before thought of ourselves in this way, as *the creative being*. For quite some time this was, in fact, an idea that quite easily would have gotten you in serious trouble with the Church and other authorities; perhaps most famously formulated by the Church Father St Augustine of Hippo (and subsequently repeated by St Thomas Aquinas) in his dictum *creatura non potest creare* (the creature, or the created being, cannot itself create) (Pope 2005: 45). Creativity was not the role of Man.

Now it is. Now, we think about ourselves in these terms: Man as the creative being. For numerous reasons, many of which have been socio-political and economic, creativity has suddenly become one of our essential defining qualities, a ‘species-characteristic’ or something at the core of our ‘species-being’ as young Marx (1967) would put it (cf. Fromm 1961; Wartenberg 1982; Sayers 2011). In short: creativity has become one of those things that seems to make us different from all other living beings; what makes up the essence of being human. And hence also, something we should strive for, individually and socially.

Once again it is important to emphasize that in a historical perspective this is something completely new. Michel Foucault (2003) once suggested that some ideas have become so natural to us that we forget they have a history; that at some time they were perhaps even unthinkable. The notion of creativity as a shared human faculty and as something essentially human is one of those ideas.

## Politicizing creativity

Two historical trajectories seem important for grasping this conceptual shift. One is related to *political issues*. It is important to note that the burgeoning use of ‘creativity’ as a noun post-WW2 coincided with New Left, countercultural critiques of capitalism and its so-called alienating effects upon individuals as well as sociality at large. The critique of capitalism — much of which took its cue from the at the time recent release of young Marx’ hitherto relatively unknown writings on alienation in translation (collected in Fromm 1961) — had two intertwined effects:

(1) To advocate the ideal of so-called creative productive activity against alienated labour and its organisation under capitalism, which was accused of stifling the former (often presented as the dichotomy ‘creativity’ *versus* ‘organisation’, ‘bureaucracy’, ‘capitalism’, etc.). And (2) to successfully, on a broader societal level, install the idea of creativity as not only a common feature of humanity at large. It is also one of those things that was crucial to individual self-actualization, that is: of de-alienating one’s own humanity. This was a perspective that was in line with Abraham Maslow and Carl Rogers who explicitly linked the actualization of one’s creative potentials to “becoming a person” (Reckwitz 2017: 149-152), which gradually has become *common sense* (in the Foucauldian sense). Now, “[we] are all creative, at least in potential”, as Glăveanu and Kaufman without any hesitation state in the first line of their introductory chapter “Creativity” from the latest edition of *The Cambridge Handbook of Creativity* (2019: 9).

In recent years, in contrast to the critical use of the term that used to dominate in which creativity was pitted against labour under capitalism, these two tenets of creativity have mostly been talked about as something we might achieve — and increasingly expect/are expected to achieve — in or

at work (Morgan and Nelligan 2018).<sup>2</sup> Whereas creativity used to be linked to capitalism's (economic, political, social) *Other*, it has now become pivotal to an perpetually changing, all-encompassing economic system to which there is no real alternative (Fisher 2009). For instance, on the back-cover blurb on management guru Gary Hamel's book *The Future of Management* (2007), one of the most influential of the creativity-at-work advocates Richard Florida celebratorily sums up this shift as follows:

“For the past century, people have worked in the management prisons of Industrial Age — which has wasted the energy, creativity, and human potential of our people. Gary Hamel [...] creates an inspiring and needed vision for the future of management that is not only more human, but can unleash the full potential in all of us.”

But it is not just business lingo. Throughout the second half of the 20<sup>th</sup> Century, all these ideas about the inherent communality, the emancipatory potential and not least the human substantiality of creativity were also at the centre of a host of avantgardistic artistic practices. With reference to the same cluster of political and philosophical ideas these movements sought in various ways to democratize or distribute creativity; either by inviting non-artists to participate in creative practices (cf. art historian John Roberts' notion of the 'opening of the circuits of authorship' (2007)); by imploding the category of the artwork (cf. the readymade or process art); or within theory in more general terms: by applying the label “creative” to practices hitherto not thought of as such (cf. the tendency within Cultural Studies to reinterpret consumption as a creative practice (McGuigan 2011)).

