

The Advent of AI Civilization and Calling for a New Conception of the Human

Mun Cho Kim*

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Abstract: This study explores the advent of AI civilization and the need to redefine humanity in the face of rapid technological advancement. Tracing the evolution of digital technology from simple automation to intelligent agents capable of independent decision-making, it turns out that the rise of AI and humanoid robots blurs the line between humans and non-humans, challenging the long-standing human-nonhuman dichotomy rooted in Western philosophy. Based upon the examination of the shifts in ontology, from Cartesian dualism to monistic and relational perspectives, this study suggests that humans, living beings, and objects are evolving in a connected, co-dependent system. The emergence of cyborgs, AI, and bioengineering raises critical question about the identity of the humanity. With AI and enhanced humans gaining agency, traditional definition of humanity become obsolete and demand for an extended concept of the human in the post-AI era is growing.

Keywords: AI, Civilization, Human, Hybrid, ANT

1. Coming the Era of AI Civilization

The information revolution, which futurist Alvin Toffler referred to as the ‘third wave’ in 1980, has been carried out in the following stages: (1) Computerization, in which computers replaced or controlled repetitive work activities, (2) Connectivity, in which the internet facilitated exchanges between individuals, organizations, regions, and countries, (3) Flexibility, in which the increasing density of connectivity relaxed spatial, temporal, and institutional boundaries, (4) Ubiquity, in which smart devices augmented by mobile apps enabled ubiquitous communications and (5) Intelligence, in which intelligent new technologies called AI emerged. The last of these is leading us into a new civilization era that is unlike any other, and human society is now at the greatest civilization juncture in the whole human history, with the medieval

* Mun Cho Kim, Korea University, Republic of Korea, E-mail: muncho@korea.ac.kr

division of BC and AD being replaced by a new division of ‘Pre-AI and Post-AI’ (Kim, M. 2002).

AI refers to the attempt to artificially develop our innate intellectual abilities, such as learning, problem-solving or pattern recognition - in short, the technological and engineering effort to create machines that think, feel and behave like humans. In the past, information and communication devices were merely a medium for processing and transmitting human input into wanted output. In the Post-AI era, they have recently transformed into intelligent devices that can autonomously understand, judge, and respond to external requests or conditions, becoming active agents that go beyond passive instruments. This has led to the situation of dehumanization where the status of humans as *homo sapiens* is seriously challenged.

In the 1960s, when mass media such as newspapers and broadcasting became very powerful, media theorist Marshall McLuhan said, “Medium is the message” (McLuhan [1964]1994). However, the process of personifying the media, which was only a medium for delivering messages, has been witnessed through the emergence of generative AI. Generative AI refers to the use of machine learning algorithms to provide new content such as text, images, audio, and video content based on data by machines themselves. Generative AI is transforming the age of search into the age of creation by providing a database for learning and then allowing machines to make inferences based on it, rather than teaching them specific knowledge. The first generative AI was ‘Chat GPT’ released by Open AI in November 2022, but recently, new hardware, transformer architecture, and few-shot learning, etc. have been added to enable larger models to be trained with a larger amount of data, and it has emerged as an ‘interlocutor’ that expresses its own opinions, becoming a partner of the human that opens the new chapter of the civilization2.0. As the boundary between humans and non-humans is attenuated, we are facing a situation where we have to redefine the human.

2. The Human-Nonhuman Dichotomy

Franz Kafka's novel *The Metamorphosis* begins with the following sentence: “One morning, when Gregor Samsa woke from troubled dreams, he found himself transformed in his bed into a horrible vermin” (Kafka [1915] 2012). The shocking transformation of Gregor, the family's breadwinner, into a hideous insect overnight, has been interpreted by many critics as a depiction of modern man's existential angst. Nowadays, however, it can be read as an apocalyptic work that indicates the plight of human beings who are no longer considered thinking beings in a future society dominated by highly intelligent cyborgs.

For a very long period of time, humans have occupied the prestigious position of ‘lord of all things,’ which distinguishes them from other living beings. The decisive characteristic that distinguishes humans from all other creatures is the ability to think. This is why the Swedish botanist Carl von Linné Linnaeus, who laid the foundations of biological taxonomy, the systematic organization of all living things into phyla and subspecies according to certain criteria, referred to the extant human species as ‘*homo sapiens*,’ the thinking species (Linné 1806).

