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Networked Human, Network's Human: Humans in Networks Inter-Asia

Eric Kerr, Connor Graham, and Alfred Montoya

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Abstract This special issue explores the conceptions of the human that emerge out of the form and the design of information and communications technologies (ICTs). Geographically, our focus compares two countries with a relatively high level of ICT penetration—South Korea and Singapore—and two countries with a relatively low level—India and Vietnam. In each country we see how different forms of the human emerge, in part out of the ways in which technological infrastructure develop and intertwine with social order. In this introduction we reflect on the long genealogy of “human” and “humanity” and the more recent history of ICTs in Asia.

Keywords information and communications technologies · human · human rights · networks · infrastructure

Homo sum, humani nihil a me alienum puto—I am human, nothing human is alien to me—wrote the Roman playwright Terence. One could scarcely imagine someone

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writing such words today—quite the opposite. Increasingly, people recognize that the idea of a *human* (or *Man*, or *people*, *race* when describing a species, *citizen*, etc.) is not just an idea with a contingent and protean history. It is more and more constructed by the technologies people use to track, categorize, and define one another. This special issue asks not only what happens when technology and humans merge (cf. Ma 2016) but also what idea of the human does the form and design of information and communications technologies (ICTs) and their networks assume or anticipate. The issue aims to critically consider the intersection between networks and humans, both the idea of “the human” and human beings, in Asian contexts: India, Singapore, South Korea, and Vietnam.¹ Our collection treats both those countries with highly developed ICT infrastructure and those with low ICT penetration. We bring together perspectives on and from Asia in the five papers and one essay that comprise this issue.

Positioning this discussion within Asia is pertinent for a number of reasons. First, within Asia, East and Southeast Asia are the fastest-growing markets in the world for Internet and mobile communications technology (Lee 2017). In Southeast Asia, people engage in online social networking sites far more than the global average (Abbott 2015). Indonesia, for example, has the third largest number of Twitter users in the world and the fourth largest number of Facebook users, about 220 million (Abbott 2013). Vietnam, for its part, has nearly 40 million Internet users—nearly 43 percent of the national population—with an estimated 8.5 million Vietnamese citizens utilizing social media and a new Vietnamese user joining Facebook every three seconds (Morris-Jung 2015). Second, considerable differences and disparities exist within Asia as a region. For example, India, although boasting a total of 481 million Internet users, has a rural Internet penetration rate of just over 20 percent (IANS 2018), and 19 percent of the population are active social media users (Hootsuite and We Are Social 2018).

In addition, long before the Arab Spring, activists in Asia utilized ICT-enabled networks to organize mass civil society mobilizations against ruling authorities. In 1998, for instance, Indonesian activists and students used early online bulletin boards to coordinate protests against the thirty-year Suharto dictatorship, and early political bloggers in Malaysia took to online forums during the Reformasi protests after the arrest of Anwar Ibrahim (Abbott 2013). The potentially transformative power of these technology-enabled networks has not been lost on scholars (see Huang et al. 2017; Lee 2017; Edwards, Choi, and Ho 2017; Liu 2013), or on state authorities. For example, in the wake of the Arab Spring, rattled Cambodian dictator Hun Sen was reported to have said, “I not only weaken the opposition, I’m going to make them dead . . . and if anyone is strong enough to try to hold a demonstration, I will beat all those dogs and put them in a cage” (Human Rights Watch 2015).

Other scholars have examined controls on and censorship of technology-mediated networks across different types of regimes in Southeast Asia (see Liu 2014) and in specific contexts, such as South Korea (see Fish 2009) and China (see Xu and Feng 2015; Pan 2017). These sophisticated analyses, often quite nuanced, are typically conducted with an eye toward what these might mean for the region’s potential for

¹ Here we deploy the term *the human* to mean the idea of the human or humans in discourse, the term *human beings* to mean the living, breathing bipeds humans are, and the terms *human* and *humans* to mean both.

democracy or civil society, seeking to support the work of digital activists and rights groups and other “positive deviants” (Xu and Feng 2015) against authoritarian regimes. This is particularly true of such scholarship on China, where patient considerations of the meanings and consequences of the Golden Shield/Great Firewall, Internet, and social media addiction (see Shao et al. 2018; Wang et al. 2013) and the effect of Internet penetration on political beliefs (see Wang 2014) abound. Though our special issue does not include a contribution to this literature on China, no special issue can do anything but aspire to a comprehensive completeness. From our brief survey of the massive literature on ICTs, networks, and the Internet in China, it is clear that this scholarship, like that on the rest of the countries that are represented in the cases included in this issue, perform different orders and types of analyses.

It has been our desire to do something different in this issue, to take a risk by reading across the grain of these types of analyses; to ask, for instance, not what the consequences/reasons of/for the Great Firewall are, or how Internet use transforms political beliefs in Asia, but what kind of human do states in Asia take the citizen for, that it built and maintains such an infrastructure?, or what is the Chinese subject/human today, and how does she understand herself vis-à-vis the aspired-to circumscriptions of her ICT networks? That is, we ask what kind of human is assumed/envisioned by these maneuvers and technical interventions, and what kind of human emerges from an engagement with (social, political, technological, etc.) networks with these specific parameters, forms, and values. That we engage both ideas about humans, or the human, and ideas about human beings reflects that networks, like Internets, both produce multiple narratives and are generative of forms of life (see Graham et al., this issue).

