

## How We Became Posthuman Virtual Bodies In Cybernetics Literature And Informatics

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### How We Became Posthuman

N. Katherine Hayles is known for breaking new ground at the intersection of the sciences and the humanities. In *Unthought*, she once again bridges disciplines by revealing how we think without thinking—how we use cognitive processes that are inaccessible to consciousness yet necessary for it to function. Marshalling fresh insights from neuroscience, cognitive science, cognitive biology, and literature, Hayles expands our understanding of cognition and demonstrates that it involves more than consciousness alone. Cognition, as Hayles defines it, is applicable not only to nonconscious processes in humans but to all forms of life, including unicellular organisms and plants. Startlingly, she also shows that cognition operates in the sophisticated information-processing abilities of technical systems: when humans and cognitive technical systems interact, they form “cognitive assemblages”—as found in urban traffic control, drones, and the trading algorithms of finance capital, for instance—and these assemblages are transforming life on earth. The result is what Hayles calls a “planetary cognitive ecology,” which includes both human and technical actors and which poses urgent questions to humanists and social scientists alike. At a time when scientific and technological advances are bringing far-reaching aspects of cognition into the public eye, *Unthought* reflects deeply on our contemporary situation and moves us toward a more sustainable and flourishing environment for all beings.

### What is Posthumanism?

*Neocybernetics and Narrative* opens a new chapter in Bruce Clarke’s project of rethinking narrative and media through systems theory. Reconceiving interrelations among subjects, media, significations, and the social, this study demonstrates second-order systems theory’s potential to provide fresh insights into the familiar topics of media studies and narrative theory. A pioneer of systems narratology, Clarke offers readers a synthesis of the neocybernetic theories of cognition formulated by biologists Humberto Maturana and Francisco Varela, incubated by cyberneticist Heinz von Foerster, and cultivated in Niklas Luhmann’s social systems theory. From this foundation, he interrogates media theory and narrative theory through a critique of information theory in favor of autopoietic conceptions of cognition. Clarke’s purview includes examinations of novels (*Mrs. Dalloway* and *Mind of My Mind*), movies (*Avatar*, *Memento*, and *Eternal Sunshine of the Spotless Mind*), and even Aramis, Bruno Latour’s idiosyncratic meditation on a failed plan for an automated subway. Clarke declares the era of the cyborg to have ended, laid to rest as the ontology of technical objects is brought into differential coordination with operations of living, psychic, and social systems. The second-order discourse of cognition destabilizes the usual sense of cognition as conscious awareness, revealing the possibility of

nonconscious and nonhuman forms of sentience.

## **Simulation and Social Theory**

A proposal that algorithms are not simply instructions to be performed but thinking entities that construct digital spatio-temporalities. In *Contagious Architecture*, Luciana Parisi offers a philosophical inquiry into the status of the algorithm in architectural and interaction design. Her thesis is that algorithmic computation is not simply an abstract mathematical tool but constitutes a mode of thought in its own right, in that its operation extends into forms of abstraction that lie beyond direct human cognition and control. These include modes of infinity, contingency, and indeterminacy, as well as incomputable quantities underlying the iterative process of algorithmic processing. The main philosophical source for the project is Alfred North Whitehead, whose process philosophy is specifically designed to provide a vocabulary for "modes of thought" exhibiting various degrees of autonomy from human agency even as they are mobilized by it. Because algorithmic processing lies at the heart of the design practices now reshaping our world--from the physical spaces of our built environment to the networked spaces of digital culture--the nature of algorithmic thought is a topic of pressing importance that reraises questions of control and, ultimately, power. *Contagious Architecture* revisits cybernetic theories of control and information theory's notion of the incomputable in light of this rethinking of the role of algorithmic thought. Informed by recent debates in political and cultural theory around the changing landscape of power, it links the nature of abstraction to a new theory of power adequate to the complexities of the digital world.

## **Cinema Anime**

There has long been a politics around the way in which women are represented, with objection not so much to specific images as to a regime of looking which places the represented woman in a particular relationship to the spectator's gaze. Artists have sometimes avoided the representation of women altogether, but they are now producing images which challenge the regime. How do these images succeed in their challenge? *The Emptiness of the Image* offers a psychoanalytic answer. Parveen Adams argues that, despite flaws in some of the details of its arguments, psychoanalytic theory retains an overwhelming explanatory strength in relation to questions of sexual difference and representation. She goes on to show how the issue of desire changes the way we can think of images and their effects. Throughout she discusses the work of theorists, artists and filmmakers such as Helene Deutsch, Catherine MacKinnon, Mary Kelly, Francis Bacon, Michael Powell and Della Grace. *The Emptiness of the Image* shows how the very space of representation can change to provide a new way of thinking the relation between the text and the spectator. It shows how psychoanalytic theory is supple enough to slide into and transform the most unexpected situations.