### **Democratizing, distributing, recombining creativity**

The other trajectory worth mentioning is related to *technological* innovations, more specifically the proliferation of new digital media technologies within the last two decades. Here, the aforementioned previous agendas of democratizing and distributing creativity have been (im)materially embedded into the functional architecture of “new media” (cf. Turner 2006, 2013; Manovich 2013).

Parallel to this, the practice of recombining already existing materials (*creatio ex materia*) — or as new media lingo labels it: remixing — was also consolidated as a genuine feat of creativity, which it had not been previously under the auspice of the romantically inclined idea of *crea-*

*tio ex nihilo* (Mason 2003; d'Inverno and McCormack 2015; Lessig 2008; Boden 2004).

In a similar vein, the proliferation of technologies of (creative) co-operation (Rheingold et al. 2005) have given prominence to a conception of creativity that emphasises co-production, collaboration, co-creativity, symbiotic relationships between producers and users, etc. (Jenkins 2006; Meikle & Young 2012; Bolter 2019). These architectures of co-operation and collaboration stand out as realizations of Tim Berners-Lee's ambition for the World Wide Web as a non-hierarchical site of 'intercreativity' (1999: 169-172), only on a much grander scale than he could ever have imagined, of course, especially with Web 2.0 (or 3.0, 4.0 or where ever we are presently at).

This conception of creativity as a collaborative or distributed practice has also been adopted within artificial/computational creativity research. d'Inverno and McCormack have for instance suggested that so-called 'Collaborative AI' where “the system supports, challenges and provokes the creative activity of humans” seems the better option in comparison with 'Heroic AI' in which “the software takes on the role of the lone creators” (2015: 2438). Likewise, Davis et al. have suggested that thinking in lines of 'computer colleagues' as “co-creative agents [which] collaborate with humans in *continuous* real time improvisation to enrich the creative process” seems most promising (2015: 110).

Despite the relevance and timeliness of downplaying the often overindulgent claims of the AI-hype, especially that concerning the prospects of a 'Heroic AI', both d'Inverno & McCormack and Davis et al. nonetheless end up aligning a bit too closely with the above-mentioned two trajectories, the socio-economic/political/ideological and the technological, and their combined legacy: the dominant conception of creativity as a profoundly human activity that, at least in principle, can be done by anyone, anywhere, in any given material, and often in concert. And on top of that with the idea being pitched to us by big tech firms like Apple (cf. their famous 'Think Different' campaign) or Adobe ('Creative Clouds for Teams'), namely: that creativity could best be achieved by using, and not least purchasing, digital media technologies and software ecologies from these specific companies.

### **AI and automation – creativity as our last refuge?**

In combination, and in accord with our new technological imaginaries, these two trajectories have further popularized the impression that creative self-realization, especially in one's working life, is a fair and normal thing to expect of oneself, as well as of others (e.g. colleagues and employees). Which is a historically unprecedented expectation, which we have only quite recently come to embrace on an individual and societal level. Never before have we had

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<sup>2</sup> The fetishism of creativity did not just spring from the counter-cultural *critique* of capitalism. Quite ironically it was accelerated by an energizing loop around the very powerhouse of capitalist consumer society, the advertising industry, which successfully managed to harvest consumer dissatisfaction to the service of more capitalist consumerism. 'Creativity' thus became central to what Thomas Frank (1997) has labelled 'hip, anti-capitalist consumerism', which advocated the idea of consumption as a cultural practice that was simultaneously creative and anti-capitalist.

such high cultural expectations to the mundane activities of maintaining our subsistence.

