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The Transhumanist Creep: Posthumanism, Pedagogy, and the Praxeological Mangle

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This contribution takes one of posthumanism's most powerful conceptual distinctions – between posthumanist thought and its ill-famed doppelgänger, transhumanism – as the starting point for a critique of posthumanist thinking in education. Pointing to moments in which both post- and transhumanism become harder to distinguish in educational theory and practice, it utilises the notion of the 'creep phenomenon' to describe how these seemingly opposite concepts and ways of thinking can become unfavourably 'mangled' in everyday practices of teaching and of marketing posthumanism. It thus makes a case for the need for empirical thick descriptions of practices at the unsought intersection and overlap between post- and transhumanist thought. Drawing on work on the cognitive and affective impact of literature, it suggests that literature pedagogy is one of the places where such convergences are explicitly reflected and that literature pedagogy as a form of applied literary and cultural studies provides helpful insight into such practices of creeping overlap. Literature pedagogy, from this vantage, can be seen as an aid in formulating praxeological critiques of a prevalent practice-blindness in the field.

Introduction

Ian McEwan's delightfully clever novel, *Machines Like Me*, ends with a number of ethical conundrums. The novel has introduced us to a robot, two humans, and their strange love triangle, and discussed rape, capitalism, artificial intelligence, and the theory of mind in passing. The robot, Adam, is revealed not only to be capable of experiencing love, jealousy, and the need to write poetry – he has also developed a moral consciousness that drives him to betray a woman's trust by informing the police she had falsely accused a man of rape many years ago. Upon which Charlie, the male human, destroys Adam, the robot, with a hammer. On the final pages, Alan Turing (who is surprisingly alive in this strange, futuristic past-tense Britain of the 1980s) when hearing of all this, says, 'My hope is that one day, what you did to Adam with a hammer will constitute a serious crime. [...] You weren't simply smashing up your own toy, like a spoiled child. [...] You tried to destroy a life' (2019: 303).

Like other AI narratives (see Cave et al., 2020), the story, in other words, raises various complicated questions. Has Charlie really destroyed 'a life'? Is it true when Turing says, 'How it's produced, wet neurons, microprocessors, DNA networks, it doesn't matter' (McEwan, 2019: 303)? That Adam is a cyborg with artificial intelligence seems sure. But what about Charlie, the human character that at one point is mistaken by another character as artificial – or Turing who has been resurrected, as it were, for the story? Are we not, as readers of the novel and of fiction generally, part of a complex literary Turing Test as we constantly encounter artificial – diegetic – 'persons' when reading, and having to assess the plausibility of speech and actions that appear to be human? The conviction that these questions matter informs this contribution's reflections on the current vibrancy of posthumanist arguments, on one hand, and the role of technologies, on the other. Unlike other arguments presented in this collection, however, my perspective will be decidedly practice-oriented and approach the topic from my own field of expertise, education and the teaching of literature, culture, and media. This is because it is in the nitty-gritty realm of classroom practice that theoretical developments such as the ones summarised as 'posthumanist theory' find application. And it is here that they are merged with other currents in educational and philological practice. For better or worse, this confluence throws into sharp relief theoretical shortcomings as well as unexpected reframings of key concerns – about the critical, liberating, and progressive potential of posthumanism, for instance, and the occasionally anti-humanist positioning of pedagogies by scholars working in the field. This is not the place to recount the numerous theoretical positions and nuances of difference to be found in current posthumanist debate. It might however be worthwhile

to add to the illustrious list of recent work in praxeology that stresses the 'posthumanist challenges' of social and objectual practice (Schatzki, Knorr-Cetina, and von Savigny, 2001: c.f. 149−189). In particular, I will be drawing on and putting to my own particular use Andrew Pickering's productive metaphor of 'the mangle' when talking about the field of pedagogy and practice I am interested in here. The 'mangle,' Pickering writes, 'conjures up the image of the unpredictable transformations worked upon whatever gets fed into' it and 'draws attention to the emergently intertwined delineation and reconfiguration of machinic captures and human intentions, practices, and so on' (1995: 23). Such a concern with 'emergently intertwined' reconfigurations is what I am after as I probe the idea that a thick description of the educational practices revolving around posthumanism and fiction can provide empirical and praxeological leeway for a critique of posthumanist theory and practice.