## **Disability in Comic Books and Graphic Narratives**

Connecting Renaissance humanism to the variety of "critical posthumanisms" in twenty-first-century literary and cultural theory, *Renaissance Posthumanism* reconsiders traditional languages of humanism and the human, not by nostalgically enshrining or triumphantly superseding humanisms past but rather by revisiting and interrogating them. What if today's "critical posthumanisms," even as they distance themselves from the iconic representations of the Renaissance, are in fact moving ever closer to ideas in works from the fourteenth to the seventeenth century? What if "the human" is at once embedded and embodied in, evolving with, and de-centered amid a weird tangle of animals, environments, and vital materiality? Seeking those patterns of thought and practice, contributors to this collection focus on moments wherein Renaissance humanism looks retrospectively like an uncanny "contemporary"—and

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ally—of twenty-first-century critical posthumanism.

## **Contagious Architecture**

This collection of short expository, critical and speculative texts offers a field guide to the cultural, political, social and aesthetic impact of software. Experts from a range of disciplines each take a key topic in software and the understanding of software, such as algorithms and logical structures.

## **Cybernetic Revolutionaries**

Despite John Stuart Mill's widely respected contributions to philosophy and political economy, his work on political philosophy has received a much more mixed response. Some critics have even charged that Mill's liberalism was part of a political project to restrain, rather than foster, democracy. Redirecting attention to Mill as a political thinker, Nadia Urbinati argues that this claim misrepresents Mill's thinking. Although he did not elaborate a theory of democracy, Mill did devise new avenues of democratic participation in government that could absorb the transformation of politics engendered by the institution of representation. More generally, Urbinati assesses Mill's contribution to modern democratic theory by critiquing the dominant "two liberties" narrative that has shaped Mill scholarship over the last several decades. As Urbinati shows, neither Isaiah Berlin's theory of negative and positive freedom nor Quentin Skinner's theory of liberty as freedom from domination adequately captures Mill's notion of political theory. Drawing on Mill's often overlooked writings on ancient Greece, Urbinati shows that Mill saw the ideal representative government as a "polis of the moderns," a metamorphosis of the unique features of the Athenian polis: the deliberative character of its institutions and politics; the Socratic ethos; and the cooperative implications of political agonism and dissent. The ancient Greeks, Urbinati shows, and Athenians in particular, are the key to understanding Mill's contribution to modern democratic theory and the theory of political liberty. Urbinati concludes by demonstrating the importance of Mill's deliberative model of politics to the contemporary debate on liberal and republican views of liberty. Her fresh and persuasive approach not only clarifies Mill's political ideas but also illustrates how they can help enrich our contemporary understanding of democracy.

## **How We Became Posthuman**

The Diary of a Nobody is an English comic novel that records the daily events in the lives of a London clerk, Charles Pooter, his wife Carrie, his son Lupin, and numerous friends and acquaintances over a period of 15 months.

## **Becoming Beside Ourselves**

The first authoritative and comprehensive survey of the origins and current state of transhumanist thinking. The rapid pace of emerging technologies is playing an increasingly important role in overcoming fundamental human limitations. Featuring core writings by seminal thinkers in the speculative possibilities of the posthuman condition, essays address key philosophical arguments for and against human enhancement, explore the inevitability of life extension, and consider possible solutions to the growing issues of social and ethical implications and concerns. Edited by the internationally acclaimed founders of the philosophy and social movement of transhumanism, The Transhumanist Reader is an indispensable guide to our current state of knowledge of the quest to expand the frontiers of human nature.

## **Holding On to Reality**

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What identity means in an algorithmic age: how it works, how our lives are controlled by it, and how we can resist it Algorithms are everywhere, organizing the near limitless data that exists in our world. Derived from our every search, like, click, and purchase, algorithms determine the news we get, the ads we see, the information accessible to us and even who our friends are. These complex configurations not only form knowledge and social relationships in the digital and physical world, but also determine who we are and who we can be, both on and offline. Algorithms create and recreate us, using our data to assign and reassign our gender, race, sexuality, and citizenship status. They can recognize us as celebrities or mark us as terrorists. In this era of ubiquitous surveillance, contemporary data collection entails more than gathering information about us. Entities like Google, Facebook, and the NSA also decide what that information means, constructing our worlds and the identities we inhabit in the process. We have little control over who we algorithmically are. Our identities are made useful not for us—but for someone else. Through a series of entertaining and engaging examples, John Cheney-Lippold draws on the social constructions of identity to advance a new understanding of our algorithmic identities. *We Are Data* will educate and inspire readers who want to wrest back some freedom in our increasingly surveilled and algorithmically-constructed world.