If we for a moment return to the idea of Man as the creative being it seems fair to say that in recent years this idea has been getting ever more traction in relation to current socio-economic and political discussions on automation, robotisation and AI. Whilst these technologies might be able to replace us or even out-perform us when it comes to all the tedious stuff (in the so-called ‘realm of necessity’, as the older Marx labelled it in *Capital* (2010: 593)), the good news is, the argument often goes, that this will only leave us with more time in the ‘realm of freedom’ to do what we do best and which we are the only ones really capable of doing, namely: to be creative.<sup>3</sup> This argument has for instance been expressed by Tobias Queisser, founder of the AI film management system *Cinelytic* which recently signed a deal with *Warner Bros.* in order to guide their decision-making at the greenlight stage through the application of Big Data, thus substantially influencing what gets to go into production:

“Artificial intelligence sounds scary. But right now, an AI cannot make any creative decisions. [...] What it is good at is crunching numbers and breaking down huge data sets and showing patterns that would not be visible to humans. But for creative decision-making, you still need experience and gut instinct.” (Siegel, 2020)

So, even in Queisser’s quite un-romantic take on it, creativity is still our last refuge, the ‘final frontier’ which no machine can conquer (cf. Colton and Wiggins 2012). But, once more, this is no new idea. Theodore Roszak for instance already discusses the prospect of computationally simulated creativity (so-called ‘objectified creativity’) in his *The Making of a Counter Culture*. Here, he notes that, “The most ominous aspect of such statements is the ever-present ‘yet’ that appears in them” (1969: 282) — cf. Queisser’s “right now” and “still” — after which Roszak quotes Rand Corporation-affiliated philosopher of technology Emmanuel G. Mesthene for having suggested that

“No technology as *yet* promises to duplicate human creativity, especially in the artistic sense, if only because we do not yet understand the conditions and functioning of creativity. (This is not to deny that computers can be useful aids to creative activity.)” (ibid.).

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<sup>3</sup> Marx might seem a bit antiquated in this context. But the point is that this was the recurrent reference point when this exact same discussion was going on in the 1960-70s, when it was the notion of automation, rather than artificial intelligence, that was the buzz of the town. New Left/counterculture-philosopher Herbert Marcuse for instance optimistically noted that “complete automation in the realm of necessity would open the dimension of free time as the one in which man’s private and societal existence would constitute itself. This would be the historical transcendence toward a new civilization.” (1972: 43).

Regardless of whether we today think of this problem as genuinely new or not — I would, for instance, personally suggest that any talk about the “AI Winter” should be accompanied by a footnote on the ‘hibernation of some old arguments’ — it does seem that the prospect of the future development of a genuine artificial creativity that could someday even outperform us in this field as well, inherently raises huge philosophical questions (cf. Boden 2016: 119) about the nature of Man and his/her role in the grand scheme of things; not to mention enormous political problems as well.

## **(Re-)inventing and Simulating Creativity**

As already suggested, one of the crucial, yet often much too implicit, assumptions underlying the urge and ambition to artificially simulate human creativity is the idea that human creativity exists as something that can be reproduced, simulated or emulated. But despite the ways in which we often tend to speak of creativity — namely: as something existing prior to us, with few, if any historical contingencies, as something objectively “out there”, “in here”, or “up there”, as something we can learn more about, define, nurture, increase or enhance (cf. Sternberg 2019), perhaps even replicate or simulate, etc. — it *is* a creature of our own invention.

So, what do I mean by saying we have invented creativity? Well, of course, I am not saying that we did not invent or create stuff earlier. We certainly did. But we did not frame and ascribe it the same kind of importance or value. We did not praise it, strive for it, or encourage it like we do today; and we did not organize our individual lives, our collective practices or our societies in relation to it, build institutions for it, or have journals or conferences to discuss it either.

Readers familiar with Michel Foucault (1977) would have noticed that this kind of thinking is in line with his notion of the ‘dispositif’ (or ‘apparatus’). This argument has also been made by German sociologist Andreas Reckwitz in *The Invention of Creativity* (2017), where he specifically develops the notion of the ‘creativity dispositif’ which, as a specifically Modern constellation of practices, modes of knowledge and sensibilities, pivots around the production, appreciation and institutionalization of perpetual novelty, invention and innovation.