The diversity of political regimes, levels of digital literacy, and depth of ICT penetration across Asia (again, as discussed by Graham et al. in this issue) makes the region a problem space where comparison and juxtaposition can bear real fruit. It is our sincere hope that, by presenting the cases described in the contributions to this special issue in all their complexity, fruitful visions and revisions of the human and new ways of knowing, critiquing, and developing knowledge about the human may become possible.

Specifically, this issue centers on what extant visions and imaginations of the human in Asia, across different levels of ICT development and different engagements with the Internet, are evident.² We have focused on three guiding questions:

- What different visions and imaginations of the human have been prevalent in Asian and inter-Asian contexts through different historical periods, but especially in the contemporary?
- What role have networks had in propagating, constructing, and/or resisting particular visions and imaginations of the human in Asian and inter-Asian contexts?
- What has been the extent of influence of these visions and imaginations of the human in relation to networks on design and policy making?

² Here we draw on Arjun Appadurai's definitions of fantasy and imagination, or “thought divorced from projects and actions” (1996: 7) and “collective social fact” that is “a staging ground for action” (5, 7). Central to this distinction is that “mass media throughout the world often provokes resistance, irony, selectivity and, in general, agency” as opposed to imaginative escape (7).

This issue has both required and enabled us to perform some definitional work on the terms *humans* and *networks* and the visions and imaginations associated with them through examining specific instances of ICT-enabled networks within nation-states. However, as the articles in the issue show, the nation itself, whether a vision, imagination, or territory, is increasingly inflected by the internationalizing force of technology-enabled networks.

1 The Human and Networks

The title of this special issue provokes a question concerning not only the extent to which human beings are now networked via ICTs but also the extent to which network technologies configure human beings and conceptions of humanness. We have ordered the contributions to initially explore the less considered ways in which human beings are configured and reconfigured, conceived and reconceived through ICT-enabled networks, through the work of Itty Abraham and Alfred Montoya. Michiel Baas and Sora Park then shift the focus to particular collections of humans configured and reconfigured within such networks. The contributions by Chihyung Jeon and by Connor Graham, Eric Kerr, Natalie Pang, and Michael M. J. Fischer return to considering humans embedded within ICT-enabled networks, showing that such networks are not only capable of bringing forth new forms of human life but also productive of narratives about themselves and humans.

The networked nature of humans has a long history, as Peter Sloterdijk argues in his short essay *In the Shadow of Mount Sinai* (2015). Sloterdijk notes the following: “It is no coincidence that ethnologists, anthropologists and theologians have been claiming for some time that no indications have been found anywhere in the world pointing to the existence of completely ‘irreligious peoples’—and how could they, when the phenomenon of peoples as such is engendered only by the collective-integrative effects of shared rites and histories, conventionally known as ‘religions’” (9). Human beings, by definition, consist in “stabilized collectives” bound by “connecting media” acquainted through symbolic bonds, shared histories and normative commitments (9). As the articles by Baas and Park show, human beings can likewise be formed and defined by some other connecting media, transforming an otherwise random crowd of bodybuilders and teens into what Sloterdijk calls a “physically and spiritually self-reproducing unit” (10).

At the same time, there are competing visions and imaginations of humans and humanity, definitions that are inflected by ICT-enabled networks. Specifically, *humanity*, in the sense of a species-wide entity with some unspecified but presumably collective interests, must be abstracted from experience and constructed. This has been done differently at different times and in different places. Michel Foucault (1971: 387) called *Man* “an invention of recent date.” For Foucault, the collective concept of *Man* emerged with modern society, and is bound up in Enlightenment-era ways of knowing, objectivity, and notions of scientific and historical progress. *Man* is associated not only with “European culture since the sixteenth century” (Foucault 1971: 386) but also with the development of modern medicine, the rise of rationality, and a decline in the power of religion in this context. In his latest book on secular humanism, John Gray (2018) shows how philosophers like Auguste Comte and John Stuart Mill replaced a belief in

God with a certain vaguely transcendental collective concept of the human. Going further, he argues that this idea is an inheritance from monotheism. The human that is found in human rights, by way of comparison, is also a relatively recent invention and has its history in a specifically European geography and is profoundly connected to the end of the Second World War and with the United Nations as a configuration of actors maintained through modern technologies such as air travel, communication technologies, and a consolidated notion of the international justice system (Moyn 2011; Montoya 2012; Graham and Montoya, 2018). As *Man* and *collective humanity* are associated with the Enlightenment, so *the human* is associated with the rise of global capitalism and neoliberalism and their coproduced technology-enabled networks. As the imagination of an individual, rights-bearing, current Indian citizen is enabled through the design of a national database (see Abraham, this issue), so the vision of a generic, if superhuman, future Korean is sustained through the “information-based technoscientific network” (see Jeon, this issue).