### **Neocybernetics and Narrative**

This book gathers diverse critical treatments from fifteen scholars of the posthuman and posthumanism together in a single volume.

### **Exits to the Posthuman Future**

Transhumanism posits that humanity is on the verge of rapid evolutionary change as a result of emerging technologies and increased global consciousness. However, this insight is dismissed as a naive and controversial reframing of posthumanist thought, having also been vilified as “the most dangerous idea in the world” by Francis Fukuyama. In this book, Andrew Pilsch counters these critiques, arguing instead that transhumanism’s utopian rhetoric actively imagines radical new futures for the species and its habitat. Pilsch situates contemporary transhumanism within the longer history of a rhetorical mode he calls “evolutionary futurism” that unifies diverse texts, philosophies, and theories of science and technology that anticipate a radical explosion in humanity’s cognitive, physical, and cultural potentialities. By conceptualizing transhumanism as a rhetoric, as opposed to an obscure group of fringe figures, he explores the intersection of three major paradigms shaping contemporary Western intellectual life: cybernetics, evolutionary biology, and spiritualism. In analyzing this collision, his work traces the belief in a digital, evolutionary, and collective future through a broad range of texts written by theologians and mystics, biologists and computer scientists, political philosophers and economic thinkers, conceptual artists and Golden Age science fiction writers. Unearthing the long history of evolutionary futurism, Pilsch concludes, allows us to more clearly see the novel contributions that transhumanism offers for escaping our current geopolitical bind by inspiring radical utopian thought.

### **The Emptiness of the Image**

A secret history of the garage as a space of creativity, from its invention by Frank Lloyd Wright to its use by start-ups and garage bands. Frank Lloyd Wright invented the garage when he moved the automobile out of the stable into a room of its own. Steve Jobs and Steve Wozniak (allegedly) started Apple Computer in a garage. Suburban men turned garages into man caves to escape from family life. Nirvana and No Doubt played their first chords as garage bands. What began as an architectural construct became a cultural construct. In this provocative history and deconstruction of an American icon, Olivia Erlanger and Luis Ortega Goveia use the garage as a lens through which to view the advent

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of suburbia, the myth of the perfect family, and the degradation of the American dream. The stories of what happened in these garages became self-fulfilling prophecies the more they were repeated. Hewlett-Packard was founded in a garage that now bears a plaque: The Birthplace of Silicon Valley. Google followed suit, dreamed up in a Menlo Park garage a few decades later. Also conceived in a garage: the toy company Mattel, creator of Barbie, the postwar, posthuman representation of American women. Garages became guest rooms, game rooms, home gyms, wine cellars, and secret bondage lairs, a no-commute destination for makers and DIYers—surfboard designers, ski makers, pet keepers, flannel-wearing musicians, weed-growing nuns. The garage was an aboveground underground, offering both a safe space for withdrawal and a stage for participation—opportunities for isolation or empowerment.

### **Mill on Democracy**

N. Katherine Hayles here investigates parallels between contemporary literature and critical theory and the science of chaos. She finds in both scientific and literary discourse new interpretations of chaos, which is seen no longer as disorder but as a locus of maximum information and complexity. She examines structures and themes of disorder in *The Education of Henry Adams*, Doris Lessing's *Golden Notebook*, and works by Stanislaw Lem. Hayles shows how the writings of poststructuralist theorists including Barthes, Lyotard, Derrida, Serres, and de Man incorporate central features of chaos theory.

### **How We Think**

This book provides a practical approach for applying posthumanist insights to qualitative research inquiry. Adams and Thompson invite readers to embrace their inner – and outer – cyborg as they consider how today's professional practices and everyday ways of being are increasingly intertwined with digital technologies. Drawing on posthuman scholarship, the authors offer eight heuristics for “interviewing objects” in an effort to reveal the unique – and sometimes contradictory – contributions the digital is making to work, learning and living. The heuristics are drawn from Actor Network Theory, phenomenology, postphenomenology, critical media studies and related sociomaterial approaches. This text offers a theoretically informed yet practical approach for asking critical questions of digital and non-digital things in professional and personal spaces, and ultimately, for considering the ethical and political implications of a technology mediated world. A thought-provoking and innovative study, this book will be of great interest to scholars and researchers of technology studies, digital learning, and sociology.

### **Garage**

This work draws together a wide range of literature on contemporary technologies and their ethical implications. It focuses on advances in medical, reproductive, genetic and information technologies.