In doing this, my main aim is to investigate what I perceive as a mismatch between the philosophical and ethical hopes formulated in much posthumanist writing, on the one hand, and the actual developments in contexts where new technologies and ideologies 'after humanism' take place, on the other. Discussing this mismatch − especially with regard to processes of digitisation increasingly gaining hold in education and society more generally − touches upon serious challenges concerning our understanding of posthumanism, narrative studies, and the limits and potentials of critique. Literature pedagogy as a mangle of theoretical positions, recontextualisations, and emergent practice orders can therefore be seen as a point of reference much needed for both posthumanist critique and the transdisciplinary dialogue between theoretical innovation and teaching practice.

The Posthuman Imaginary

Before returning to literary fiction at the end of this explorative journey, let me begin by explaining how I came to think about this potential mismatch between posthumanist theories and educational practices allegedly subscribing to, or at least situated in close proximity to, related discursive formations. I admit readily: my argument is not causally compulsive. It is, rather, an exploration of what started as a hunch and came to be solidified over time by way of experiential evidence. I will therefore not posit with any strong conviction that it can and ought to deconstruct posthumanist discourse for good. Instead, I want to describe particular and not necessarily directly related instances of an emergence of a posthumanist situation as it develops, not in actual texts by venerated scholars, but in the practice field of teachers, publishers, and stakeholders investing in academic innovation. In my endeavour to map this uneven territory, I am indebted

to cultural anthropology's interest in 'thick descriptions,' especially the ethnographic insight that 'theory' does not so much predict things but provide alternative ways of 'plung[ing] more deeply into the same things' (Geertz, 1973: 25). I am also inspired by praxeology's suggestions of ontologies that are 'flat' (Schatzki, 2016); not because I care for posthuman ontologies as such (for reasons given later) but because I am ready to accept the messiness of the theory/practice nexus when it comes to posthumanist education, misreadings, overlaps, and discontinuities that are part and parcel of boundary objects and their (inter–)disciplinary recontextualization (Star & Griesemer, 1989). My evidence will therefore be cautiously circumstantial rather than smoking-gun, but it will hopefully help rethink what happens when what I call the posthuman imaginary affects the everyday world of teaching practice.

Posthumanism, in what I take to be a fairly representative definition, is described as the 'end of a certain *conception* of the human, namely the humanist notion of the human' (Herbrechter, 2013: 3). While there are surely more such definitions that vary according to their position on the intersectional spectrum covering decolonial, human–animal, or gender studies, it seems safe to say that, by and large, posthumanism strives to instigate the end of human exceptionalism in light of a post–anthropocentric ethic needed in times of climate crises, imperial violence, and the decolonisation of the globe (Alaimo, 2016; Banerji & Paranjape, 2016). Humanism in these narratives is understood as an ideology or mindset called to account for those multiple ills. And it is also intricately linked to certain technologies that render modes of ordering and domination effective (Nayar, 2014: 4–25). In its critical manifestation, posthumanism thus is a form of technophilosophical critique on which progressive hopes are based which in turn aim at the recontextualization of human and nonhuman lives within the larger mesh of existence as well as the politicisation of philosophical thought against the technodeterminist phantasies of transhumanism (Bartosch, 2019; Bartosch, 2021).

And yet, what are all these fancy, sexy cyborgs doing there? A cursory glance at the publications in question reveals a curious preponderance of clean, futuristic transhumans as visual cues employed to frame the posthumanist argument by way of what Gérard Genette calls 'paratexts': 'productions' that exist 'to ensure the text's presence in the world, its 'reception' and consumption' (1997: 1).[1] If cover design is a 'vestibule' that 'offers the world at large the possibility of either stepping inside or turning back' (2), we have to ask ourselves not only how far authors willingly agreed to

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[1] For reasons of copyright, I cannot reproduce these covers here but invite readers to do a quick internet search on the relevant publications by Stefan Herbrechter, Pramod K. Nayar and others referenced in this text.

such reframings but, more importantly, what the role and effect of reframing could be in a larger ecology of meaning beyond the writerly authority of the intricate argument (a humanist remnant, for sure).[2] So, my question is: What to make of an argument and its simplification in contexts of application, of which publishers' paratextual decisions are just an instance? Not only given recent suggestions that we need to pay more attention to the affect of reading in what Nathan Snaza has called 'literacy situations' (2019), it would be ironic to discard humanism and with it its alleged rationalism and then argue that we must not in fact judge a book by its cover but by its discursive and taxonomic or systematic subtlety.