This idea can be traced back to Aristotle's view of man as a rational animal who uses reason to accumulate knowledge, constitute values, and act in accordance with the knowledge and

values he has acquired, which is rooted in Western spiritual history as Hellenism, a humanistic religion centered on the idea that man is the center of the world. It is said that the original meaning of Hellenism is ‘myth(*muthos*)’ about the gods. Therefore, ancient Greece, where Hellenism blossomed, is often thought of as a polytheistic era. But the myths of the time, which revolved around the interconnectedness of nature, were essentially humanist narratives that put humans at the center of the world. Even though they were ostensibly about gods, the main characters were anthropomorphic gods who represented human desires (Graf [1993] 2009).

Hebraism, which is known as one of the two major streams of thought that shaped Western thought alongside Hellenism, has been regarded as the epitome of monotheism, believing in the creation of the universe by God and the sovereignty of world history based on the historical revelation of the One True God and the belief in God's sovereignty. Nevertheless, the Bible gives human beings a role in the world by stating at the beginning of Genesis that “God created man in his own image, in the image of God he created him, so that they would have dominion over the sea, the sky, and the living creatures of the earth, and the vegetables and fruit-bearing trees of the earth would be their food” (Genesis 1, 27-29). This is an indication of the humanistic ideas underlying the theistic Hebraic tradition.

The dichotomy between human and non-human is codified in the dualistic ontology of René Descartes, the father of Western modern philosophy. Descartes, who sought absolute certainty about reality, came to the conclusion that the last thing that remains unquestionable is the ‘thinking self’ as a result of repeated doubts and skepticism about reality. By separating the human mind from the external world, including the body, he sought to recognize mind and matter as separate categories, and he affirmed the humanist position by arguing that humans, as thinking beings who possess both mind and body, should be distinguished from non-humans, who are incapable of thinking and cannot but exist as objects (Cunning 2014, 277-280).

This dualistic ontology leads to Immanuel Kant's object/subject dichotomy during the Enlightenment in the 18th century. Kant advocated critical rationalism, which holds that knowledge is produced through the synthesis of mental and sensory faculties. Objects are external to the human mind as ‘things in themselves’. In this case, humans cannot know the external world as things in themselves through the mind alone, but only the world as it is perceived by the mind. The gist of Kantian epistemology is that humans can gain knowledge of the world through ‘a priori thought categories’ that are independent of, precede, and enable experience, which means that the world is constructed by the mind (Kant [1781] 2013).

In the social sciences, the dualistic ontology of human and non-human has also been perpetuated in the form of dualism in the form of subject and object. Emile Durkheim is a representative scholar who sought to examine ‘society’ as an objective phenomenon that individuals collectively create. Considering society as a ‘social fact’, a phenomenon that is independent of the characteristics of its members (society *sui generis*), he expressed the view that the same methods of observation, measurement, and analysis can be applied to the social sciences as to the natural sciences. Given the case, however, Durkheim adhered to the dichotomous tradition of distinguishing between the human sciences and the natural sciences, or between *Geisteswissenschaft* and *Naturwissenschaft*, by stating that the natural sciences are concerned with the natural, while the social sciences are concerned with the social (Durkheim [1895] 1950).

3. Breakdown of Dualistic Ontology

3.1 Humans and Other Living Beings

The dissolution of the boundaries between humans and other living beings began with Darwin's *The Origin of Species*, which is known as the cradle of Darwinism, and can be summarized in five main points (Darwin [1859] 2019).

The first is speciation, the idea that everything, including biological systems, changes over time; the second is descent, the idea that all living species on Earth descended from a single common ancestor; the third is evolution, the idea that biodiversity increases as new species emerge; the fourth is gradualism, the idea that evolution occurs gradually, without breaks or discontinuities; and the fifth is natural selection, the idea that the best adapted to nature survive and the worst are eliminated in a fierce competition for survival. In particular, in its emphasis on natural selection by the survival of the fittest, evolutionary theory does not simply assert that those who are unable to adapt to nature and the environment perish and those who are adapted survive, but rather that the survivors thrive over generations by spreading their superior and advantageous traits into the population.