### **Comparative Textual Media**

A historical study of Chile's twin experiments with cybernetics and socialism, and what they tell us about the relationship of technology and politics.

### **We Are Data**

" will draw a wide readership from the ranks of literary critics, film scholars, science studies scholars and the growing legion of 'literature and science' researchers. It should be among the essentials in a posthumanist toolbox." -- Richard Doyle Automatic teller machines, castrati, lesbians, *The Terminator*:

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all participate in the profound technological, representation, sexual, and theoretical changes in which bodies are implicated. *Posthuman Bodies* addresses new interfaces between humans and technology that are radically altering the experience of our own and others' bodies.

### **Transhumanism**

*Web Theory* is a comprehensive and critical introduction to the theories of the internet and the world wide web. Robert Burnett and P. David Marshall examine the key debates which surround internet culture, from issues of globalisation, political economy and regulation, to ideas about communication, identity and aesthetics. *Web Theory* explore the shifts in society, culture and the media which have been brought about by the growth of the world wide web. It identifies significant readings, web sites and hypertext archive sources which illustrate the critical discussion about the internet and it mediates these discussions, indicating key positions within each debate and pointing the reader to key texts. *Web Theory* includes: \*Chapters showing how specific media have been affected by the internet \*Boxed case studies and examples \*References, an extensive bibliography and a list of web sites \*A glossary of key terms with important words highlighted in the text \*A *Web Theory* timeline which details important events \*A comprehensive and regularly updated website at [www.webtheory.nu](http://www.webtheory.nu) with inks and support material

### **Renaissance Posthumanism**

How might the ethical philosophy of the renowned French thinker Emmanuel Levinas relate to literature? Because his philosophy addresses the very opening of ethical experience, it cannot be applied readily as a critical method to literary texts. Yet Levinas's work, studded as it is with literary sources and quotations, demands a literary account. With an attitude at once respectful and interrogative, closely attentive to Levinas's texts while in dialogue with readings by Derrida, Blanchot, and Bataille, *Altered Reading* shows how the thread of the literary leads directly to the internal tensions of Levinas's ethical discourse. Jill Robbins provides a comprehensive critical account of Levinas's early and mature philosophy as well as later key transitional essays. In an invaluable appendix, she includes her own translation of an important, previously untranslated essay by Bataille on Levinas. *Altered Reading* will interest philosophers, literary critics, scholars of religion, and others drawn to Levinas's work.

### **The Cambridge Companion to Literature and the Posthuman**

We live in a world, according to N. Katherine Hayles, where new languages are constantly emerging, proliferating, and fading into obsolescence. These are languages of our own making: the programming languages written in code for the intelligent machines we call computers. Hayles's latest exploration provides an exciting new way of understanding the relations between code and language and considers how their interactions have affected creative, technological, and artistic practices. *My Mother Was a Computer* explores how the impact of code on everyday life has become comparable to that of speech and writing: language and code have grown more entangled, the lines that once separated humans from machines, analog from digital, and old technologies from new ones have become blurred. *My Mother Was a Computer* gives us the tools necessary to make sense of these complex relationships. Hayles argues that we live in an age of intermediation that challenges our ideas about language, subjectivity, literary objects, and textuality. This process of intermediation takes place where digital media interact with cultural practices associated with older media, and here Hayles sharply portrays such interactions: how code differs from speech; how electronic text differs from print; the effects of digital media on the idea of the self; the effects of digitality on printed books; our conceptions of computers as living beings; the possibility that human consciousness itself might be computational; and the subjective cosmology

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wherein humans see the universe through the lens of their own digital age. We are the children of computers in more than one sense, and no critic has done more than N. Katherine Hayles to explain how these technologies define us and our culture. Heady and provocative, *My Mother Was a Computer* will be judged as her best work yet.

### **My Mother Was a Computer**

"When the first edition was written, the dominant form of electronic literature was hypertext fiction. The book devoted several chapters to hypertext theory, as well as to the difficulty of creating immersive hypertext narratives. Hypertextuality has lost none of its prominence as a principle of organization of the Web, but it is no longer considered avant-garde on the digital-literary scene. While the new forms that are currently being developed verify some of the recommendations made in *NVR* (shorter texts, greater reliance on multi-modality, self-referentiality and a tendency toward conceptual art), they generally avoid narrativity and its particular form of immersion, and even interactivity is no longer seen as indispensable. It is in the popular form of the video game that serious attempts are being made to reconcile immersion with interactivity. The second edition deals in greater detail with both the increase of narrativity in video games, and its loss in experimental digital literature. It also takes into consideration the creation of online worlds such as *Second Life* and *World of Warcraft*, which implement the idea of virtual reality in a way not foreseen by VR theorists of the nineties" --

### **Postprint**

This collection charts the terrain of contemporary Japanese animation, one of the most explosive forms of visual culture to emerge at the crossroads of transnational cultural production in the last twenty-five years. The essays offer bold and insightful engagement with animé's concerns with gender identity, anxieties about body mutation and technological monstrosity, and apocalyptic fantasies of the end of history. The contributors dismantle the distinction between 'high' and 'low' culture and offer compelling arguments for the value and importance of the study of animé and popular culture as a key link in the translation from the local to the global.