Other versions of humans have populated and continue to populate the collective imagination and popular fantasies. Anthropology, archaeology, and biology show us that *Homo sapiens* is a relatively young species, related to, but distinct from, a variety of archaic human and human-like creatures that were descended from *Homo erectus*. The term *Homo sapiens* itself, “wise man,” was introduced by Carl Linnaeus in his *Systema Naturae* published in 1758 (Koerner 1999: 87) and is but one of many collective terms humans have employed to describe or distinguish themselves. Another such definition from the ancient European context is Aristotle’s *zoon politikon*, the political or “state-building” animal. In the *Nicomachean Ethics* (I.13) and *De anima* (III.11) Aristotle asserted the humans have the capacity, which supposedly other animals lacked, for goal-oriented, rationally formulated plans. Medieval Aristotelians later developed these ideas, referring to the human as the *animal rationabile* (rational animal). By the Enlightenment era, and with the consolidation of new forms of economic and social life, the human evolved into *homo economicus* (economic man), a term first used by John Stuart Mill. Such a human being, for scholars like Mill, Adam Smith, and David Ricardo, was understood primarily as a social creature driven by rational self-interest. This human has been readily adopted by and some argue constrain (Frey 2001) modern economics.

More recent definitions, critical of the reductive notion of the human as simply a self-interested rational being, identify the human in terms of its connectedness to others. Alasdair MacIntyre, in *After Virtue: A Study of Moral Theory* (1981), described humans as narrative beings who need to ask themselves, “Of what stories do I find myself a part?” (2003 [1981]: chap. 15). Hannah Arendt wrote of the *animal laborans*, the laboring animal (Arendt 1958), and Ernst Cassirer of the *animal symbolicum*, the symbolizing animal (Cassirer 1923, 1925, 1929). Reginia Gagnier and John Dupré describe humans as “highly gregarious interdependent social primates” (1998), a more specific and serious taxonomic step above Plato’s famous definition of the human as the featherless biped. More recently, Tobias Rees’s (2014: 460) work on the emergence of the global health apparatus as a “humanity plan” also notes this: “Humanity is . . . rather a future, something we work toward. It is not a reality, yet.” According to Rees, bioscientists and health humanitarians are increasingly defining humans biologically, in inclusive, global terms, beyond the confines of the social and the “national society-fostering logic” of the nation-state that defined twentieth-century humanitarian thinking

(470). For these actors, the nation-state is “a failed humanity project, precisely because the humanity that the nation-state secures is always an exclusive one, one focused on the nation—on the national society—only” (270). In this radical perspective, statelessness “appears in a different, (almost) positive light,” this “positivization of the stateless” representing a “major mutation of the 250-year-old space that has opened up the possibility of humanity” (471).

This special issue continues to document the imagined and envisaged versions of humans and humanness into the present within the context of Asia, spurring the question, why have particular scholars, embedded in different disciplinary contexts and through time, proposed different definitions and different versions of the human? Certainly, the drive to express and emphasize, perhaps even create, aspects of humanness that go beyond the simply biological (e.g., big-brained) is evident (Harari 2015). Goethe’s *homo aestheticus*, the *homo faber* of Marx and Arendt (1958), the *homo ludens* (Huizinga 1949), *homo loquens* (Herder 1784), or the bare life of *homo sacer* (Agamben 1998) draw attention to specific, sometimes competing, aspects of humans. While delicately mapping these different, historically situated versions of the human onto specific papers is beyond the scope of this introduction, the very existence of such proposals, and absences of many of them from the specific cases we present in this issue, reminds us that who humans think they are is highly variable and draws attention to how particular versions of the human are both influential and framed by and shaped by particular collectives and states. Implicit in such near-constant renaming and reimagining are new and challenging readings of each of their contemporary situations and key human relations in particular. In our survey of these iterations and uses of *homo* we realize their situatedness in a region, Europe, and their articulation with regard to nation (e.g., *homo economicus*) and even empire (e.g., *homo sapiens*).

These attempts to categorize and therefore identify the boundary between the human and the nonhuman—especially those that explicitly refer to or even exclude ICTs—account for the possibility that we can define ourselves by our construction and use of tools and our environment, but not that the forms our technologies take already assume or rely on an often unspoken vision of the human, or that technologies can conversely create a particular imagination according to “their” priorities and distinctions. Today, as shown by this special issue, and the work of Abraham and Jeon in particular, it is clear that we are not the only ones with the power to make distinctions and to categorize. Our machines, the products of that capacity which has been taken to separate us from nonhumans, are themselves producing and/or organizing visions and definitions of the human. This situation promises to intensify how and when we are considered with and through advanced, post-industrial ICTs. The creature we are is increasingly being understood and augmented through technological extensions, mediations, representations, and simulations. Such technologies, today as ever, are deeply connected to and evocative of how we understand, describe, and see ourselves, and even inscribe the terms through which we do so.