Darwin explains many things about the development and growth of organisms. In particular, he argues that the development of organs and traits is governed by the basic principle of evolution, which influences the course of development. A classic example is that of sexual growth and selection, including secondary sexual characteristics in animals. Darwin also considers primary sex characteristics necessary for reproduction, such as testicles in males and ovaries in females, and differences between males and females, to be consequences of evolution by natural selection,

Recent evolutionary theory has addressed not only the physical growth of animals, but also the growth of their minds. Researchers are applying the principles of bio-evolutionary theory to how the human brain processes information and how behavior is driven by the brain's processing of information. The way our minds and behaviors work is the result of a long evolutionary process, not something that happened suddenly. During our hunter-gatherer existence, we gradually developed neural networks adapted to solve everyday problems such as hunting for food, protecting our families from predators, and finding a safe place to sleep (Dennett 2017).

However, it was not only the scientific discovery that led to *The Origin of Species*, which revealed the origin of the myriad species on Earth from decades of exploration of living organisms on different continents, that was recognized as the source of the idea of Darwinism, but also the following groundbreaking ideas. In the social climate at the time of publication, when creationism was commonplace, accepting the idea that humans had an ape-like ancestor required more than the acceptance of a scientific discovery; it required a change of thought, a shift from a hierarchical perception of humans as the lord of the universe to a horizontal perception of humans as just one of many living entities in nature (Darwin [1859] 2019). In doing so, Darwin was able to avoid the fallacy of distorting reality that results from viewing nature from an anthropocentric perspective after establishing a dichotomous, hierarchical relationship between humans and nature. In other words, the rejection of anthropocentrism, the

perception of humans as superior to other living beings, was a major contributing factor to the unstoppable power of his theory of natural selection.

In *The Origin of Species*, this ideological shift unfolds along two dimensions. The first is the ontological shift from seeing the biological world as an object of analysis separate from humans to seeing humans as part of the biological world. The second is an epistemological shift that requires humans to break free from the fallacy of egocentrism, which prevents us from accurately perceiving the nature of nature. These transitions form the ideological basis for a whole range of topics related to Darwin's basic properties of life evolution, such as the continuity, diversity, and non-purposefulness of life.

Even before Darwin, biologists and naturalists debated the classification of life. There were many different views on what characteristics should be used to classify organisms as species, what characteristics should be used to classify them as varieties, and how far to include subspecies and deformities, and there were many different forms of counterarguments to each other. However, Darwin's final summary of his ideas came after he compared birds from different islands in the Galapagos archipelago with similar environments, compared them to birds in the Americas, and contrasted his findings with those of others.

It was Darwin's thrust that the lack of distinct species, subspecies, and variants was due to the fact that living things form a continuous series, and therefore could not have been distinguished in the first place, and that the difficulties of previous scholars in classification were due to the fact that they assumed, without evidence, that species were distinct. Darwin argued that extant plants and animals should not fit into man-made discontinuous units of classification, but rather that the classification system should reflect the continuity exhibited by real-life plants and animals, and that it is not essence or commonality that matters, but individual differences and variation that are the primal drivers of this transition (Darwin [1859] 2019).

Darwin attributed this epistemological error in the taxonomists of his day to the human tendency to categorize things. He criticizes this tendency to categorize and calls for a change in the way we perceive the nature and essence of nature. In addition, by shifting the basis of classification from anthropocentric categorization to the entity of individuals, he avoids the error of misinterpreting phenomena and recognizes the continuity of individuals and variation in the living world and evolution. The species, subspecies, variants, and deformities of living things are part of a continuous flow without any hierarchy, and all of them put forward the bold thesis of the consequence of individual differences and variation. The intellectual impact of these evolutionary ideas can be seen in Theodosius Dobzhansky's statement that "Nothing in biology makes sense, except in the light of evolution" (Dobzhansky 1973, 125).

3.2 Humans and Things

The binary ontology of human versus non-human is more evident in the relation between human beings and things than in the division between human beings and other living beings. The special position of human beings within the sphere of life, the realm of living beings by virtue of their consciousness, is more thoroughly revealed in their relationship to objects, which is identified with the idea that objects are powerless beings without mental or physical life force.

Humans have related to objects with an incomparably greater frequency than they have related to others, but their identity has been reinforced by a dualistic schema of self as a subject and object as an object. Dead objects were rarely identified with humans, as it was thought to be a violation of human dignity to equate the two.

