

Recent Approaches in the Posthuman Turn

Braidotti, Herbrechter, and Nayar

Başak Ağın Dönmez

PhD and Instructor (English), Middle East Technical University, Ankara

agin@metu.edu.tr

Braidotti, Rosi. 2013. *The Posthuman*. Cambridge: Polity Press. 180 pp. \$ 19.95. ISBN 978-0-7456-4158-4

Herbrechter, Stefan. 2013. *Posthumanism: a Critical Analysis*. London: Bloomsbury. 248 pp. \$ 29.95. ISBN 978-1-78093-606-2

Nayar, Pramod K. 2014. *Posthumanism*. Cambridge: Polity Press. 204 pp. \$ 24.95. ISBN 978-0-7456-6241-1

The posthuman turn in its current phase owes much to the new materialist paradigm, which has mainly extended the definition of agency to the nonhuman sphere. Such extension has led to significant boundary breakdowns between the biotic and the abiotic, nature and culture, as well as discourse and matter. The privileged status of information over materiality had long overshadowed posthumanism from the late 1980s to the early 2000s, when biotechnological developments triggered the idealization of super-human fantasies with complete disregard for the rest of the planetary inhabitants. The conflict between “the old” and “the new” approaches to posthumanism recalls Katherine Hayles’s famous words. On the one hand, posthumanism is misunderstood and associated with a form of incorporeal cognizance, as in Hans Moravec’s naïve fantasies of doing away with the bodily capabilities of the human altogether in *Mind Children* (1988). On the other hand, posthumanism incorporates both the material and the discursive into a form of embodied consciousness:

If my nightmare is a culture inhabited by posthumans who regard their bodies as fashion accessories rather than the ground of being, my dream is a version of the posthuman that embraces the possibilities of information technologies without being seduced by fantasies of unlimited power and disembodied immortality, that recognizes and celebrates finitude as a condition of human being, and that understands human life is embedded in a material world of great complexity, one on which we depend for our continued survival. (Hayles 1999, 5)

As exemplified by several relatively recent publications, Hayles is not the only scholar who is concerned over misconceptualizations of the posthuman. Donna Haraway has found Moravec's vision "self-caricaturing", stating that this is "a kind of techno-masculinism" (2006, 146), as she refrains from marking her own work as posthumanist. Stacy Alaimo has similarly expressed her disturbance over "the critical reception of the cyborg as technological but not biological", noting that this "insinuates a transcendent cyber-humanism that shakes off worldly entanglements" (2010, 7).

With the emergence of the new materialisms as an essential companion to its development, the posthuman turn has come to denote a horizontal, rather than a hierarchical, alignment of the human and the nonhuman. The human forces are no longer thought to be the only agentic "matters" that *matter*. Thanks to the work of leading figures in the (post) humanities, such as Stacy Alaimo, Jane Bennett, Karen Barad, Jeffrey J. Cohen, Vicki Kirby, Nancy Tuana, Serenella Iovino, Serpil Oppermann, and Cary Wolfe, just to name a few, the gap between information and materiality, discourse and matter, and thus the human and the nonhuman, is increasingly bridged at present. Through the recent configurations of matter as agentic and story-laden, the posthumanist discussions in our current era involve humans and nonhumans alike, including not only animals and plants, but also microorganisms, or subatomic and cellular beings and things, as well as impersonal agents like electricity or radioactivity. Karen Barad's agential realistic accounts of the world, which can be best summarized in her own words as "*we are a part of that nature that we seek to understand*" (2007, 26; emphasis in the original), successfully chart this new posthumanist venture. This new materialistic approach has paved the way for a proliferating number of publications on posthumanism in the 2010s, such as Rosi Braidotti's *The Posthuman* (2013), Stefan Herbrechter's *Posthumanism: a Critical Analysis* (2013), and Pramod K. Nayar's *Posthumanism* (2014). These three publications brilliantly survey the various channels that feed posthumanism.