So, in this special issue we wish to build on this departure from the consideration of the human broadly (which typically means in and from the perspective of the West) to investigate, as opposed to assume, its portability. Here we set out to interrogate the visions and imaginaries of humans being generated in Asia. We have paired these humans with networks to evoke connectedness, mobility, mediation, extension, and two of our core foci in this special issue; circulation and representation. Networks not

only connect humans but also represent them, providing access to new perspectives on the human. Through six contributions we aim to advance the understanding of the term *human* today by critically considering particular cases across different geographies and cultures in a region that is beginning to confront the visions, imaginations, and realities of a fourth industrial revolution. While historians may argue over whether such events and changes qualify as revolutionary, it is clear that, in the words of Klaus Schwab (2015), the founder and executive chairman of the World Economic Forum, credited with bringing the term *fourth industrial revolution* to its current consciousness in twenty-first-century politics, the speed, scale, and impact of developing and emerging ICT innovations are set to change, “the way we live, work, and relate to one another.” The consequences of this are already well under way in Asia with various governments responding to and embracing the possibilities of ICBM (Internet of Things, cloud computing, big data, and mobile) technology, such as Singapore’s Smart Nation initiative, Made in China 2025, and India’s 100 Smart Cities project. Relatedly, according to the United Nations’ International Labour Organization (2016), nearly 60 percent of employees in Southeast Asian regions will be left fearing for their jobs “in the next couple of decades” because of automation.

2 The Contributions in This Special Issue

Returning to the questions we posed above, what visions and imaginations of the human are articulated then in the articles in this special issue? What does each contribution show us about how the relationship between humans and networks envisioned or imagined by certain actors? And how is this relationship related to reality and brought into being by these actors?

Abraham tackles a complex of issues surrounding one of the largest existing biometric identification databases (with over 1 billion signees), the Indian Aadhaar. He provides a prehistory of Aadhaar, in the style of Tung-Hui Hu’s *A Prehistory of the Cloud* (2015), with a particular focus on the human body and biopower. Abraham traces how data extracted from the body (and its constituent parts) form a series of “narrative turning points” toward the state’s ambition of a complete and universal database, which in turn produces a society with a different meaning. Through techniques of varying reliability—including fingerprinting, DNA testing, neuroimaging, polygraphs, hypnosis, and “truth serums”—he situates Aadhaar within a longer infrastructural and ideological history. His article brings out complications surrounding privacy, identity, and surveillance that rarely surface in US- and European-focused discussion of identity card systems. Abraham shows that, while poor and technologically remote (in the sense of resources, skills, and culture) Indians are more likely to be enthusiastic about Aadhaar, primarily since it gives them the chance to become “legible” to the government, new issues, obstacles, and bureaucratic machinations appear. New categories and accompanying narratives are also reified and constructed, permitting new exclusions, all veiled by the centrality and apparent undeniable truth of readings of the body and the work of the algorithm within human networks.

Montoya considers how “a global risks- and rights-bearing figure,” the human at the center of human rights and humanitarian discourse and practice, emerged in the post–World War II period. This figure was responsible for the transformation of HIV/AIDS

aid provision in Vietnam, relying on the nation-state and its own abstract ambiguity for legitimacy. He shows how, as support for HIV-related services wanes, local organizations draw on social media to build and activate specific communities to make ends meet. The success of this turns on individual humans coming to identify with particular communities through social media, atomizing a once broader HIV/AIDS support system that turned on the figure of the universalizing and abstract human. This focus on activating digitally networked community members potentially excludes those without such access and the freedom to be visible. In this way Montoya illustrates the limits of the human and of humanitarian and rights discourse, which turned on strategic absences, as well as the dangers of the system now taking shape in Vietnam.

Baas examines how Indian male bodybuilders display and maintain their bodies through online networks. Social media platforms provide a space for these fitness enthusiasts to create and maintain relations with clients and fans through this display. He argues that ideas concerning the ideal male body have changed in India and that Internet technologies have been key to the production, amplification, and spread of these new norms across space, time, language, culture, and class. Baas shows how a bodily form once situated in North America has been appropriated as a means of both expressing middle classness and of crossing class boundaries through the circulations association with online networks. He also shows that these same online networks preserve and display particular, competition-ready bodies that are key to a body builder's identity and reputation. His article demonstrates the complex articulations among online networks, visions of an ideal male body, and rapid social and economic transformations in India. Representations of male bodies within such networks take on a life of their own as they are strategically deployed to maximize exposure and client recruitment.

Park builds on the idea of online bodily presence through shifting the focus to human communication. Specifically, she examines the tension between the enduring nature of "digital traces" with relation to the apparently impermanent nature of peer social interaction through examining Korean teenagers' use and experience of online networks compared to Australian youths. Park's focus is on the nature of human communication in a context of different, coexisting networks across these groups. Her study reveals how the process of Korean young people engaging in networks through social media creates a distinct temporality of communication that has immediacy, distinct cycles, and an ongoing and demanding trajectory that is self-perpetuating. On the other hand, Australian teenagers were more concerned with their content's relation to self-identity than with perpetuating cycles of feedback, acknowledgment, and peer support. She observes how networks both extend and constrain human communication, assuming and emphasizing the human as possessing language and tools and as developing new social obligations through the network.