Thus, objects were allowed to masquerade as humans or to act as humans only in the realm of mythology, fantasy, or the imagination, such as in literature and art, but not in the real world. Nowadays, thanks to technological advances, objects are becoming as vibrant as the living. The first step in the humanization of objects is personification. Personification is the attribution of human characteristics and emotions to non-human objects, such as animals or objects. For example, in the Disney film *Beauty and the Beast*, the kettle, candlestick, and clock talk and act as if they were human. The protagonist of the fairy tale *Pinocchio*, a wooden puppet, is given the ability to feel, think, and walk like a real boy, and is considered another classic example of personification. While personified objects have appeared frequently in folk tales and children's literature, it was only with the popularization of animation, a method of filming multiple shots in succession and stitching them together to create the illusion of movement, that personification of inanimate objects became socially widespread. Later, personified objects moved beyond the imaginary space of the book, screen, or theater to the real world and were implemented as three-dimensional characters, and objects have been playing the role of companions in our lives as if they were living beings. However, in recent years, as objects have been transformed into communicable technological artifacts thanks to the development of advanced communication technologies, the humanization of objects has gone beyond the personifying stage and entered the 'personizing' stage, where they think, speak, feel, and act like humans.

In the modern world, technology has become one of the factors that can explain almost all phenomena. Jacques Ellul, a philosopher of technology who has written more than 60 books and hundreds of articles across three fields of study—history, sociology, and theology—noting that technology has not only usurped the role of capital in Marx's interpretation of society in the 19th century, but has also surpassed it in its ability to produce value, has sought to show that technology has penetrated all areas of human activity and exerted a dominant influence on individual and collective life (Ellul [1954] 1964).

Ellul was not the only scholar to recognize the social impact of modern technology. While Thorstein Veblen, William F. Ogburn, and Lynn T. White Jr. are of course classified as technological determinists, scholars such as Gerhard Lenski, Thomas P. Hughes, and Langdon Winner, who posit the interaction of technological and social systems, have argued for the power of technology through a variety of historical and empirical studies as well. But Ellul's originality lies in the fact that he has widely recognized that the place and nature of technology in social systems has changed significantly since the late modern period. Traditional technology had long been dismissed as inferior to other human activities because it was seen as a means to a higher end, but as technological progress took on a life of its own and excluded human intervention, especially through automation, it was promoted as an autonomous entity. As the effects of technological advancements ripple through all aspects of life, technology has become universal, triggering global use, and as various technologies become intertwined and systemized like a spider's web, technology will become an integral part of our lives, rather than a tool for a specific purpose.

In fact, recent technological artifacts, such as the Internet of Things and artificial intelligence, are not only becoming part of our functional and sensory capabilities, but are becoming more like separate living beings themselves. For a comprehensive understanding of the artifacts of our increasingly technological age, it is necessary to go beyond an overview of the technical aspects of these artifacts and closely trace the development of monistic ontology, which attempts to view the technological artifacts of the world as equal to humans..

4. The Birth and Resurgence of Monism

Monism is a philosophical view that was proposed by the Enlightenment philosopher Christian Wolff in his book *Philosophia rationalis, sive logica* in 1728, with the intention of eliminating the distinction between body and mind and explaining all phenomena as manifestations of one and the same principle or a single substance (Hettche and Dyck 2024). Ontology is the philosophical study of being, the subdiscipline of metaphysics focused on the most general features of reality. Monistic ontology is the idea that all beings in the world are on the same ontological level. The origins of monistic ontology can be traced back to Aristotle, whose metaphysica explored the fundamentals of existence, but it was later transmitted to Scholastic philosophy, which sought to explain all the problems posed by monotheistic ideas and general philosophy by divine revelation or omnipotence. However, it has been discussed in the previous section that monistic ontology has long since been banished with the advent of the dualistic ontology of the modern philosopher Descartes, who divided man as a mental being and things as their material extensions into separate categories, with the statement that all that exists is divided into thinking and extensions.

Monistic ontology, which has been overwhelmed by the anthropocentric dualism that has dominated our thinking and life for a long time, is making a comeback just as the conjunction of humans and things by advanced technology is beginning to flourish. Monistic ontology can be traced back to Gottfried W. von Leibniz, a leading German philosopher of the Enlightenment, who proposed Monadologie(Monadology) as an answer to the philosophical question, “What is reality?” (Leibniz 2010).

Leibniz, a mathematician, scientist, and philosopher of the Holy Roman Empire who was known as a scholar of great genius, took this question as the starting point of his philosophy. Defining an entity as a universal concept that refers to a specific object, Leibniz saw ‘unity’ as a fundamental characteristic of entities. Everything that exists in reality is composed of matter. However, Leibniz, who saw that matter, with its extensions such as size, length, and volume, is infinitely divisible, found it impossible to define entities in terms of matter, and sought to conceive of entities as immaterial: entities must be unitary, and to be unitary they must be immaterial. The essence of a unitary entity he proposed was the monad, from the Greek word *monas*. A monad is an independent and self-sufficient entity that can no longer be divided, and it is a synthetic entity that aims for infinity and completeness (Rescher 1991).