Although Braidotti is not often directly associated with the new materialist trend in thought, in *The Posthuman* she reformulates posthumanism with an ontological merger of the material and the social, providing solu-

tions to all problematized aspects of the posthuman, along with her suggestions for the future prospects of the humanities. The book consists of four chapters with telling titles: "Post-Humanism: Life beyond the Self", "Post-Anthropocentrism: Life beyond the Species", "The Inhuman: Life beyond Death", and "Posthuman Humanities: Life beyond Theory". The traces of Braidotti's posthuman can also be found in her earlier work (e.g., *Metamorphoses: towards a Materialist Theory of Becoming* [2002]; *Posthuman: All Too Human: towards a New Process Ontology* [2006a]; *Transpositions: on Nomadic Ethics* [2006b]), but *The Posthuman* is the ultimate outcome of all the posthumanist schemes Braidotti has ever been a part of. Braidotti remarkably points out that the posthuman challenges the dichotomies of self/Other, mind/body, subject/object, heteronormative/queer, and, above all, human/nonhuman.

In the Introduction, Braidotti echoes the Harawayan and Latourian lines that we have never been fully human, nor "modern", for that matter. She starts her study of posthumanism with the deconstruction of Cartesian dualisms and the Enlightenment ideals of "Man". She cleanses posthumanism of its exaggeratedly technophilic or technophobic, unnecessarily speculative, and extremely radicalized mischaracterizations, depicting the posthuman as both an informational and a material entity, which builds mainly upon a naturalcultural scale. She considers the posthuman to be "an assumption about the vital, self-organizing, and yet non-naturalistic structure of living matter itself", which rests on a "non-dualistic understanding" of the "nature-culture continuum" (2013, 2-3). Through the "self-organizing (or auto-poietic) force of living matter" (Braidotti 2013, 3), the author poses critical questions:

[F]irstly, what is the posthuman? More specifically, what are the intellectual and historical itineraries that may lead us to the posthuman? Secondly: where does the posthuman condition leave humanity? More specifically, what new forms of subjectivity are supported by the posthuman? Thirdly: how does the posthuman engender its own forms of inhumanity? More specifically, how might we resist the inhuman(e) aspects of our era? And last, how does the posthuman affect the practice of the Humanities today? More specifically, what is the function of theory in posthuman times? (2013, 3)

In her answers to these questions, Braidotti presents four vignettes, all of which provide ethical questions on the state of the posthuman and posthumanism. In the first chapter, she discusses the exclusionary definitions of the human, positing that the humanism versus anti-humanism quandary has often been misunderstood and that philosophical anti-humanism is confused with misanthropy, which has resulted in "many atrocities [...] committed in the name of hatred for humanity" (2013, 15). Linking her

own understanding of the posthuman to an objection to the universalization of the human concept, she notes that humanist ideals need to be replaced “with a more complex and relational subject framed by embodiment, sexuality, affectivity, empathy, and desire as core qualities” (2013, 26). Following from these statements, she then entangles her feminist-political posthumanism with the idea of what the new materialists call agentic matter:

My monistic philosophy of becomings rests on the idea that matter, including the specific slice of matter that is human embodiment, is intelligent and self-organizing. This means that matter is not dialectically opposed to culture, nor to technological mediation, but continuous with them. This produces a different scheme of emancipation and a non-dialectical politics of human liberation. This position has another important corollary, namely that political agency need not be critical in the negative sense of oppositional and thus may not be aimed solely or primarily at the production of counter-subjectivities. Subjectivity is rather a process of auto-poiesis or self-styling, which involves complex and continuous negotiations with dominant norms and values and hence also multiple forms of accountability. (2013, 35)

Braidotti contends that the emergence of a new posthuman subjectivity lies at the heart of a human-nonhuman intermingle, an enmeshment with the material and the cultural alike, as she outlines her definition of posthumanism as “the historical moment that marks the end of the opposition between humanism and anti-humanism and traces a different discursive framework, looking more affirmatively towards new alternatives” (2013, 37). She also stresses that the posthuman turn “displaces the exclusive focus on the idea of Europe as the cradle of Humanism, driven by a form of universalism that endows it with a unique sense of historical purpose” (2013, 53), leading her discussion to the case of the nonhuman others in the second chapter. She proposes alternatives to the Vitruvian man, in a wide-ranging scope from animals to robotic bodies. In this, however, Braidotti cautions against reiterating “the deception of a quantitative multiplicity which does not entail any qualitative shifts” because these would involve the risk of “technological transcendence”, “hyped-up disembodiment”, and “fantasies of trans-humanist escape”, along with “re-essentialized, centralized notions of liberal individualism” (2013, 102). In her final remarks to this chapter, Braidotti suggests a much more clarified and affirmative alternative to these techno-fantasies of extreme humanisms and underlines the redefinitions of kinship and ethical accountability.