### **Terminal Identity**

*Exits to the Posthuman Future* is media theory for a global digital society which thrives, and sometimes perishes, at the intersection of technologies of speed, distant ethics and a pervasive cultural anxiety. Arthur Kroker's incisive and insightful text presents the emerging pattern of a posthuman future: life at the tip of technologies of acceleration, drift and crash. Kroker links key concepts such as "Guardian Liberalism" and Obama's vision of the "Just War" with a striking account of "culture drift" as the essence of real world technoculture. He argues that contemporary society displays growing uncertainty about the ultimate ends of technological innovation and the intelligibility of the digital future. The posthuman future is elusive: is it a gathering storm of cynical abandonment, inertia, disappearance and substitution? Or else the development of a new form of critical consciousness - the posthuman imagination - as a means of comprehending the full complexity of life? Depending on which exit to the posthuman future we choose or, perhaps, which exit chooses us, Kroker argues that a very different posthuman future will likely ensue.

### **Software Studies**

For the past few hundred years, Western cultures have relied on print. When writing was accomplished by a quill pen, inkpot, and paper, it was easy to imagine that writing was nothing more than a means by

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which writers could transfer their thoughts to readers. The proliferation of technical media in the latter half of the twentieth century has revealed that the relationship between writer and reader is not so simple. From telegraphs and typewriters to wire recorders and a sweeping array of digital computing devices, the complexities of communications technology have made mediality a central concern of the twenty-first century. Despite the attention given to the development of the media landscape, relatively little is being done in our academic institutions to adjust. In *Comparative Textual Media*, editors N. Katherine Hayles and Jessica Pressman bring together an impressive range of essays from leading scholars to address the issue, among them Matthew Kirschenbaum on archiving in the digital era, Patricia Crain on the connection between a child's formation of self and the possession of a book, and Mark Marino exploring how to read a digital text not for content but for traces of its underlying code. Primarily arguing for seeing print as a medium along with the scroll, electronic literature, and computer games, this volume examines the potential transformations if academic departments embraced a media framework. Ultimately, *Comparative Textual Media* offers new insights that allow us to understand more deeply the implications of the choices we, and our institutions, are making. Contributors: Stephanie Boluk, Vassar College; Jessica Brantley, Yale U; Patricia Crain, NYU; Adriana de Souza e Silva, North Carolina State U; Johanna Drucker, UCLA; Thomas Fulton, Rutgers U; Lisa Gitelman, New York U; William A. Johnson, Duke U; Matthew G. Kirschenbaum, U of Maryland; Patrick LeMieux; Mark C. Marino, U of Southern California; Rita Raley, U of California, Santa Barbara; John David Zuern, U of Hawai'i at Mānoa.

### **Posthumanism**

*Holding On to Reality* is a brilliant history of information, from its inception in the natural world to its role in the transformation of culture to the current Internet mania and its attendant assets and liabilities. Drawing on the history of ideas, the details of information technology, and the boundaries of the human condition, Borgmann illuminates the relationship between things and signs, between reality and information. "[Borgmann] has offered a stunningly clear definition of information in *Holding On to Reality*. . . . He leaves room for little argument, unless one wants to pose the now vogue objection: I guess it depends on what you mean by nothing."—Paul Bennett, *Wired* "A superb anecdotal analysis of information for a hype-addled age."—*New Scientist* "This insightful and poetic reflection on the changing nature of information is a wonderful antidote to much of the current hype about the 'information revolution.' Borgmann reminds us that whatever the reality of our time, we need 'a balance of signs and things' in our lives."—Margaret Wertheim, *LA Weekly*