The inexplicable problem facing Descartes, who perceived human beings as a dualistic structure of mind and body, was how their minds and bodies affected each other. Descartes suggested that this action took place in a region of the brain called the pineal gland, but this hypothetical response was not convincing. Leibniz's alternative was the theory of monad, which

sought to conceive of quantum as a minimal indivisible unity. Leibniz states that the monad, as an immaterial unitary entity, possesses the faculties of appetite and perception. Appetite refers to its activity towards change, while perception refers to its connective capacity to relate to other monads, which leads to the conclusion that a monad is a mental being with the capacity to express itself externally, while at the same time having the independence to be causally unconnected with things other than itself (Rescher 1991).

Furthermore, Leibniz argues that the monad as a living unity endows not only human beings but also other living beings and objects with mental capacities, and thus the whole world has a soul (*âme*). “To attribute a soul to human beings alone,” he says, “would be as absurd as to believe that everything exists for human beings alone and that the earth is the centre of the universe” (Alliez 1999, 18). This is a vitalistic statement in contrast to Descartes' view of nature or objects, and it is for this reason that his philosophy has been called ‘universal animism’ (Kim, H. 2022, 103).

In what way, then, do the monads join together to form the world? Leibniz's view is that closed monads, such as windowless alcoves, cut off from the outside world, contain within them a pre-established harmony that God knows how to create order. By way of analogy to the performance of a symphony, ‘the monads participating in the performance neither hear nor see each other, but by playing their own score and achieving harmony, they achieve such a remarkable harmony that the listener is convinced that there is a close connection between them’ (Leibniz 2010, 275). Thus, Leibniz suggests that God is the ultimate agent in the creation and operation of all programs (Leibniz 2010, 275).

The French sociologist Jean Gabriel Tarde was the first to apply Leibniz's monadology to the social sciences. Tarde's introduction of Leibniz's concept of the monad into social science discourse was prompted by the scientific interest in monads at the infinitesimal level, which was fuelled by the discovery of microscopic elements in natural sciences such as biology, chemistry, and physics. Examples include the discovery of cells and microorganisms in biology, or the discovery of atoms and electrons in chemistry and physics. (Tard 2015). Arguing that “infinitesimals are the real drivers of the world,” Tard says that “everything we encounter in reality originates from infinitesimals, which combine with each other to form complexes, which continue to combine to form higher and higher levels of complexity” (Tard 2015, 18).

Like Leibniz, Tarde believed that monads as infinitesimals were the key to understanding the world, and he shared Leibniz's view of the world as mental rather than material. This mental monism led Tard to attempt a spiritualization of the universe, which led him to universal skepticism. Universal skepticism is the idea that everything in the universe, whether it is matter, living things, or human beings, is mental.

However, in *Monadology and Sociology*, which takes Leibniz's monad as its central theme, Tard thoroughly secularizes Leibniz's theological perspective, eliminating predestination harmony (Marrero-Guillamón 2015). In addition, he refutes the closure of the monad and defines it as a “complex structure in motion with various internal movements” (Tard 2015, 23), thus advocating a New Monadology in which the monad is not a passive entity, isolated from communication and subject only to divine design, but an ‘interpenetrative’ active entity that encounters, mixes, and combines with other monads within its own unique time and space to expand its power. The mental forces he identifies as the mechanisms of union and enlargement are faith and desire: faith is the force that brings entities into union and maintains and

consolidates that union, while desire is the force by which each entity enlarges itself. It is these two forces that create and transform matter, life and society from the infinitesimal to the atom, cell and individual.

5. Actor Network Theory and Relational Ontology

Tarde, who takes the position that the order of the world is not predetermined a priori by divine providence, but is ‘determined a posteriori’ through the interaction of monads (Latour 1988), argues that at the heart of the interaction process is ‘possession’, which views beings through the codes of ‘gain and loss’ or ‘acquisition and deprivation’. Everything that exists, whether it is matter, living beings, or human beings, aspires to possession. In this view, the world is represented as a contested terrain in which monads seek to dominate their opponents through persuasion, enticement, hatred, or power, and is perceived as a network of heterogeneous connections called ‘assemblages’ in which various elements are connected in a non-organic way. This suggests a shift from a unitary to a relational ontology, and a decisive contribution to this shift is the Actor-Network Theory (ANT) of Bruno Latour, Michel Callon, and John Law in Science, Technology and Society (STS) research.