In the third chapter, “The Inhuman: Life beyond Death”, Braidotti sets off with Marcel L’Herbier’s film, *L’Inhumaine* (1924), which, in her own words, “deals with the super-human capacity of the female of our species to manipulate and control the course of human history and evolu-

tion" (2013, 105). She then moves onto the discussions of Jean-François Lyotard's *The Inhuman* (1989) through problematizing the capitalistic alienation and commoditization of the human. Suggesting that the inhuman can no longer be defined as such, Braidotti postulates that "the current historical context has transformed the modernist inhuman into a posthuman and post-anthropocentric set of practices" (2013, 109). Following from the distinction of *bios/zoë* and life/death, Braidotti philosophizes on the contemporary ways of dying and the destructive effects of technology in this third chapter. By alluding to mythological and classical figures like Thanatos, Hecuba, and Medea, she enthrallingly suggests that "[t]he inhuman forces of technology have moved into the body, intensifying the spectral reminders of the corpse-to-come. Our social imaginary has taken a forensic turn" (2013, 113). She draws upon Foucauldian bio-politics and Achille Mbembe's necropolitics to discuss how our posthuman condition reformulates the questions of these ethical concerns as to which species will die or live. She, thus, calls death "the inhuman within", and then connects our current ways of "disappearing" to the vitalist and materialist emphases on a cosmic monism:

What we humans truly yearn for is to disappear by merging into this generative flow of becoming, the precondition for which is the loss, disappearance, and disruption of the atomized, individual self. [...] This can be described also as the moment of ascetic dissolution of the subject; the moment of its merging with the web of non-human forces that frame him/her, the cosmos as a whole. We may call it death, but in a monistic ontology of vitalist materialism, it has rather to do with radical immanence. That is to say the grounded totality of the moment when we coincide completely with our body in becoming at last what we will have been all along: a virtual corpse. (2013, 136)

The fourth chapter lists the main criteria for a posthuman theory as "cartography accuracy, with the corollary of ethical accountability; trans-disciplinarity; the importance of combining critique with creative figurations; the principle of non-linearity; the powers of memory and the imagination and the strategy of de-familiarization" (2013, 163). Braidotti emphasizes that each of these guidelines should provide valuable insight into how the social and the natural sciences can function together as toolkits for a new and emerging posthumanities, concluding her book by reminding us that "[n]ot all of us can say, with even a modicum of certainty, that we have actually become posthuman, or that we are only that" (2013, 186). She notes that the posthuman quandary requires us to reckon our human condition, to reformulate subjectivity, and bearing in mind the complex nature of our times, to postulate a fresher and a more horizontal system of ethics and moral values.

She also prompts us to think about the necessity of altering the humanities through her suggestions. Broadly speaking, Braidotti's survey of the posthuman and posthumanism highlights a new materialistic and/or vitalist necessity of moving beyond the linguistic emphasis on the nature/culture divide.

Stefan Herbrechter's *Posthumanism: a Critical Analysis* also surveys posthumanism in six chapters, but it concentrates more on Nietzschean anti-humanism and postmodernism in their critique of humanity. Although Herbrechter's view of posthumanism more heavily stresses the twenty-first century technologization, his call for a "postscience", through which the boundaries between life sciences and the humanities erode, echoes Braidotti's mention of the posthumanities, thereby slightly resonating with the inseparability of the material and the discursive. In the first chapter, "Towards a Critical Posthumanism", Herbrechter essentially addresses the cultural construction of the human as a concept. Critically reflecting on the "quasi-mystical universal human 'nature'", Herbrechter states that the "great cultural achievements" of the human "serve to promote the cohesion of humanity in general" (2013, 12). He sees posthumanism as a follow-up movement to the postmodernist critiques of liberal humanism, stressing the importance of values such as "particularity", "difference", "multiplicity", and "plurality", instead of singularity and universality of a definable human form:

Humans and their humanity are historical and cultural constructs rather than transcendental concepts free from ideology, and they therefore have to be placed within larger contexts like ecosystems, technics, or evolution. This approach only becomes posthumanist when the human is no longer seen as the sole hero of a history of emancipation, but as a (rather improbable but important) stage within the evolution of complex life forms. (2013, 9)