### **The Diary of a Nobody**

Scott Bukatman's *Terminal Identity*—referring to both the site of the termination of the conventional "subject" and the birth of a new subjectivity constructed at the computer terminal or television screen—puts to rest any lingering doubts of the significance of science fiction in contemporary cultural studies. Demonstrating a comprehensive knowledge, both of the history of science fiction narrative from its earliest origins, and of cultural theory and philosophy, Bukatman redefines the nature of human identity in the Information Age. Drawing on a wide range of contemporary theories of the postmodern—including Fredric Jameson, Donna Haraway, and Jean Baudrillard—Bukatman begins with the proposition that Western culture is suffering a crisis brought on by advanced electronic technologies. Then in a series of chapters richly supported by analyses of literary texts, visual arts, film, video, television, comics, computer games, and graphics, Bukatman takes the reader on an odyssey that traces the postmodern subject from its current crisis, through its close encounters with technology, and finally to new self-recognition. This new "virtual subject," as Bukatman defines it, situates the human and the technological as coexistent, codependent, and mutually defining. Synthesizing the most provocative theories of postmodern culture with a truly encyclopedic treatment of the relevant media, this volume

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sets a new standard in the study of science fiction—a category that itself may be redefined in light of this work. Bukatman not only offers the most detailed map to date of the intellectual terrain of postmodern technology studies—he arrives at new frontiers, providing a propitious launching point for further inquiries into the relationship of electronic technology and culture.

### **Web Theory**

As there has yet to be any substantial scrutiny of the complex confluences a more sustained dialogue between disability studies and comics studies might suggest, *Disability in Comic Books and Graphic Narratives* aims through its broad range of approaches and focus points to explore this exciting subject in productive and provocative ways.

### **The Interface Effect**

The scientific discovery that chaotic systems embody deep structures of order is one of such wide-ranging implications that it has attracted attention across a spectrum of disciplines, including the humanities. In this volume, fourteen theorists explore the significance for literary and cultural studies of the new paradigm of chaotics, forging connections between contemporary literature and the science of chaos. They examine how changing ideas of order and disorder enable new readings of scientific and literary texts, from Newton's *Principia* to Ruskin's autobiography, from Victorian serial fiction to Borges's short stories. N. Katherine Hayles traces shifts in meaning that chaos has undergone within the Western tradition, suggesting that the science of chaos articulates categories that cannot be assimilated into the traditional dichotomy of order and disorder. She and her contributors take the relation between order and disorder as a theme and develop its implications for understanding texts, metaphors, metafiction, audience response, and the process of interpretation itself. Their innovative and diverse work opens the interdisciplinary field of chaotics to literary inquiry.

### **Writing Machines**

Tracing a journey from the 1950s through the 1990s, N. Katherine Hayles uses the autobiographical persona of Kaye to explore how literature has transformed itself from inscriptions rendered as the flat durable marks of print to the dynamic images of CRT screens, from verbal text to the diverse sensory modalities of multimedia works, from books to technotexts. Weaving together Kaye's pseudo-autobiographical narrative with a theorization of contemporary literature in media-specific terms, Hayles examines the ways in which literary texts in every genre and period mutate as they are reconceived and rewritten for electronic formats. As electronic documents become more pervasive, print appears not as the sea in which we swim, transparent because we are so accustomed to its conventions, but rather as a medium with its own assumptions, specificities, and inscription practices. Hayles explores works that focus on the very inscription technologies that produce them, examining three writing machines in depth: Talan Memmott's groundbreaking electronic work *Lexia to Perplexia*, Mark Z. Danielewski's cult postprint novel *House of Leaves*, and Tom Phillips's artist's book *A Humument*. Hayles concludes by speculating on how technotexts affect the development of contemporary subjectivity. *Writing Machines* is the second volume in the *Media/Pamphlets* series.

### **Representations of the Post/human**

A sophisticated argument about how the internet and communication networks impact on politics, democracy, and identity.

## Altered Reading

Interfaces are back, or perhaps they never left. The familiar Socratic conceit from the Phaedrus, of communication as the process of writing directly on the soul of the other, has returned to center stage in today's discussions of culture and media. Indeed Western thought has long construed media as a grand choice between two kinds of interfaces. Following the optimistic path, media seamlessly interface self and other in a transparent and immediate connection. But, following the pessimistic path, media are the obstacles to direct communion, disintegrating self and other into misunderstanding and contradiction. In other words, media interfaces are either clear or complicated, either beautiful or deceptive, either already known or endlessly interpretable. Recognizing the limits of either path, Galloway charts an alternative course by considering the interface as an autonomous zone of aesthetic activity, guided by its own logic and its own ends: the interface effect. Rather than praising user-friendly interfaces that work well, or castigating those that work poorly, this book considers the unworkable nature of all interfaces, from windows and doors to screens and keyboards. Considered allegorically, such thresholds do not so much tell the story of their own operations but beckon outward into the realm of social and political life, and in so doing ask a question to which the political interpretation of interfaces is the only coherent answer. Grounded in philosophy and cultural theory and driven by close readings of video games, software, television, painting, and other images, Galloway seeks to explain the logic of digital culture through an analysis of its most emblematic and ubiquitous manifestation – the interface.