In *We Have Never Been Modern*, Latour, the central figure of ANT, argues that it is due to the anthropocentric perception of Western modernism that the ability to act is given only to humans by dividing body and mind, object and subject, nature and society into dichotomies, and considering the former as the world of ‘facts’, a non-human world governed by physical laws, and the latter as the world of ‘values’ peculiar to the human world where the soul and free will operate (Latour [1991] 1993). As shown in <Figure 1>. Latour describes the characteristics of Western modernism in terms of a dual dichotomy of purification and translation. ‘Placing knowledge of things on the left and knowledge of people on the right, modernists divide the world into nature (non-human) and culture (human) in the first dichotomy, the purification task. But through the second dichotomy, the work of translation, the reality of the world is understood as a hybrid or hybrids, a constant combination of human and non-human.

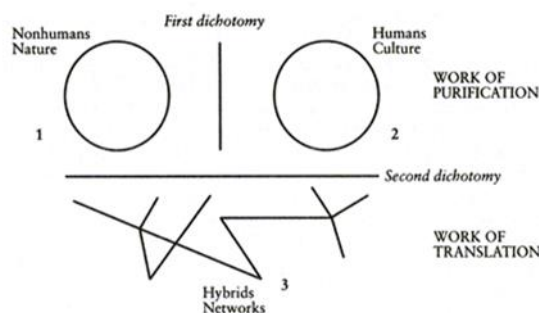


Figure 1. Bruno Latour's Modern Dichotomy: Purification and Translation (Latour 1993)

There is no such thing as pure ‘nature’ and pure ‘society’; just as the concept of ‘nature’ is an invention of the natural sciences, so too is the concept of ‘society’ an invention of the social sciences, and what exists is nothing more than a multitude of heterogeneous connections between various human and non-human actors. Latour argues that the key to overcoming the

limitations of modernism, which is fraught with the contradictions of binary dualism, is to embrace non-modernism, the idea that there have always been hybrid alliances of human and non-human actors in which the binary distinctions between subject and object, nature and society, and human and non-human are not valid; in short, to accept the statement that ‘we have never been modern’.

The actor-network is a heterogeneous coalition of various ‘actors,’ collectively referred to as actants, including humans as well as other living beings, natural objects, artifacts, tools, institutions, and events, all of which have agency insofar as they have a unique influence on the world. In addition, it is not through the properties of the agent itself, but through its hybrid connections with other things that its value is revealed (Law 1999), which is in line with Gilles Deleuze's philosophy of generation, which argues that new entities are not created from nothing, but through new arrangements. This line of thinking, often referred to as ‘relational ontology’, is best captured by the following statement from one of ANT's leading researchers, Law states as follows.

The world is a web of relations. Continuous, discontinuous, configured, ragged. And those relations have no status, no shape, no reality, outside their continued production. This means that the concern is with process. It is with how particular realities get made and remade (Law 2004, 2-3).

Relational ontology is a view of beings as multiplicities whose realities are not inherently there, but emerge from relational practices between actors and are therefore always subject to the possibility of transformation. It is a theory that guarantees a generalized symmetry in which the status of all beings is viewed as equal, breaking away from modern perceptions of humans and non-humans and unequal categorization practices, but it is rather a perspective that is appropriate for today's era called the ‘hyper-connected society’ in that it focuses on the exploration of the ‘dynamic space’ between various beings such as the brain and the brain, the spirit and the spirit, and the mind and the mind. It is clearly represented by Latour's prophecy that “in the 20th century, the Tard was completely defeated and had no intention of being defeated, but in the 21st century, nothing will stop it from exerting its full influence” (Kim, H. 2011).

6. Sign of the Posthuman Age: The New Man as a Combinatorial, Hybrid Being

Not only are mechanical devices representing technological artifacts being combined with human bodies to enhance human capabilities, but life forms are being cloned and mutated through genetic manipulation, and the emergence of artificial intelligence, in particular, has made it clear that mechanical devices, which have been the objects of human beings' defense against their own unique intellectual capabilities, can have intellectual capabilities that match or exceed those of humans as a form of ASI(Artificial Super Intelligence). The emergence of new non-human beings is evident in the creation of humanoid robots.