The uneasy link between posthumanism and techno-utopia that shows in such paratextual realisations of posthuman imaginaries has been central to N. Katherine Hayles's discussion of cybernetics, information transmission, and storage in *How We Became Posthuman* (1999). It is important to recall her observation that 'the erasure of embodiment is a feature common to *both* the liberal humanist subject and the cybernetic posthuman' (4) and that, therefore, it is not so much a question of locating the technological imperative of modernity but of scrutinising how narrative renders these disembodying fantasies comprehensible. Especially with regard to the thematic scope of this collection, we might therefore look closely at literary ways of emplotting and critiquing this imperative and to use, as Hayles suggests,

> the resources of narrative itself, particularly its resistance to various forms of abstraction and disembodiment. With its chronological thrust, polymorphous digressions, located actions, and personified agents, narrative is a more embodied form of discourse than is analytically driven systems theory. (21–22)

Since my field of expertise and interest is in literature pedagogy, I am inclined to begin such an investigation into ways literary writing figures in the classroom. Literature, it seems, is a privileged site for such messy complexities, and as my brief summary of McEwan's novel has indicated, it can help complicate matters by drawing on and fusing distinct discursive strands and inviting readers to assess this messy conjunction.

This might seem a rather idealist and potentially outdated claim to make, so let us look more closely at recent work in the field of education dedicated to leaving anthropocentrism behind. In *Animate Literacies* (2019), one of the leading scholars in posthumanist debates on pedagogy, Nathan Snaza, is more reluctant than in former

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[2] It must be noted that Cary Wolfe's work provides an enlightening exception to this shaky rule as his work features an adorable variety of insects, sheep, and monkey sculptures. But this does not, I think, invalidate the general observation.

works to apply the tag of posthumanism but agrees with the political desire to move 'beyond "Man"', arguing for a redirection of

> critical energy to articulating new, nonhumanist ways of thinking about how we learn, together, remembering that this 'we' will not be coincident with humanity as a collective, or – especially not – with some subset of this humanity (Man) pretending to represent the whole. (3)

This is indeed 'exciting' (3), especially because of his explicit interest in pedagogies of the literary. It is, however, a strangely familiar experience indeed to engage with his notion of a text's 'dispersed pedagogy' (11) through which readers can critically and affectively reappraise the ills of epistemic violence and other such things: Snaza's argument grounds on attentive – and sometimes I think unduly – close readings of texts such as Morrison's *Beloved*, Douglass's *The Narrative of the Life of Frederick Douglass, an American Slave, Written by Himself*, and, of all things, Shelley's *Frankenstein.* A humanist educational choice if ever there was one – and the plea for greater attentiveness to atmospheres and modes of perception does in no way distract from the fact that there seems to be a performative error at the heart of a book that argues against humanism by employing its very own critical methodologies and thriving on its very own, long-cherished potentials for self-critical reflection. In any case, it seems pertinent to bring into conversation such research on the *potentials* of fiction and work on their *realisation* in teaching practice.

Unsurprisingly, in the more narrowly circumscribed field of school education (that is, in publications and research on K-12 schooling rather than university seminars for literature undergraduates), hermeneutic hopes of (self-)critical close reading and ideology critique are catered to less frequently. In these contexts, we find digital technologies and cyborgs as well, but hardly any refined calls for interpretive disclosures such as are found in academic debates. Like the paratexts mentioned above, these contexts blur the boundaries between critical impetus and less critical application and thus too render borders between post- and transhumanisms uncomfortably porous. Let me offer three examples: A recent publication on literary pedagogic theory and practice to which I have also contributed a chapter and that is published in one of the most prestigious and therefore visible series for teachers of literature in Germany, Austria and Switzerland, takes the current call for digital learning techniques as the starting point for thinking posthumanism in education. Thematically, its contributions range from techno-utopian fantasies in current popular culture to critical awareness of technology's role in climate change to digital means of educating young learners as

global citizens – and it is called: *Teaching Transhumanism* (Thaler, 2021). Likewise, in a volume on posthumanism in education edited by Roman Bartosch and Julia Hoydis, one paper suggests that pupils be encouraged, after a storytelling phase, to 'express their ideas of their perfect robot' (Ludwig & Shipley, 2019: 62). Not only is the focus on robots, not critters, but on perfection and ability (and results, maybe unsurprisingly, in superhero robots by boys and care and household chores robots by girls). And in another example, Stefan Herbrechter (2019) frames his own educational suggestion in the context of digital learning: the question 'How did we become human' is approached in an online blog format that is praised for its flexibility and convenient handling. This move from technological critique (on a thematic level) to affirmative methodology cannot be merely circumstantial. Book covers, dreams of virtual disembodiment, and digital learning technologies – how did we end up with this concoction? As I've tried to argue, we have to look not at the arguments themselves. Instead, we need to fathom the praxeological mangle of posthumanism and pedagogy and attempt to describe a development that I will call the 'transhumanist creep.'