This is, in fact, also one of the important points in Yuval Noah Harari’s bestselling book *Sapiens: A Brief History of Humankind*. In the long history of humanity, we have only quite recently come to value, let alone systematise, inventiveness and the ability to make something new; which — dialectically, you might say — has greatly accelerated the pace of invention itself, especially in the West (2014: 314-315). Or as Neil Postman famously quipped: “the greatest invention [...] was the idea of invention itself” (1993: 42).

But we have not just invented creativity in the singular — even though that is how we usually refer to it. We have, in fact, invented many *creativities*<sup>4</sup> in numerous forms and guises: *Big-C creativity* and *little-c creativity* (Gardner 1993); *P-creativity* and *H-creativity* as well as *combinational*, *exploratory* and *transformational creativity* (all from Boden 2004); *process*, *person*, *product* and so-called *pressure-oriented creativity* (Rhodes 1961); *creatio ex nihilo* and *creatio ex materia* (Mason 2003); etc. And on top of that, we have typically described or defined these multiple *creativities* either in so vague, generic terms that they seem almost meaningless, which allows us to project all kinds of idiosyncratic imaginaries onto them (Hentig 1998); or in so reductive terms that they all leave out a lot of artefacts, phenomena or practices, which most of us would have thought should have been included.

Hence, the philosopher of art Morris Weitz (1956) would characterize “creativity” as an ‘open concept’. But perhaps the term ‘essentially contested concept’ — with strong emphasis on ‘contest’ — would be even more appropriate (Stephensen 2019)? Given the ways in which the idea, concept and quite diverse practices of ‘creativity’ over the last decades have become entangled in innovation policy-making, human resource management, economics, urban planning, education system reforms, etc., it does seem safe to say, that those days of *creativity*’s (seemingly) ideological innocence are long gone; if, of course, they ever were here at all.

### Reverse-engineering Creativity

All of this does, of course, when we seek to create, build or program an artificial *creativity*, immediately spur further questions such as: “Exactly which one of the many *creativities* are we building?”, “What are we specifically simulating?”, or “What non-artificiality are we making an artificial version of?” And perhaps even more critical: “According to which agenda?”, “What kind of problems are we trying to solve?”, “Whose problems?”, “To whose benefit?”, etc.

The problem is this, I would argue, that we are trying to build something we do not know what is. But *not* because we have not yet figured out what this mysterious, wonderful thing called *creativity* really is, which, of course, is the *illusio* (Bourdieu 1980) that secures the involvement of all the different stakeholders within the emerging booming academic field of *creativity studies* (including the various

fields of artificial/computational *creativity*). No, it is rather because we constantly tend to forget the contingency of ‘*creativity*’ itself — including the fact that it is still under constant re-construction.

This in turn means that the result of simulating human *creativity* computationally, algorithmically or artificially might simply end up in a re-modelling of our conceptual notion(s) of *creativity* based on what we can do computationally. Much like what has happened to our definitions of ‘intelligence’, which, as Edwin G. Boring (1923) once famously noted, is what we can measure with intelligence tests. Applied to AI-building this could easily surmise to something like *intelligence is simply what we can simulate* (cf. Smith 2019). Within the domain of artificial *creativity* this line of thinking would then end up something like *creativity is what we can simulate (or compute)*.