Leonardo da Vinci made sketches of robots with moving heads, jaws, and arms in the late 15th century, automata were created in Europe and Japan in the 18th and 19th centuries that could play musical instruments, write, or shoot bows, and in the 20th century, robots powered by electric motors began to be built. However, the two robots considered to be the progenitors of humanoid robots are Eric, built in England in 1928, and Elektro, exhibited at the 1939 New York World's Fair. By today's standards, they were little more than 'tin robots', but at the time, they were said to be 'perfect imitations of humans', so what could a humanoid that resembled a human do?

In the case of early humanoids, the key activity was to extend their physical capabilities by having a head, torso, arms, and legs, walking upright and taking over various activities that humans used to do. Japan was the first country to realize the value of humanoid robots. Honda, which had been researching bipedal robots since the 1980s, introduced the P series in the 1990s and Asimo in 2000. The child-sized Asimo, which continued into its fourth generation in 2011, walked, ran, kicked, shook hands, and talked, representing the culmination of humanoid robot technology in the first decade of the 21st century. This was followed by a series of social robots that were equipped with voice recognition technology and could not only perform physical and motor functions but also interact with humans in dialogue. Sophia, a social humanoid developed by Hong Kong-based Hanson Robotics in the image of Hollywood actress Audrey Hepburn, is expected to serve as a companion in elderly care facilities and as a counseling assistant at events, and Saudi Arabia has even granted her citizenship. However, it is the technological augmentation of the mental dimension beyond the physical body that is the decisive factor for humanoid robots to make the leap from personified to actual human beings or personalities. .

Therefore, brain implants are gaining more attention these days. It started with attempts to implant an assistive memory device called 'neuromorphic chip' in the human brain to prevent memory impairment or dementia. This would help prevent memory damage or dementia, but it would also intervene in associations and filter out unwanted memories or traumas. But unlike dental implants, brain implants which are still in the animal testing phase and not yet commercially available are expected to have a huge impact. Memory is a fundamental part of human existence. However, if this memory is linked to a computer's microchip and controlled by artificial electrical stimulation, we will face an utterly confusing situation where it is difficult to distinguish what is computer and what is human.

Nowadays, people are beginning to imagine the emergence of artificial humans with abilities enhanced by artificial brain splicing or genetic modification. This is a signal of the advent of the posthuman era, which requires an expanded view of humanity that includes not only living humans but also artificial humans. In the era of coding humanism, where the unique physical and intellectual abilities of humans are combined with artifacts to function, or where artifacts with human characteristics are emerging one after another, the declaration "I think, therefore I am," the identity of human beings as thinking beings imprinted by Descartes' dictum will be severely challenged.

Elon Musk, who posted a video on Twitter and YouTube of a monkey with a chip implanted in its brain playing a game of computerized ping-pong in 2021, has announced that his neuroscience startup Neuralink will begin experimenting with implanting microchips in human brains starting in 2022. Even if these initiatives are designed to contribute to human well-being, such as overcoming disease or disability, it is clear that they will add to the

confusion about human identity. What would happen if improved humans, or in short, human augmentation, became a reality?

The 2014 film *RoboCop* sparked this question in the general public. A remake of the now fondly remembered first *RoboCop* (1987) of the same name, the film serves as a grim warning about augmented human identities, both artistic and otherwise. The protagonist, Detective Alex, is mortally wounded in a bombing. Dr. Norton, a prosthetic limb specialist, operates on him and brings him back to life in a state-of-the-art, high-tech suit. The suit gives Alex mobility and immense strength, but it also makes him mentally robotic: the electrical impulses in his brain must be perfectly translated in order for his prosthetic arms and prosthetic legs to work. When Alex wakes up from anaesthesia and is shocked to see his Iron Man suit, he asks Dr. Norton: “What are these clothes?” Dr. Norton, an expert in prosthetic limbs, replies. “It's not a suit, it's you.”

7. Universal Darwinism and Identity Crisis

7.1 Universal Darwinism

The identity crisis caused by human-non-human hybridization is not limited to a particular period of time. It is exacerbated in a diachronic situation that takes into account the passage of time, which can be inferred from the thesis of universal Darwinism, which extends the object of evolution to various categories beyond biological organisms (Hodgson 2005).