The Transhumanist Creep

For analysing the strange confluences of philosophical hope and practical application, I want to draw on Brett Frischman and Evan Selinger's discussion of the effects of digital technologies in *Re-Engineering Humanity* (2018) – another book that champions a cyborg, by the way – and explore the 'creepiness' of posthumanism. Frischman and Seliger discuss the phenomenon of the 'technological creep,' and it is this concept that I find useful for thick descriptions of the practice mangle of posthumanism. This is because I assume that a kind of creep phenomenon comparable to the ones they are describing can be found in the literacy situations I am concerned with here, on the brink between post- and transhumanist discourse, and within the texts the situations mobilise. If the peculiar movement between post- and transhumanist aspirations discussed above can be conceptualised along the lines of 'creep' phenomena, we might thus have at our disposal a conceptual aid necessary for posthumanist critique, as will be discussed below.

Frischman and Seliger, professors of law and philosophy, respectively, note creep phenomena in the context of dangerous and rampant digitisation, but refrain from invoking the common dystopian apprehension that we might create 'machines like us.' Instead, they argue, humanity is steering towards a posthumanisation that renders humans more like machines. What they call 'techno-social engineering' depends on the idea that humans are asked 'to accept a new lot in life and behave like simple machines'

(6) as the price for algorithmic and solutionist concepts of living and governance. That's a creepy thought indeed – but think of call centre conversations, the technicity of standardised form-filling when accounting for your own work (impact factors, publication numbers, or third-party funding figures), or the now common, mechanistic accepting of cookies when accessing websites... and you get the idea of what they mean by practices of techno-social engineering.

Part of the reason, Frischman and Seliger argue, why people accept this has to do with a 'slippery slope' of tiny, incremental changes and what they call an engineering towards complacency. Such 'aggregations of trillions of perfectly rational choices' in individuals, paired with '"smart" technosocial resource management,' in the sense of what Evgeny Morozov (2013) calls 'solutionism,' creates a situation in which good will results in dystopia. We know this, by the way, from discussions on climate change: This 'techno-social dilemma,' as Frischman and Seliger call it, comes about 'like climate change,' since 'there are an incredible variety of small-scale decisions we each make about technology that seem, on their own terms, rational and unproblematic. Yet the increments aggregate [...]' (9). This incremental aggregation is then described by Frischman and Seliger with the concept of 'function creep': A hard-to-perceive, lingering shift in function and effect, as in a driver's licence that has evolved from being a certificate for car holders to an entry ticket to dance clubs to an item of security control at borders; or the GPS that helps navigate a car or track down wanted offenders.

I now want to suggest that the confluence of post- and transhumanist discourses in always and necessarily messy practice fields is indicative of such creep phenomena as well. Just as the hyper-clean cyborg in paratexts metonymically stands for transhumanism but also represents posthumanist thinking, in education, digitisation has assumed a similar role. Thus, if we link the notion of creep with the above remarks about the need for a thick description of slippery slopes of posthumanist rhetoric and educational practice, we see how book covers and educational application are affected by and affect what I suggest we call the 'transhumanist creep': dithering between critical thought and technosocial engineering, posthumanism becomes part of a mangled practice in which digitisation eventually acquires a metonymic function – for posthumanism *as well as* for corporate, biopolitical, and surveillance-capitalist reframings of education. This turns half-hearted posthumanist ambitions into transhumanist interventions: digitisation at the same time stands for a decentring of anthropocentric subjectivity while it also simply means to cash in on the neoliberalisation of formal education. This is why we need to discuss the hopes and potentials of 'thinking after humanism'

over and against the danger of playing into the hands of those who want to digitise the world in the most Orwellian, transhumanist sense. In theory, we are finding our ways after, beyond, or in critical distance to, humanism; in practice, we are allowing others with other agendas to reframe the debate as always already about technology and solutionism or even gradually come to articulate our points in the same fashion: the transhumanist creep.