Could this really be? Well, in fact, this kind of reverse re-conceptualization has already happened before. This is how our various ‘*creativities*’ have been invented and reinvented throughout the 20<sup>th</sup> Century. Take for instance the currently prevailing definitions, which are all mostly variations on the idea of *creativity* as the production of useful or relevant, novel or original ideas, products or services (Amabile 1997; Howkins 2001; Florida 2002), which all seem defined in reverse from business interests, in particular those based on Intellectual Property Rights in which locating a single point of origin (or at least: of sufficient original variation) is pivotal to the process of ascribing ownership (Lessig 2004; McKenna 2011). Similarly, before these business and innovation-centric definitions came to dominate, we witnessed the emergence of the idea of *creativity* as a species-characteristic (cf. the New Left, countercultural readings of young Marx’ economic manuscripts), which sprang from an ideologically charged contestation of the elitist idea of *creativity* as the genius’ prerogative, often in tandem with the critique of the alienating effects of labour under capitalism. So, claiming that the future successful creation of an artificial *creativity* will merely be a (conceptual) reorientation based on what is computationally possible is perhaps not all that unreasonable. This kind of *conceptual reverse engineering* (in lack of better words) has happened before. It will happen again.

So, my argument goes, this is the same logic that is at stake when computational *creativity* researchers for instance point to improvisation and pattern-prediction as being closely related, seek to understand *creativity* through “heuristic search, analogical and meta-level reasoning” (once again quoted from ICCC’s call for paper), or define *creativity* as the interplay between *style*, which can be imitated/simulated, and *constraints*, which can be applied at will (Pachet 2018).

I should, however, emphasize that I am not saying this in a normative sense. I am not shouting from the rooftops that “you [or we] are ruining *creativity*!” or something to that

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<sup>4</sup> With this notion of ‘*creativities*’, I am alluding to Robert J. Sternberg’s (2005) similar notion, albeit in disagreement with his conclusions. While he seeks to define what *creativity is* (namely: phenomena in the plural), I seek to emphasize how we have invented ways of *talking* highly different phenomena and practices *into being* as ‘*creativity*’, for instance by establishing modes and institutions of research and knowledge that focus on *creativity/ies* as phenomena to be studied (cf. Foucault’s *dispositif*).

effect. I am not driven by some romantic-essentialist urge to defend Creativity with a capital-C nor a more genuine and/or politically potent version of it. Of course, this argument has recently been voiced in different variations by for instance Mould (2018), Pasquinelli (2019) and Fazi (2019), who all assume the existence of a more genuine creativity being suppressed by a false one. And once again, exactly this position could also to be found already in Roszak, who on the very idea that human creativity can be objectified computationally noted that

“[the] presumption involved in such statements is almost comic. For the man who thinks that creativity might yet become a technology is the man who stands no chance of ever understanding what creativity is. But we can be sure the technicians will eventually find us a bad mechanized substitute and persuade themselves that it is the real thing.” (Roszak 1969: 282)

My point is another. We simply need to be aware what it is that we have achieved when, or if, it finally happens: we will most likely have accommodated our notions of creativity to fit what is technologically attainable. We will have performed a *conceptual reverse engineering*. Or to be more precise: we will have given more conceptual credit to those ‘practices of creativity’ that fit what we can do technologically. And less credit to other practices, of course.

The reason why this is important is that such a conceptual shift might change our ways of recognizing, appreciating and rewarding something as being creative in general, especially given the current hype around anything remotely AI-related. And since creativity as a set of practices or outcomes on the one hand, and creativity as a norm or a set of values on the other, are so closely interrelated, this will in turn instigate new sets of practices that we might term ‘creative’ — and make other practices less likely — also beyond the “ghettos” of AI-related creativity conducted by experimental scientists. In short: we will also on the productive, practical level have reinvented invention, re-created creativity. Which may, or may not, be problematic on various levels. But we of all people, as scientists and researchers, should acknowledge that this is what has occurred, that this is what we have achieved. And certainly, we should not confuse it with something quite different.