After discussing the postmodern critiques by significant figures like Lyotard, Derrida, and Foucault, Herbrechter provides a more detailed survey of posthumanism in the second chapter, entitled "A Genealogy of Posthumanism". Expanding on the Nietzschean concept of "overman", he highlights Ihab Hassan's article titled *Prometheus as the Performer: toward a Posthumanist Culture? A University Masque in Five Scenes* (1977) as the first philosophical text to initiate the idea of the posthuman. In this chapter, Herbrechter engages with critical questions of technologization, futurism, and artificial intelligence, noting that these are indispensable elements of posthumanism at present. However, among many other examples, he places a special emphasis on Hayles's *How We Became Posthuman* (1999), which is considered to be one of the major publications in the posthumanities to embark on the realignment of information and materiality. Accentuating that the posthuman has multiple "economic, military, scientific, and/or moral" facets (2013, 37), he elaborates on the concept from

several philosophical and popular cultural aspects, thereby underlining the co-evolutionary steps that both the humans and technological bodies have synchronously taken. He warns against the "crass opposition between technophile and hypermodern transhumanists and technoskeptic, antimodern posthumanists with a great number of shadings inbetween" (2013, 53), noting that despite the hopeful tones provided by the rhetoric of "departure" from humanism and the idea of "overcoming" humanism, the liberal humanist formulations of the Enlightenment might well be repeated under new technological emergences, such as "cognitive and neuroscientific concepts" (2013, 61). Thus, he suggests that a critical posthumanism needs to "overcome the ideological confrontation between liberal humanists and cultural materialists, mindful of both the historical context and the current climate of cultural change" (2013, 61). Finding a balance between these two stances, the third chapter, "Our Posthuman Humanity", concentrates on the discussions of everyday uses of information technologies and their importance. Herbrechter maintains that digital technologies of information not only "recognize" data as "information", but "transform everything into information" (2013, 78). Thus, he proposes to consider posthumanization "the disappearance of the modern metanarratives of the Enlightenment and human emancipation" (2013, 78). He views this posthumanization process as "the loss of totality and the liberation of its parts in the context of technological change and the dissolution of the last (meta)narrative, arguably underestimated by postmodernism, namely anthropocentric humanism" (2013, 78). He further argues that posthumanism in its critical sense needs to "embrace technological challenge while at the same time it needs to think through a postmodern critique, [...] mapping change onto the long-term dimension of posthumanization, which in fact begins with the very idea of hominization" (2013, 79).

The fourth chapter is entitled "Posthumanism and Science Fiction", and it focuses on the parallelisms between popular culture and prosthesization, digitalization, cyborgization, and virtualization in consumer societies. Analyzing various samples from the media and films, Herbrechter notes that "science fiction tries to achieve a 'defamiliarization' of an already posthumanized world. It thus shakes the humanist value system to an extent where the ontology of the human becomes precarious and the subject of utopia as such" (2013, 112). Examining *The Matrix* trilogy as one of his many examples, Herbrechter states that the main character of the series, Neo, is neither human, nor inhuman, but in fact a "medium" or "translation itself", which is gradually divinized into a form of spirituality. Arguing that these "posthumanist parables are troubling", he calls for a radical critique of such quasi-posthumanisms through critical posthumanism (2013, 134).

In the fifth chapter, “Interdisciplinarity and the Posthumanities”, Herbrechter follows a similar path to Braidotti, maintaining that “through bio-, nano-, cogno-, and infotechnologies not only humanist tradition and education has come under siege but also the future of the humanities” (2013, 135). He argues that “the posthumanities” must “become a forum for the interdisciplinary and dissensual knowledge community to face [the] responsibilities” towards the nonhuman others. In the final chapter of his book, entitled “Posthumanism, Digitalization, and the New Media”, Herbrechter notes that societies are increasingly becoming virtual, and explains how digitalization of information and technologization transform methods of obtaining knowledge, thus equating the posthumanities with digital humanities. He also notes that “cyborgization is [...] not merely a hybridization of the organic and the mechanical”, but the grafting of an informational and digital (i.e., virtual and virtualizing), coded and simulated (i.e., no longer relying on representation) reality onto human embodiment” (2013, 188). This is not to suggest that new forms of dualism are replicated, but rather it denotes a virtual embodiment, in which information itself possesses material forces. Herbrechter concludes this chapter by noting that

[p]osthumanism may be understood as the demand for an anthropology of a new, posthuman society with its moral, political, ecological, and so on, premises, on the one hand, and for a history of technology (technics) and media, with their fundamental co-implications between human, technology, information, culture, and nature, on the other hand. (2013, 193)

This final remark is significant in the sense that it outlines Herbrechter’s posthumanism. The emphasis put on the networks of technology, information, and “culture and nature” reverberates, to some extent, a vitalist and monistic philosophy, as also underlined in Braidotti’s *The Posthuman* and Pramod K. Nayar’s *Posthumanism*, which is another lively account of posthumanism published in the 2010s.