There is ample evidence of this in education. Frischman and Seliger rather unsurprisingly state: 'Educationally mandated surveillance technologies habituate students to submitting data to opaque third parties that exercise authority and have agendas that may diverge (now or in the future) from the best interests of those surveilled' (21). I think as educational practitioners we all know these instances and ought to

> note that one modern trend in education is to import various surveillance, computation, and communication technologies into the schools. […] Schools tend to evaluate each technology on its own, performing a truncated cost-benefit analysis in the face of declining public funds and partially blinded by fascination with the power of new technology. Each incremental step to adopt a new technology may appear to be cost-benefit justified, but, in the aggregate, schools may be heading in the wrong direction […]. (58)

As literary and cultural scholars, we can understand how far we have a share in these developments although this might not be apparent at first sight and even be beyond our intentions. However, we ultimately join the chorus, albeit from a different, allegedly critical angle, arguing that human-machine interaction is part of what we mean when we define and demand post-anthropocentrism and posthumanist subjectivity. Recall the posthumanist teaching suggestions mentioned above, which bring together blogs and other digital means of expression with the aim of 'finding new answers to the question of what it means to be human today': they suggest 'teaching through social media to reflect the fact that human communication due to new, digital and social media platforms […] is increasingly being co-constructed by human and non-human actors' (Herbrechter, 2019: 77) as if digital media *per se* engenders a sense of interconnection beyond the merely human. This is added to by the somewhat morose acknowledgement that regulation in schools prevents blogging outside the safe environment of an intranet as a 'still predominantly humanistic, analogue and anthropocentric default position […]' (97). The tacit assumption that humanism and anthropocentrism lead to educational constraints such as privacy and human and children's rights seems to me

to short-circuit the critical impetus of theory in the context of application – and after all, the teaching suggestions I mentioned come from the author of a critical analysis of posthumanism, who in his predominantly theoretical publications stresses the need for critical analysis over and against transhumanist, deterministic stances. In other words: it's not a question of argumentative coherence in books on posthumanism. It's the educational realities, stupid!

The Humanism That Dare Not Speak Its Name

All of this is not to argue that critical posthumanist work in education cannot be formulated and therefore does not exist. From their various angles, people such as Helena Pedersen (2011), Simon Ceder (2016), Karin Murris (2016), and John Weaver and Nathan Snaza (2017) have spearheaded a reformatory movement in pedagogical research that critiques anthropocentrism and an empirical, progressivist 'methodocentrism' (Weaver & Snaza, 2017) in favour of more inclusive and critically holistic takes on formal educational settings. And yet, there is a lingering doubt – that my thick descriptions of creep phenomena in this debate have tried to substantiate – that such critiques have less impact and potency than is usually assumed in the mostly theoretical work on 'bewildering education' (Snaza, 2013). Digitisation and its neoliberal background noise may in fact ultimately drown out the whispered promises of a truly transformative education through the mechanistic din of educational solutionism and optimising fervour.

This is why a dedicated look at pedagogical endeavours situated within the posthumanist discursive arena helps us understand in how far debates in posthumanism and, I would like to argue here, its potential if uneasy links with transhumanism, need to question what Timothy Clark calls 'hyper-humanism' whose key fallacy

> is to assume that technology is only a tool, the servant of certain presupposed human features and faculties that are somehow always unchanged – reason, progress, a certain egalitarianism and progressivism, self-improvement and so on. Even if the human is seen as being altered through new technologies, this is nevertheless understood to happen in the service of some core 'human' values, assumed to be self-evident and unchanged. (2011: 64)

As posthumanist thinkers would agree, this fallacy is most likely to be found in transhumanist utopias. And yet, if we look carefully at the politics of posthumanism, it becomes hard to see why posthumanism should not likewise be geared towards 'a

certain egalitarianism and progressivism' or hope for progress and, eventually, self-improvement that centres on an unwavering optimism regarding core human values. This is not to criticise such ambitions but to point out that such values provide an avenue for *both* post- and transhumanism – and that a successive overlap is epistemologically and politically as relevant as it is important for educational theory and practice. Here, post- and transhumanist thinking are less conceptually distinct anyway, if only because of the current dispensation of digital learning 'tools.'