### Re-inscribing Man

Perhaps even more paradoxically, in that very process we will also have revived crucial tenets of an older notion of creativity, namely the one heralding the heroic, often male, autonomous subject (Proudfoot 2010).<sup>5</sup> There simply seems to be an inherent anthropomorphic strain within

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<sup>5</sup> Cf. the ways in which much work on autonomous artificial creativity seeks to emulate the Masters, often including a fairly traditional, organic aesthetic language or style, which has led Joanna Zyliniska to refer to much AI-generated art as “imitation art” based on the “pointless production of difference” (2019: 37:34)

our thinking about machines, not least in relation to AI and how we interpret and try to make sense of what these technologies can do — and a lot of so-called “wishful mnemonics” going around as well.<sup>6</sup> But perhaps Joanna Zyliniska has put it with most clarity in a recent talk on her upcoming book *AI Art: Machine Vision and Warped Dreams*:

“this frequently posted question ‘can robots or can computers be creative?’ [...] reveals itself to be rather reductive because it's premised on a pre-technological idea of the human as a standalone subject of decision and action.” (Zyliniska 2019: 18:33-18:50)

Rather, Zyliniska argues, much in accord with my own notion of ‘post-creativity’ mentioned at the beginning of this paper, humans are always already intimately entangled with and heavily conditioned by nonhuman materialities which are also part and parcel of those processes we label ‘creative’. There is, in other words, no stand-alone human creativity.

There is, of course, quite an ironic twist to this. On the one hand, the project of artificial creativity is in accordance with recently emerging theoretical trends — even within the strictly anthropocentric parts of creativity studies (cf. Fox and Alldred 2017: 77-95). Thus, it often emphasizes both the collaborative (social) and re-combinatory (remix) character of digital media-afforded creative practices; often also by subscribing to theoretical vocabularies that emphasize the intimate entanglements of humans/nonhuman entities in creative practices etc. On the other hand, much discourse on and practice in relation to AI and creativity immediately seems to revoke this distribution of creative agency to nonhuman entities. Hence, creativity becomes all-too-human once again, that is: an artificial, computational emulation of a supposedly already existing non-artificial, purely human capacity or practice.

### Why research computational creativity?

So, why study computational or artificial creativity at all, then? Well, my take on it would be to hold it at greater arm's-length. Even though it does not tell us anything about what creativity *is* per se — or how it works in a raw state, so to speak — studying the endeavours to achieve it will tell us other things. It might tell us what creativity means to us. It will tell us what we (individually and collectively, even on a societal scale) expect and hope from it, in which settings and situations we do so, and so on. This is important because what we code, program, realize or enact when we build systems of artificial or computational creativity is, in fact, the creativity dispositive rather than

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<sup>6</sup> Proudfoot borrows the notion ‘wishful mnemonics’ from McDermott (1970), who criticized how computer scientists discredited their own reputation by ascribing human characteristics (feelings, intensions etc.) to machines and codes. ‘Creativity’ would, of course, rank high among these.

creativity as such. In building and designing these systems, we not only install certain conceptions of what we regard as creativity (and by implication: what we do not regard as creative); we also install — albeit often implicitly — certain rationales for doing this (why we find this or that creativity important).

This does, for instance, in turn beg us to ask a host of other questions: “Why do we continuously seem so hell-bent on reproducing ourselves in our material environment?” Or for that sake: “Why should creativity be made easier, more accessible or even automated?” And perhaps even more fundamental questions pop up — which is also relevant to those who claim that we should learn to appreciate the creativity of algorithms or the nonhuman in more general terms (cf. Gervas 2010; Colton and Wiggins 2012): “Why are we even under the impression that we need more creativity? Are we really short of it? Is novelty, inventions or innovation (all these ‘products’ of creativity) what we lack on a societal or individual level?” In short, studying the outcomes, the processes and the discourses on computational creativity really offers us an opportunity to study *the creativity dispositif* as it works its way through us, including how we have become almost addicted to the very idea of creativity.

So, finally, what does the notion of ‘post-creativity’ contribute to our study of this particular field? In my opinion, it allows us to think beyond purely anthropocentric understandings of creativity, not only under present conditions (in relation to creativity-enhancing software and AI), but even more profoundly, in a historical perspective, thus enabling us with the possibility of critically grasping how ‘creativity’ has always already been both contingent and materially embedded, and continues to be so. Computational creativity is merely the latest instalment in this story.

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