## Posthuman Bodies

In this age of DNA computers and artificial intelligence, information is becoming disembodied even as the "bodies" that once carried it vanish into virtuality. While some marvel at these changes, envisioning consciousness downloaded into a computer or humans "beamed" Star Trek-style, others view them with horror, seeing monsters brooding in the machines. In *How We Became Posthuman*, N. Katherine Hayles separates hype from fact, investigating the fate of embodiment in an information age. Hayles relates three interwoven stories: how information lost its body, that is, how it came to be conceptualized as an entity separate from the material forms that carry it; the cultural and technological construction of the cyborg; and the dismantling of the liberal humanist "subject" in cybernetic discourse, along with the emergence of the "posthuman." Ranging widely across the history of technology, cultural studies, and literary criticism, Hayles shows what had to be erased, forgotten, and elided to conceive of information as a disembodied entity. Thus she moves from the post-World War II Macy Conferences on cybernetics to the 1952 novel *Limbo* by cybernetics aficionado Bernard Wolfe; from the concept of self-making to Philip K. Dick's literary explorations of hallucination and reality; and from artificial life to postmodern novels exploring the implications of seeing humans as cybernetic systems. Although becoming posthuman can be nightmarish, Hayles shows how it can also be liberating. From the birth of cybernetics to artificial life, *How We Became Posthuman* provides an indispensable account of how we arrived in our virtual age, and of where we might go from here.

## Chaos and Order

This insightful book is the first to critically examine the ideas of some of the key thinkers of simulation. It addresses the work of Baudrillard, Debord, Virilio and Eco, clarifying their arguments by referring to the intellectual and social worlds each emerged from distilling what is important from their discussions. The book argues for a critical and selective use of the concept of simulation. Like the idea of ideology, simulation is a political theory, but it has also become a deeply pessimistic theory of the end of history and the impossibility of positive change. Through a series of reflections on the meaning of theme parks, warfare and computer modelling, Sean Cubitt demonstrates the strengths and limitations of the

simulation thesis.

## The Transhumanist Reader

In this age of DNA computers and artificial intelligence, information is becoming disembodied even as the "bodies" that once carried it vanish into virtuality. While some marvel at these changes, envisioning consciousness downloaded into a computer or humans "beamed" Star Trek-style, others view them with horror, seeing monsters brooding in the machines. In *How We Became Posthuman*, N. Katherine Hayles separates hype from fact, investigating the fate of embodiment in an information age. Hayles relates three interwoven stories: how information lost its body, that is, how it came to be conceptualized as an entity separate from the material forms that carry it; the cultural and technological construction of the cyborg; and the dismantling of the liberal humanist "subject" in cybernetic discourse, along with the emergence of the "posthuman." Ranging widely across the history of technology, cultural studies, and literary criticism, Hayles shows what had to be erased, forgotten, and elided to conceive of information as a disembodied entity. Thus she moves from the post-World War II Macy Conferences on cybernetics to the 1952 novel *Limbo* by cybernetics aficionado Bernard Wolfe; from the concept of self-making to Philip K. Dick's literary explorations of hallucination and reality; and from artificial life to postmodern novels exploring the implications of seeing humans as cybernetic systems. Although becoming posthuman can be nightmarish, Hayles shows how it can also be liberating. From the birth of cybernetics to artificial life, *How We Became Posthuman* provides an indispensable account of how we arrived in our virtual age, and of where we might go from here.

## Network Culture

What does it mean to think beyond humanism? Is it possible to craft a mode of philosophy, ethics, and interpretation that rejects the classic humanist divisions of self and other, mind and body, society and nature, human and animal, organic and technological? Can a new kind of humanities-posthumanities-respond to the redefinition of humanity's place in the world by both the technological and the biological or "green" continuum in which the "human" is but one life form among many? Exploring how both critical thought along with cultural practice have reacted to this radical repositioning, Cary Wolfe—one of the founding figures in the field of animal studies and posthumanist theory—ranges across bioethics, cognitive science, animal ethics, gender, and disability to develop a theoretical and philosophical approach responsive to our changing understanding of ourselves and our world. Then, in performing posthumanist readings of such diverse works as Temple Grandin's writings, Wallace Stevens's poetry, Lars von Trier's *Dancer in the Dark*, the architecture of Diller+Scofidio, and David Byrne and Brian Eno's *My Life in the Bush of Ghosts*, he shows how this philosophical sensibility can transform art and culture. For Wolfe, a vibrant, rigorous posthumanism is vital for addressing questions of ethics and justice, language and trans-species communication, social systems and their inclusions and exclusions, and the intellectual aspirations of interdisciplinarity. In *What Is Posthumanism?* he carefully distinguishes posthumanism from transhumanism (the biotechnological enhancement of human beings) and narrow definitions of the posthuman as the hoped-for transcendence of materiality. In doing so, Wolfe reveals that it is humanism, not the human in all its embodied and prosthetic complexity, that is left behind in posthumanist thought.