Jeon completes the contributions in this collection through examining three distinct discourses in South Korean society that exhibit less conflation than contradiction. One state-sponsored discourse grounded in popular science imagines an immortal human of the future. A second, again state-connected and somewhat contradictory discourse, grounded in fertility rate statistics, imagines the Korean population of humans as extinct in the future. The final key discourse Jeon considers originates among Korea youth and is influenced by job insecurity, the increasing unlikelihood of marriage, and the cost of living. This discourse imagines human life in Korea as a kind of hell. Thus,

an evolved, ideal human is considered as a future technoscientific possibility in the face of threat, not as an actual, living being. In contrast, a failing, threatened human is reified through the circulations supported by computing networks while reflecting realities of contemporary human experience and statistical views on the population of human beings.

The contribution by Graham and colleagues is written from our perspective in Singapore, one of the most ICT-developed countries in Asia. This development, being both heavily state led and connected to key transformations in the country's self-image—the Intelligent Island, the cashless society, the Smart Nation—presents a way to progress understandings of humans and networks in the context of Asia. It argues for the value of pursuing a comparative minor history of the Internet in Singapore through exploring its complex entanglements (both infrastructural and ideational) with its regional neighbors. The article draws out some of the possibilities of an approach to the Internet centered on human-technology relations, inspired by post-phenomenology. However, it also argues for going beyond such an approach through studying the forms of life and narratives coproduced by different Internets in Asia through Singapore through deploying “research tracks” developed during a project based in Singapore called Folklore and Digital Technologies in Southeast Asia. The four themes of layers, stories, figures, and rumors are presented as analytical axes through which to comparatively approach different Internets in Asia.

These contributions collectively show that ICT-enabled networks can, somewhat recursively, coproduce what we term “the networked human” and “the network's human” and show us the importance of considering technology-enabled networks in any contemporary imagination or vision of humans. They also suggest that recent technoscientific advances have shaped how humans are imagined and are, as a kind of “network,” a “barely contained riot of diverse organic and inorganic elements” (Kera 2014: 185, 191). Thus, the collection opens up paths toward future imaginations and realities of the human, to a time “when digital media reach beyond the arithmetic and probabilistic and embrace the imaginative possibilities of a vectoral network that is ‘not self-identical, that plunges into accident and disappointment, and in which machines have as much to say as humans’” (Cubitt 2011: 87–88).

The contributions have also illustrated humans beings' inseparability from the technology of networks today—our “originary technicity” (following Stiegler's reading of Derrida, cited in Crogan 2010: 147). As a focus on “advances in biotechnology and genetic technology” can expand “the horizons of our human condition from the moment of birth to the moment of death” (Ma 2015: 3), so these contributions allow us to reconsider the development and usages of older proposals of the human critically in tandem with speculations about the future. Donna Haraway's cyborg in feminist studies (Haraway 1991) is captured in Jeon's alpha human's necessary ambivalence and fantasy. The insulation and alienation of Paul Virilio's (1997) terminal man in cyber studies are articulated into the present through Park's description of the extent of Korean's youth's engagement in social media and as a possible future through Abraham's positioning of the Indian citizen in a database society. Toyo Ito's (2000) android body in architecture is evoked in the physicality and flows of Baas's hybridized bodybuilders in India and Montoya's embodied sociality of gay support groups in Vietnam. Though these versions are quite divergent, they have created and built on a postmodern, urban vision that Lanfranco Aceti (2015) frames through his concepts of

the postcitizens and postsociety, examining humans in the throes of vulnerability and death. Additionally, they all depend on an interdependence that is facilitated by certain technologies associated with digital network ICTs: microelectronics, the modern city, and communication technology. It is our position that these shared qualities are under-examined and point toward a problematization of individual and collective human existence through technology-enabled networks in the twenty-first century. Graham et al. point to how to examine these qualities of technology-enabled human networks in the context of Asia through engaging the different scales of the tribal, the national, and the global.

Similarly, these contributions are careful in the general claims they make about humanness and the scale at which their claims operate in a time of increasingly technology-enabled networks. The collection confirms our skepticism concerning attempts to universalize human experience or make claims about what the human really is. The assumption that there is an inner human nature that all people share across time, geography, politics, and the like has historically been a dangerous one, shot through with bias and myopia. Roland Barthes, for instance, in *Mythologies* (1972), gave a scathing critique of the mid-twentieth-century Great Family of Man photographic exhibit whose aim, according to Barthes, was to demonstrate the existence of “a family of Man,” “a unity of species” that is then “molarized and sentimentalised” (100). Barthes’s target was this “ambiguous myth of the human ‘community’” (100). This myth was constructed, according to Barthes, on the basis of an outward exotic plurality restrained by an assumed overarching unity that posits a shared nature that precedes ethnic specificity: a purely formal diversity resting on a common human mold. Such declarations rely, for Barthes, on a suppression of history, by which nature is placed “at the bottom of History” (101) as its really real basis. This is, for Barthes, an old trope by which beneath “the relativity of institutions” and a “superficial diversity” lies “the solid rock of a universal human nature” (101).

3 Metaphors for Humans and Networks

The articles in this issue highlight the need not just to identify and critique the forms of the human that emerge from and as a product of networks but to reassess common metaphors for human-technology relations from the perspective of Asia. Indeed, Graham et al. make the argument that Singapore’s Internet should be thought of in terms of human-technology relations, recognizing the Internet as a plurality of technology-enabled human networks as well as emergent agential and experiential qualities of these Internets.