Nayar’s *Posthumanism* is divided into six chapters, with several sub-headings. In the first chapter, “Revisiting the Human: Critical Humanisms”, the author starts with striking examples from science-fiction novels and films, such as *Terminator* (1984-2009), *Gattaca* (1997), and *Never Let Me Go* (2005), noting that these literary and popular representations provide “corporeal-physiological fluidity, ontological liminality, and identity-morphing”, which may well outline some of the fundamental characterizations of the posthuman in the current era (2014, 2). This chapter explains the basic terms and definitions, such as humanism, transhumanism, and posthumanism, formulating the basis for the rest of the discussion. Despite the emphasis on the biotechnological aspects of posthumanism, Nayar heavily

relies on the questioning of the meaning of being human, calling into question such features as rationality, autonomy, and linguistic ability, thereby drawing parallelisms between different forms of discrimination, such as sexism, racism, and speciesism. He emphasizes the emerging possibilities of the posthuman era, which allows the production of empowered and subaltern identities in the form of "vampires, animals, or humans" (2014, 34). In the second chapter, "Consciousness, Biology, and the Necessity of Alterity", Nayar "traces key moments in biological, philosophical, and computational theories that contribute in significant ways to the rise of posthumanist thought" (2014, 35). He specifically attaches importance to Maturana's and Varela's "autopoiesis", and, in this sense, his approach is similar to that of Cary Wolfe and, to a certain extent, of Braidotti. By focusing more on information flows and feedback loops, the author also highlights the importance of Hayles's posthumanist formulations. Discussing other significant concepts within the posthumanities, such as symbiogenesis and alterity, Nayar provides an overall sense of the posthuman, which merges gender studies, critical animal studies, and postcolonial studies. Rejecting the centrality of the humankind in a challenge to the Enlightenment ideals, Nayar argues that the new theories in posthumanism refuse to see "human or any subjectivity as self-contained, sovereign, and independent" (2014, 53). This is a significant claim, on which many critical veins of posthumanism rely at present. Bearing this significance in mind, Nayar's third chapter, "The Body, Reformatted", concentrates on bringing the body and materiality back into the equation in deconstructive methodologies. Basing his main argument on Thacker's "view of biology as biomedica", Nayar draws two vital conclusions: "[...] first, the body *is* the data stored in the computers and databases", which denotes a kind of "dematerialization", and "second, the data can generate a body", which signals a "rematerialization" (2014, 57; emphasis in the original). He compellingly argues that "consciousness, will, agency, and subjectivity are emergent conditions", especially highlighting that "the autonomy of the human" only emerges through relationality and "dynamics that cut across organic and non-organic actors, machines, and humans" (2014, 64). It is in this respect that Nayar's posthumanism bears resemblance to Braidotti's monistic vitality and the new materialist echoes of the twenty-first century critical posthumanisms. Such a vitalist approach, apparently, formulates the basis for posthuman citizenship:

Vitalist theories have now been modified in the posthuman age with a new view of the body and life itself: that life is distributed, embedded in, and evolved from other life forms, genetic codes, and info-flows. Bodies are not sovereign structures, bounded and coherent, but are congeries. Transplants call upon the self to recognize not only how its original organs had become

foreign to it, but also how the transplanted organs transplanted give it a sense of the foreign added to it. Thus, the interiority-exterior, original-prosthesis, self-other boundaries break down even as human-machine, organic-inorganic boundaries blur. Bodies are seen as becoming, whereby the so-called “Other” is constitutive of the self, the Other is incorporated into the self [...]. This body is not just a metaphor or a figure (that is, not just an effect of discourse). In every case, this cyborged, hybrid body is *embodied* even as its hybridity (like its boundaries, once) is produced in the material-discursive realm. Such a critical posthumanism, focused on the materiality of the body, is also alert to biological citizenship in which the material body is produced in and imbricated with technoscience and the capitalist processes of exploitation (bio-power). By rejecting the view of the autonomous subject and instead proposing a subject that is essentially intersubjective and intercorporeal, posthumanism refashions the very idea of the human. The human is a node, one that is dependent upon several other forms of life, flows of genetic and other information, for its existence and evolution. Finally, it demonstrates that citizenship is embodied, but requires an interface with the info-flows of the environment. (2014, 76; emphasis in the original)