## Chaos Bound

DIVTheoretical study of the relationship between technoscience and the human body that examines the ways in which bodies and machines "speak" not just through language but also through gesture, numbers, and other non-alphabetic systems of expressio/div

## Researching a Posthuman World

What does it mean to be human today? The answer to this question, which is as old as the human species itself, is becoming less and less certain. Current technological developments increasingly erode our traditional humanist reflexes: consciousness, emotion, language, intelligence, morality, humour, mortality - all these no longer demonstrate the unique character and value of human existence. Instead, the spectre of the 'posthuman' is now being widely invoked as the 'inevitable' next evolutionary stage that humans are facing. Who comes after the human? This is the question that posthumanists are taking as their starting point. This critical introduction understands posthumanism as a discourse, which, in principle, includes everything that has been and is being said about the figure of the 'posthuman'. It outlines the genealogy of the various posthuman 'scenarios' in circulation and engages with their theoretical and philosophical assumptions and social and political implications. It does so by connecting the philosophical debate about the future of humanity with a range of texts, including examples from new media, popular culture, science and the media.

## Narrative as Virtual Reality 2

“How do we think?” N. Katherine Hayles poses this question at the beginning of this bracing exploration of the idea that we think through, with, and alongside media. As the age of print passes and new technologies appear every day, this proposition has become far more complicated, particularly for the traditionally print-based disciplines in the humanities and qualitative social sciences. With a rift growing between digital scholarship and its print-based counterpart, Hayles argues for contemporary technogenesis—the belief that humans and technics are coevolving—and advocates for what she calls comparative media studies, a new approach to locating digital work within print traditions and vice versa. Hayles examines the evolution of the field from the traditional humanities and how the digital humanities are changing academic scholarship, research, teaching, and publication. She goes on to depict the neurological consequences of working in digital media, where skimming and scanning, or “hyper reading,” and analysis through machine algorithms are forms of reading as valid as close reading once was. Hayles contends that we must recognize all three types of reading and understand the limitations and possibilities of each. In addition to illustrating what a comparative media perspective entails, Hayles explores the technogenesis spiral in its full complexity. She considers the effects of early databases such as telegraph code books and confronts our changing perceptions of time and space in the digital age, illustrating this through three innovative digital productions—Steve Tomasula’s electronic novel, *TOC*; Steven Hall’s *The Raw Shark Texts*; and Mark Z. Danielewski’s *Only Revolutions*. Deepening our understanding of the extraordinary transformative powers digital technologies have placed in the hands of humanists, *How We Think* presents a cogent rationale for tackling the challenges facing the humanities today.

## Unthought

Since Gutenberg’s time, every aspect of print has gradually changed. But the advent of computational media has exponentially increased the pace, transforming how books are composed, designed, edited, typeset, distributed, sold, and read. N. Katherine Hayles traces the emergence of what she identifies as the postprint condition, exploring how the interweaving of print and digital technologies has changed not only books but also language, authorship, and what it means to be human. Hayles considers the ways in which print has been enmeshed in literate societies and how these are changing as some of the cognitive tasks once performed exclusively by humans are now carried out by computational media. Interpretations and meaning-making practices circulate through transindividual collectivities created by interconnections between humans and computational media, which Hayles calls cognitive assemblages.

## Free Reading How We Became Posthuman Virtual Bodies In Cybernetics Literature And Informatics

Her theoretical framework conceptualizes innovations in print technology as redistributions of cognitive capabilities between humans and machines. Humanity is becoming computational, just as computational systems are edging toward processes once thought of as distinctively human. Books in all their diversity are also in the process of becoming computational, representing a crucial site of ongoing cognitive transformations. Hayles details the consequences for the humanities through interviews with scholars and university press professionals and considers the cultural implications in readings of two novels, *The Silent History* and *The Word Exchange*, that explore the postprint condition. Spanning fields including book studies, cultural theory, and media archeology, *Postprint* is a strikingly original consideration of the role of computational media in the ongoing evolution of humanity.

## Free Reading How We Became Posthuman Virtual Bodies In Cybernetics Literature And Informatics

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