At least three common metaphors describe and frame human-technology/ICT relations across these contributions: augmentation (e.g., Engelbart 1962), extension (e.g., Besmer 2015), and mediation (e.g., Ihde 1979).³ These metaphors are worth tracing, even if briefly, to their conceptual origins because they are not entirely innocent. We suggest they bring with them certain visions and imaginations concerning humans in

³ Here we are inspired by John Urry’s (2000: 22) treatment of metaphors in social science: “‘Revealing’ the metaphorical basis of diverse forms of thought is a major task and goal of social science.”

particular and that tracing them to a conceptual source of sorts will help expose this baggage. We suggest three such origins here: Douglas Engelbart's 1962 report "Augmenting Human Intellect: A Conceptual Framework," Maurice Merleau-Ponty's "Phenomenology of Perception" (translated into English, coincidentally, also in 1962), and Marshall McLuhan's *Understanding Media: The Extensions of Man* (1964). Though each of these works is complex and their concerns and analyses overlap, we found it useful as a heuristic device to think of Engelbart's (1962) notion of augmentation as focused on mind, Merleau-Ponty's (1962) notion of extension as primarily focused on the body, and McLuhan (1964) as focused on language and communication.

Engelbart's (1962) cognitivist notion of augmentation is envisaged within a problem-solution frame: goal-driven human behavior to address societal problems. Technologies like the digital computer are envisaged as a means of improving human comprehension in terms of speed and effectiveness to address complex problems. Engelbart is concerned with combining the human "feel for a situation" (1) with the "means . . . to help man apply his native sensory, mental, and motor capabilities" (2) in a "human-intellect system" (3). For Engelbart, objects, symbols, organizing methods, and human conditioning combined into a single system made up of "a trained human being together with his artifacts, language and methodology" (9). In his vision, the computer's role is to perform low-level, real-time data storage, information processing, symbol manipulating, and visualizing tasks, supporting the dominant human central "mind" to envisage and work through solutions and perform different kinds of analysis. Engelbart embeds the individual human in a system of relations involving "working environment" and "methods of working" (6). He imagines the same individual human primarily in sensory, motor, and informational terms. In this imaginary, language is central to the individual human intellect, and augmentation of this intellect is thought of in terms of reducing large problems into smaller processes. In this vein, Park's contribution to this issue deals directly with how ICT networks both augment and constrain human communication. The social media technologies Park examines assume and reinforce a notion of humans as primarily language- and tool-possessing creatures. These networked technologies, for their part, form the terrain on which and through which young people in Korea and Australia are connecting but also on/through which they develop new social obligations and norms in unique if not divergent ways.

In contrast to Engelbart's emphasis on the mental capacities of humans and language, Merleau-Ponty's (1962) phenomenological account, in association with particular technologies and artifacts, places bodily experience as central to his notion of extension. The oft-quoted example that captures his view on human-technology relations is the blind man's use of a cane: "The stick is no longer an object perceived by the blind man, but an instrument *with* which he perceives. It is a body auxiliary, an extension of the bodily synthesis" (152). In his scheme, the body is not only an assemblage of perceiving parts that are, in turn, perceived (via a "body image" [98]) but it is also situated with relation to the external world and technologies or artifacts placed in it. As Michael Polanyi (1958: 146) wrote, "We may say that when we learn [a] probe, or a tool, and thus make ourselves aware of these things as we are of our body, we interiorize these things and make ourselves dwell in them."

Merleau-Ponty (1962) uses three examples of such technologies or artifacts that act as prostheses, auxiliaries, or dwellings: a car, a hat, a stick. He describes how

getting used to these technologies “is to be transplanted into them, or conversely, to incorporate them into the bulk of our own body” (143). In this way humans are capable of “changing our existence” through such “instruments” (143) because the body “is a system which is open on to the world, and correlative with it” (143). Technology, in Merleau-Ponty’s work, is a means not simply of augmenting a mind or intellect, but of extending bodily presence and therefore sensory capability in the world: a further means of experiencing or being in the world. Baas’s contribution to this special issue extends this mode of analysis, not simply in terms of his careful attention to the roles and meanings ascribed to bodies and fleshly existence but in the way social media and digital images are used by Indian fitness enthusiasts and bodybuilders to extend the social and symbolic “shelf lives” of their competition-ready bodies. These Indian men deploy images of themselves in online networks to preserve and display particular, competition-ready bodies that are key to a bodybuilder’s identity, reputation, and social and financial viability, functioning as true auxiliaries of the body.