Notably, the scholars quoted above, Nathan Snaza and Karin Murris in particular, in a remarkable dialectical twist of the counter-humanist argumentative strand use literary fiction (of all things!) to substantiate their critique and distinguish their educational objectives from the trans- or hyper-humanist ones I have tried to draw into the picture. And this brings me to a point I find necessary to discuss when it comes to the transhumanist creep: its reflection in literary writing and the subsequent potential for critical distancing. That literature and literature pedagogies should be allies in such critical endeavours is surprising only if we continue to believe in the posthumanist straw-man that conflates humanisms of all sorts with imperialist and rationalist epistemic violence. Instead, it is also possible to see literary education and the role of literature as intricately linked to critical and humane thinking that might or might not be called humanist (or posthumanist), and that exerts its liberating influence by radical critiques of the status quo. There is of course no need to endorse traditional elitist protocols of philological scrutiny. However, a whole array of recent work in the literary humanities – reception theory and cognitive narratology, possible world theory, and cultural ecology, to name but a few – can help in rethinking the educational and epistemological value of literary fiction. It is with the help of these works that I now want to speculate on the value of fiction understood as narrativised thought experiments about the transhumanist creep.

Literature Pedagogy as a Provocation of the Theoretical (Post-)Humanities

This lets me return, finally, to the role of the literary in contemporary educational situations, especially regarding what I have called the transhumanist creep. My point, in short, is this: that literature draws on many discursive strands and complicates matters by way of its narrative emplotment, thus allowing us to take literary writing as a form of speculative epistemology on matters such as non-anthropocentrism, transhumanist creeps, and the question of digital 'tools.' The reading and teaching of fiction is thus not only part of a critical humanist tradition but also a means of critiquing its critique

by way of what the theorist of cultural ecology, Hubert Zapf, calls 'culture-critical metadiscourse' and 'imaginative counterdiscourse,' respectively (2016: 103–14). Because of its propensity for playful extrapolation of current complexities into uncertain imaginative futures, we could likewise describe literary fiction as a storehouse of critical scenarios or what policy makers and think tanks describe as 'horizon scanning': 'a technique for detecting early signs of potentially important developments through a systematic examination of potential threats and opportunities' (NCBI, n.d.).

That literature can indeed help map the impact of digitisation (in education) in this way concerns Daniel Becker's insightful paper 'The Digital Citizen 2.0' (2019), for instance. Becker rightly states that digitisation in education grounds itself in 'a purely instrumental perspective on the relationship between an individual and his/her digital environment' (15) and presupposes 'an autonomous user with a stable personal identity who acquires certain competences that allow him/her to actively control the digital environment as a merely passive tool for self-enactment' (ibid.). Yet when taking into consideration how media environments shape subjectivity – a concern educators share with academic posthumanists – we need more than that, the argument goes: 'it is no longer enough to only speak about the digital citizen in terms of a competent and responsible user,' Becker concludes, and adds that

> the digital citizen 2.0 combines the knowledge [of] how to technically operate digital technologies and how to adequately interact with others online [...] with the ability to reflect upon the digital environment as an active influence, the ability to understand identity as a dynamic construct and the ability to cope with uncertainties [...]. (32)

Becker shows how reading fiction can illuminate such short-sighted conceptions of human subjectivity vis-à-vis the effects of technology and suggest ways of productive and critical reflection.

From a posthumanist angle as discussed here, proposing such forms of critical reflection is however a bit like inviting humanist values back in after having discarded them with a self-righteous flourish when declaring the end of humanism after enumerating its countless evils. In Snaza's account of humanism, for instance, humanist education (always?) goes hand in hand with dehumanisation (2019: 13). At the same time, he advocates that educational practitioners pay 'close attention to the language of literary texts' and hope for literature to 'rearrange our desires' (134–135) – if that isn't textbook humanist thinking, what is? I think we need more conceptual

clarity about the role of fiction and interpretation in critiques of harmful practices of oppression and epistemic violence – just as we need to reflect better on technology and critique in the complex formation processes of subjectivity in encounters with the literary. Hence, Becker rightly concludes that

> while it is undoubtedly still important to know how to operate technologies and be tolerant and respectful in online communication, these pillars are not sufficient to adequately prepare children and young adults for a complex digital world, without a critical awareness of this digital world as a place of interdependence and entanglement. (Becker, 2019: 30)

If linked with the above ruminations on the transhumanist creep in posthumanism, education cannot let go of the critical distancing most often and unrightfully ascribed to humanist elitism just as it cannot continue to hope that flat ontologies of human/ nonhuman entanglements can leverage digitised methodologies. Posthumanism from the praxeological perspective on educational theory and practice is thus either 'nothing more than a negation of a humanism that never was' (Colebrook, 2014: 163) and risks opening the door to all kinds of creep phenomena, practically subscribing to anthropocentric notions of subjectivity while demanding distance, reflection, and autonomy. Or it upholds these very notions but continues to explore how they need to be refigured in an epoch of necessary post-anthropocentrism.