As this lengthy quotation indicates, Nayar’s approach to posthumanism does not sidestep the importance of critical animal studies, and therefore, the fourth chapter, “Absolute Monstrosities: the ‘Question of the Animal’”, is dedicated to the discussions of the animal and/or monstrous others. This chapter is based on the critical question of “what constitutes ‘life’ and ‘normal life’”, and Nayar contends that “human life is what is traversed by and embedded in flows of life that cut across species, life forms, and inanimate things” (2014, 79). He notes that both monster studies and animal studies showcase how the definition of the human has been standardized, normalized, and universalized as opposed to the definitions of the disabled, the insane, or the differently embodied. As a constant other to the human, the overgeneralized category of the nonhuman enables the production of the human as a standardized figure. Therefore, these fields of study suggest how environments, ecologies, and human life are networked and are linked through one another, calling for a relocation of human-nonhuman boundaries (2014, 79-80). In the fifth chapter, “Life Itself: the View from Disability Studies and Bioethics”, Nayar notes that “disability studies [...] calls for a shift from purely biomedical notions of disability to a social constructionist view in which the impaired body and the environment and social order are in a dynamic relation” (2014, 101). Therefore, Nayar contends, posthumanism is strongly fed by disability studies since “the hierarchic ordering of the ‘normal’ body is seen as an unethical social construction that denies different bodies subjectivity and equal citizenship rights” (2014, 101). He also notes that bioethics is equally important for posthumanism

because "in the age of increasingly networked bodies, xenotransplantation, cloning, and other new scientific and social conditions, [it] has become more complicated where the boundedness of the human, the 'status' of life, and living [...] are all under dispute" (2014, 101). Therefore, he discusses moral issues such as the status of vegetative life, personhood, and sentience. In the final chapter, "Posthuman Visions: towards Companion Species", he approaches posthumanism from a multispecies identity perspective. He finds this approach apt for the moral requirements in posthumanism and ethics of care, specifically underlining the emergence of new life forms and matter without a species border (2014, 149).

Looking into Braidotti's, Herbrechter's, and Nayar's accounts of posthumanism, one can clearly observe that Herbrechter follows a more poststructuralist pathway, while Braidotti and Nayar bring together various aspects of technology, hybridity, computation, and digitalization, as well as the body and materiality. The bridging of the gap between the linguistic and the material seems to have overcome a (mis)conceptualization in configuring posthumanism as a companion to pure rationality and technology, bringing back into the equation the bodily and/or animalistic aspects of the posthuman that had long remained unspoken of.

REFERENCES

- Alaimo, Stacy. 2010. *Bodily Natures: Science, Environment, and the Material Self*. Bloomington: Indiana University Press.
- Barad, Karen. 2007. *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Durham: Duke University Press.
- Braidotti, Rosi. 2002. *Metamorphoses: towards a Materialist Theory of Becoming*. Cambridge: Polity Press.
- . 2006a. "Posthuman: All Too Human: towards a New Process Ontology". *Theory, Culture and Society* 23(7-8): 197-208.
- . 2006b. *Transpositions: on Nomadic Ethics*. Cambridge: Polity Press.
- . 2013. *The Posthuman*. Cambridge: Polity Press.
- Haraway, Donna. 2006. Interview. Nicholas Gane. "When We Have Never Been Human, What Is to Be Done? Interview with Donna Haraway". *Theory, Culture and Society* 23 (7-8): 135-58.
- Hayles, Katherine. 1999. *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*. Chicago: University of Chicago Press.
- Herbrechter, Stefan. 2013. *Posthumanism: a Critical Analysis*. London: Bloomsbury.
- Moravec, Hans. 1988. *Mind Children: the Future of the Robot and Human Intelligence*. Cambridge, MA: Harvard University Press.
- Nayar, Pramod K. 2014. *Posthumanism*. Cambridge: Polity Press.