McLuhan (1994 [1964]) also uses the notion of extension, but closely couples it with human senses, media, and information: “Today, after more than a century of electric technology, we have extended our central nervous system itself in a global embrace” (3). These extensions are both reducible to information systems and subject to servitude under these same systems: “Electromagnetic technology requires utter human docility and quiescence of meditation such as befits an organism that now wears its brain outside its skull and its nerves outside its hide” (57). In the preface to the second edition he emphasizes the creative and destructive force of media: “Any technology gradually creates a totally new human environment.” He presents technology as within a historical and ongoing process of change that is generative of new human-technology configurations. Such environments are not passive, but actively “reprocess” a prior environment. Additionally, speech is not only the vehicle for “an actual process of thought” (8), it also transforms it, creating an awareness of thought, offering a new scale of action, and extending the human across time and space. For McLuhan this is a recursive process as “the ‘content’ of any medium is always another medium” (8). In this account, humans are embedded in technology-human configurations that extend senses and configure awareness but that also themselves exert agency. In this scheme, both the mind and the body seem to recede, except to sense. Human senses are shaped and acted on invisibly through that sensing. “The effects of technology do not occur at the level of opinions or concepts, but alter sense ratios or patterns of perception steadily without any resistance” (18). Mediation (of information) is at the center of human experience and action because all (information) is mediated. The contributions of Abraham and Montoya to this special issue represent two means of tackling this metaphor of extension. Abraham’s analysis of the Indian Aadhaar system, and his placement of this database in a rough genealogy of similar state and civil society systems of legibility, tracks how the system itself becomes a way, if not *the* way, of knowing and seeing for the state, such technologies creating new (but of course recognizable) human environments. Extension here occurs in a classical encompassing way, as the map, to borrow a phrase, becomes the territory, albeit one fraught with complexity and new problems. Montoya’s work on the fundamental absences that allow the twentieth-century figure of the human to operate, and their articulation with twenty-first-century configurations of politics, economic realities, and social

media technologies in Vietnam, turns this notion of extension inside out. Local actors deploy social media content to generate and then engage a specific local public, taking advantage of the ambiguity of the Human, filling in its useful absences that make it amenable to extension by proliferation or involution.

Don Ihde's (1979) treatment of human-technology relations is instructive here. He identifies distinct discourses in discussions of technology and distinguishes these different types without arguing that one is paradigmatic. He argues that rigorous analysis of human relations with technology is necessary for understanding "the promises and threats of technology" (15). He asserts that human-technology relations are pervasive and that these relations have profound impacts on human life, without reducing human existence to human-technology relations: "We live and move and have our being among machines" (15). His scheme is phenomenological and posits an intimate, reciprocal relationship between human (consciousness) and world. He outlines a series of types of relations with technology: embodiment, hermeneutic, background, and alterity. Embodiment relations exist when technology is an extension of the senses when humans "experience *through* a machine" (8). In this case, experience of the world can be transformed, reduced or amplified even as the experience of the technology itself is not salient (8). The second type of relation he describes is a hermeneutic relation, when "the machine is something like a text" (12). In this case the technology is not transparent, it becomes other, "a focal object of experience" (13). The third type he describes comprises background relations with technology that are mostly indirect, but constant. The final type of relations he presents is alterity relations, or the "special experience of engaging with another human being, that significant encounter with Otherness" (Rosenberger and Verbeek 2015: 33). The four heuristic themes identified in Graham et al.'s contribution to this special issue not only loosely map onto these four types of mediation but also are aligned with this fluid perspective, with its focus on lived experience, attention to narratives/texts, and the primacy of the continuous interface between the human being and the world.⁴ These authors argue that the Internet is multiple, perpetually coming into being, and made up of a galaxy of geographical, technical, infrastructural, political, social, and economic factors, apart from being constituted by the actions of users and recursively related to their experiences, all of this in a planet-spanning network.

Thus, in these metaphors, a body and an external, physical world are assumed. Such metaphors are quite easily mapped onto the networked human. This term evokes a collective, a species of animals that has transformed itself and the world through time to the point that it is now identified with the technologies it has created. Thus, *networked*

⁴ The layers theme relates to Ihde's embodiment relations, when the human "experience is reshaped through the device" (Rosenberger and Verbeek 2015: 29), but it also goes further, arguing for "the embodiment of the human through Internet technology" (Graham et al., this issue). Stories capture hermeneutic relations or how the human "experiences a transformed encounter with the world via the direct experience and interpretation of the technology" (Rosenberger and Verbeek 2015: 32). This interpretation is presented and is meaningful through one's knowledge of language. Background relations are the human's "relation to devices that she or he may not directly use but nonetheless interacts with as they shape her or his experiential surroundings" (34). These kinds of relations connect with the rumors theme because rumors are beyond the human's complete control, they are not intentional in the way stories are, and yet they shape the experience of the Internet. The figures theme engages alterity relation in the sense that other consciousnesses are encountered online that may be accounted for as human or nonhuman, but certainly as other.

human suggests a global reach and a situatedness in a broader configuration of life and a particular technoscientific way of seeing.

However, these are only one category of relation. There is a further category that shifts away from considering the human as having primacy in the relation. McLuhan's attention to mediation and Ihde's emphasis on the importance of inquiry into "media instruments" flows quite easily into other metaphors used to describe and frame human-technology/ICT relations. These metaphors allow for the human to be thought of in terms of representation. There is no primacy in the relation extending from the human, and the human is not necessary for a relation. Such metaphors connect with the network's human. This term suggests a collective of animals that is less real than imagined and represented, a collective that has become threatened by the technologies it has created in the Anthropocene (Steffen et al. 2011). The *network's human* suggests a dependency on, and subservience to, a sociotechnical configuration for being, without that being having to correspond to the real. These metaphors do not fit so easily with the networked human as they invoke a world of high-fidelity, highly circulated versions of humans through networks, a world in which such versions begin to exert agency.