This brings me, like Becker and Snaza, to a reappraisal of the role and potential of literature in educational settings and to propose that literary fictions can be used as speculative epistemologies and potential models for gauging the malign effects of the transhumanist creep and other such complex conundrums. As argued above, this is what McEwan's text as well as many others do: they complicate matters and ask difficult questions. In thus bringing together seemingly opposed discourses and structures, fiction takes effect both affectively and intellectually, and therefore also has a privileged potential for education, as recent work on the cognitive value of literature for transformative education has shown (Fialho, 2019). Most importantly, it is the dimension of plausibility – the category upon which most appraisal or condemnation of a text hinges – that renders narrative a useful tool for speculation and inquiry.

Machines Like Me – like many other works – does not so much make an argument about robots as bring into conversation many complicated thoughts on technology and what it means to be human (in Zapf's terminology, establish a 'reintegrative interdiscourse,' see Zapf 2016: 114–21). Such fictions are not relevant because they

represent robots but because they *associate* them with numerous other and inextricably linked phenomena, effectively providing readers with epistemic models of the complexity of slippery slopes, solutionism, and the transhumanist creep. In doing so, they 'complexify' (Gonçalves Matos, 2012) thinking and feeling about the present and the future – and engage readers by demanding them to assess these modelled scenarios and speculate about their plausibility and their potential import. In fact, these texts, by providing readers with diegetic characters and by asking readers to realise them as well as their interactions, recreate a literary sort of Turing Test. Readers have to actively assess and reflect on the scenarios with which they are confronted as they read. And they constantly have to ask themselves if what they read is plausible, thus mobilising a critical and speculative potential that renders fiction integral to understanding our world. As David Herman writes, 'stories embed a whole technology for action-modeling [...]. This technology makes narrative a powerful means for designing and testing explanatory models bearing on the behaviour of storyworld agents' (2018: 263). As narrative-as-models or as thought experiments 'provide a resource for understanding actions,' they also demand that readers reflect on the conditions of granting plausibility to characters and imaginative scenarios – and thus on what it means to be human in a more-than-human world of actants and creeps.

McEwan's novel is an interesting case in point because this potential is underscored by the fact that the Turing Test also plays a role on the diegetic level and robots as well as their phenomenological and moral standing are at the centre of the narrative. In turn, then, the narrative provides helpful ways of reflecting on our ways of thinking about technology more generally – about, for instance, 'overtrust' phenomena humans develop in the face of anthropomorphic machines (Salem et al., 2015), or about the dangers of techno-social engineering and its disciplinary power to have us 'overestimate how much freedom actually lies at [our] disposal' when dealing with digital technologies – that we 'mistake the illusion of choice for the real thing' (Frischman & Selinger, 2018: 68). A literary narrative complicates this notion considerably as readers are well aware of being tricked into their suspension of disbelief which reminds us of and underlines John Searle's cautionary remark that '[a] complicated machine can exhibit a conscious-like performance without being conscious. [...] [T]wo entirely different processes can generate identical performances' (qtd. Frischman & Seliger, 2018: 298). Fictional thought experiments thus point out that the 'Turing line' (178) might be crossed in different ways and under different circumstances, and that we need to consider 'how much work is done by the constructed environment' (181). 'In

another context or environment,' Frischman and Selinger remark, 'the same machine presumably would not pass the [Turing Test]. The machine might be indistinguishable from a human in one context, but easily distinguished in another' (181–182). This is exactly what happens with literary characters and the scenarios in which they dwell. It seems about time to reconsider what fiction can teach us and employ this potential for a critical re-evaluation of what I suggest we call the transhumanist creep.

Technological illusions depend on environments. Theoretical environments may obscure practical illusiveness. I have learned this from the fictions I read and only later applied this to the theoretical questions I am asking. This is why I conclude that we need praxeological critiques of posthumanism, in education and elsewhere. And we need literature to sensitise our perception and imaginative cognition for the right questions. Thus, we can recontextualise the role of the imagination in (post)humanist education, on the one hand, and reflect on how we 'collectively produce, cultivate, and sustain shared normative conceptions of humanity […] in us and our built world of imagined realities, institutions, infrastructures, and environments' (271), on the other.