The quintessential example is, perhaps the simulation. For Jean Baudrillard (1994), simulation is an "imaginary of representation" that is "produced from miniaturized cells, matrices, and memory banks, models of control—and it can be reproduced an indefinite number of times from these" (2). The simulation replaces the real, and, in doing so, destroys the referent such that the difference between the "true" and the "false," the "real" and the "imaginary" (3) becomes impossible to discern. In this way, simulation is "opposed to representation" because it "stems from the utopia of the principle of equivalence, *from the radical negation of the sign as a value . . .* simulation envelops the whole edifice of representation itself as a simulacrum" (6). Information, media, and the mass media are implicated in this destruction because it, first, "devours communication" through "the staging of meaning" (80) and, second, because it introduces disorder into socialization, resulting in "a sort of nebulous state dedicated not to a surplus of innovation but, on the contrary, to total entropy" (81). Jeon's contribution to this special issue cleaves most closely to this perspective, although Abraham's also gestures to this as a probable future. Jeon explores the tension between Korean popular technoscience, which promotes the image of a future immortal human, and rising fears, based on demography, fertility statistics, and the rise of suicide, concerning the future extinction of the Korean people. Korean youth, buffeted by social pressures, unemployment and job insecurity, poor marriage prospects, high cost of living, and the like, have developed an apocalyptic vision of human life in Korea as a kind of hellish simulation.

4 Conclusion

The contributions to this special issue wrestle with the different visions and imaginations of humans across site in Asia. From Abraham's Indian citizen linked or bound in a database society to Jeon's Korean alpha human/resident of Hell Joseon, from Baas's social-media-inflected Indian bodies to Montoya's locally cultivated Vietnamese activist publics and Park's network-ethical youth, each of these figures arises in relationship

to emerging technologies and emerging uses of these in layered networks of ICTs, as actors respond to social, economic, and political realities. It is clear that in the cases our contributors have presented, technology-enabled networks are essential to generating, sustaining, and resisting particular visions and imaginations of the human in Asian and inter-Asian contexts.

The extent of the influence of these visions and imaginations of humans in relation to networks on design and policy making is more difficult to gauge. Visions of the human are both useful to exercises of power and knowledge making and the result of said power. Our contributors have shown how such figures of the human and their generation and circulation on networks have meant inclusion, opportunity, and freedom for some and exclusion, obstacles, and new visions of hell for others.

We suggest that today we are networked humans. Being networked defines us in the contemporary situation. At one level, this has meant that we exist insofar as we exist to others or, more specifically, as we exist online (Floridi 2015; see also Baas, this issue; and Park, this issue). This network also gazes back, sees us, categorizes us, decides who among us are human and who are not (see Abraham and Jeon, this issue). The term *network's human* provides a space for thinking of the network as an actor with an emergent agency, as well as attributing some form of consciousness to a network that is capable of or dependent on an imagination. The term *network* as it is used here captures the complex nodes and links that are formed, maintained, and eroded through "advanced," postindustrial technologies like ICTs but also through those technologies that are more commonplace and mundane (Dourish et al. 2010), such as the telephone, and second, those traditional technologies they mediate and remediate (McLuhan 1994 [1964]; Bolter and Grusin 1998), such as speech and writing. The human is shaped and produced by the specific, layered ICTs that comprise it. This is a particular human, or particular set of humans, and we do not pretend that the Internet connection is a defining feature of all lives or even that those who are connected connect in some universalizable manner that then provides the primary mode by which they understand themselves and others.

This special issue presents case studies of humans as they are mediated through (and, in some sense, inseparable from) the networks that configure them. It focuses on the inflections of the human that are made visible, considered, and emphasized in the ICT(s) described and the nature of the human-technology relations implied, as well as how the notions of the human are articulated or sustained by particular technology-enabled networks.

In this sense our special issue focuses on "more coproductionist concerns with the making of natural and social orders by both science and the state through information, data, and knowledge, through practices" (Farquhar and Sunder Rajan 2014: 387). Our focus here is the shaping and production of human networks through ICTs and in tracing what this shaping and production assumes. Our interest has been in not only unpacking the experiences and agendas of users and other key actors such as designers, but also examining the kinds of social attributions they make in the process of the use and assembly/construction of infrastructures. This special issue marks the beginning of an exploration of different, and often commonly assumed, metaphors of human-technology relations and how these might hold (or not) within and through Asia. This special issue shows that neither these relations nor the categories they mediate are stable because they have a reciprocal impact on one another in a landscape of change.

It is our view that we should treat the human as a category, an always unfinished project, an aspiration, a way of thinking and knowing about us and our place in time and the world. The humans (Man, *homo sacer*, *homo faber*, terminal man, etc.) we generate, place our faith in, and act on come out of particular configurations of politics, ethics, and technology (Ong and Collier 2005), a drive to create communal identities, to categorize, describe, organize, exclude, to make some things and ideas possible, some impossible, and some necessary.

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