Conclusion: Literature, Pedagogy, Provocation

It is very hard to imagine such deep change, especially since corporations but also our genetic make-up are doing their best to render these infrastructures invisible. As Robert Simanowski (2018) puts it, we need to better understand the 'disappearance of computers in education and society,' not because they actually disappear but because they gradually become invisible. Except they don't: it is in making visible such structures and mobilising cautionary imaginaries that literature comes into its own as a model that readers need to assess and whose plausibility determines its critical significance. Pretty much like a literary version of the Turing Test, we constantly evaluate a story's significance for speculation or thought experimentation.

Despite – or because of – its cultural-ecological entangling of diverse and even incommensurate discourses, literature provides new avenues for thinking about posthumanism and the transhumanist creep. That relevant narratives are predominantly pessimistic, even nightmarish, should give us further pause. Over and against the promotional lingo of corporations and decision-makers prone to what Evgeny Morozov calls 'technological solutionism,' literary fiction and film provides us with countless speculations and cautionary tales – what, then, do we make of the fact that most of this is unsettling, disquieting, even alarmist? What do we make of the popular imaginary of *The Matrix*, *Terminator*, *Minority Report*, or *The Hunger Games*, and of pertinent literary

scenarios, from *Brave New World* to *Black Mirror* and Sudvic's *Sympathy* to Schweblin's *Little Eyes*?[3] Just as *Machines Like Me*, I read them as cautionary tales concerned with ethical aporias we simply wouldn't be having without technoscientific hubris. It is in these texts that we can and have to speculate on the predominantly negative effects of technological 'progress.' If their modelling is plausible – and we Turing-test this in the act of reading – then we ought to pay close attention, as readers as well as educators, to such literary counter-discourses.

This isn't due to some remnant of elitist cultural pessimism but informed by the suggestion to take seriously literature's 'dispersed pedagogies' (Snaza, 2019: 11 and *passim*). And it stands as a productive provocation that helps us understand transhumanist creeps. If, upon reading our way through the various storyworlds, we believe the characters and the diegetic scenarios to be plausible, we also should incorporate the lessons we learned from reading these texts and in turn include what we've learned in our teaching objectives and methodologies. On the level of pedagogic theory and practice, we might use our thick descriptions and the speculative real-life modelling of literature for a repositioning of theoretical work in the humanities. These texts are, after all, the closest we get to an empirical basis of imaginaries and cultural ways of worldmaking (Nünning et al., 2010), and they can substantiate hunches about transhumanist creep phenomena that got me thinking in the first place, as explained above. Most narratives seem to foresee the bleak potential of solutionism blissfully at work while the theoretical humanities still labour at conceptual distinctions with little bearing on educational realities. I therefore think that literary analysis provides us with a basic terminology for necessary critique – of theoretical work as much as the realities it shapes (Robson, 2014; Turkle, 2011). Literature can teach us to think radically because our imaginations are immersed in dystopian scenarios: what if the scanned horizons are mostly bleak? What if neither education nor the 'posthumanities' will be productively 'bewildered' (Snaza, 2013) but rather give in further to the transhumanist creep, and to dehumanisation?

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[3] This isn't the place for thorough case studies of the works I am referencing as if by chance. But I want at least to point out that they interest me particularly because of their take on transhumanist creep phenomena in a variety of (expressly cautionary) ways: *Brave New World* tells us on both diegetic and extradiegetic levels of how utopian aspirations turn into dystopian realization; *Black Mirror* is unsurpassed in its representations of an impressive variety of contemporary slippery slopes of transhumanisation; *Sympathy* provides readers with a disturbing account of subjectivation processes in times of rampant use of digital media; and *Little Eyes* is as disconcerting as it is creative in showing how new media gadgets combine issues of overtrust and processes of instrumentalising human beings. Especially since learners will be familiar with popcultural narratives of this sort, we should take their negativity seriously as a form of prior knowledge that education needs to build on.

The very discussion might be moot because of its inherent, and irresolvable, contradictions: As Christopher Peterson (2011) reminds us,

> the assertion that humanism can be decisively left behind ironically subscribes to a basic humanist assumption with regard to volition and agency, as if the 'end' of humanism might be subject to human control, as if we bear the capacity to erase the traces of humanism from either the present or the imagined future. (128)

But it still seems a discussion worth having in the theoretical as well as the applied humanities. If there is agency, erosion, transformation, and if it's not the humanist straw-man, who or what is it, then? I guess it is in technologies, fictions, corporations, dialectic manoeuvres in critical thought, uncritical downloading of apps, educational practice, philological speculation, and all of the above. It is time we took this seriously.

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