Universal Darwinism is the idea of extending Darwin's theory of evolution beyond life on Earth, i.e., applying the basic mechanisms of heredity, variation, selection, and adaptation proposed by biologist Charles Darwin to a wide range of phenomena, including psychology, linguistics, economics, culture, medicine, computers, science, and physics, and reinterpreting their dynamics as a generalized form of evolution.

Darwin's theory of evolution proposes that biological organisms evolve by increasing their adaptability to their environment through an iterative process of the five mechanisms mentioned earlier, while universal pluralism translates this sequence of processes into an evolutionary algorithm that generates and continues to generate patterns of the most adapted forms in the space of possible forms. In short, the generalization sought by universal Darwinism is to replace biological organisms with recognizable patterns or systems, which must be accompanied by three requirements. First, the hereditary component, which requires that the pattern maintain long enough or reproduce often enough that it does not immediately disappear. Second, variation must occur during survival and reproduction. Third, there must be a selective preference so that certain variants tend to survive or reproduce better than others. Given these requirements, a pattern or system will evolve in an adaptive form.

Universal evolution has been proposed for knowledge, genes, memes, theories, technologies, neurons, antibodies, words, computer programs, companies, institutions, legal or judicial systems, quantum states, and the entire universe. Donald T. Campbell is considered to be the first person to present a generalized Darwinian algorithm that can be directly applied to phenomena outside of biology, based on the framework of evolutionary thought, starting in the 1950s (Campbell 1990). Richard Dawkins, who coined the term ‘universal Darwinism,’ added to the ‘gene's-eye view’ the bold hypothesis that any life that might exist outside the solar

system would evolve by natural selection, just as it does on Earth (Dawkins, 1983). The argument is that ‘life’ evolves according to the same Darwin’s principle wherever it is in the universe. Meanwhile, philosopher Daniel Dennett, in *Darwin’s Dangerous Idea*, developed Darwin’s core concepts into a general algorithm that can be applied to fields of knowledge other than biology (Dennett 2005). In particular, he expanded the concept of natural selection into a universal that could be applied in any field, thus recognizing the value of universal Darwinism. However, it was the author D. B. Kelley who formulated the most comprehensive approach to universal Darwinism. In *The Origin of Phenomena*, he argued that natural selection encompasses not only the preservation of favored races in the struggle for life, but also the preservation of all systems that are favored in the competition for survival (Kelley 2013), thus emphasizing that Darwinism is a universal idea that can be applied to everything in the world beyond life.

7.2 Identity Crisis, Apocalypse of the Posthuman Era

In the posthuman era, characterized by human-non-human interaction and hybridity, human existence is represented as part of a continuum, and the posthuman subject is imagined as a technologically mediated and expanded ‘relational self’. The relational capacities of the posthuman subject are not limited to the human species, but encompass all non-human elements (Bridotti 2013). Especially, nowadays artificial artifacts are increasingly participating in the evolutionary process on an equal footing with humans, and the deeper aspects of this trend can be captured by the philosopher and artist Manuel DeLanda’s theory of the assemblage.

In contrast to organic totality, which is characterized by relations of interiority, agencement is characterized by relations of exteriority (DeLanda 2006), which are the ways in which heterogeneous entities such as humans, animals, materials, and concepts are arranged to work together over a period of time (Müller 2015). The concept of agencement was first discussed by Gilles Deleuze and Felix Guattari in their 1980’s book *A Thousand Plateaus*, and DeLanda introduced it in English as assemblage. Some scholars have criticized the English translation of ‘assemblage’ as a translation that captures the ‘relationality’ of the various meanings of the French word agencement - the interconnectedness of disparate parts to form a whole - but risks missing the meaning of a new arrangement or arrangement that creates the capacity to act (Deleuze and Guattari [1980] 2003).

Nonetheless, the theme of the relationship between parts and the whole provides a very valid insight into neo-materialist ideas about the nature and dynamics of matter. New materialists believe that the properties of matter are defined in isolation, but that realistic capacities, which cannot be defined in isolation, require other matter. In other words, in order for a matter to be conceived, it must have a counterpart, which in turn leads to a question of arrangement, or disposition, or exchange, and it is to this process that the key concepts of assembly theory, such as relations of interiority/exteriority, emergent property, irreducibility, and decomposability, are effectively applied (DeLanda 2006; Müller 2015).

The most central of these concepts, relations of interiority and relations of exteriority, correspond to the properties and capabilities of matter as defined by agencement theory. Relations of interiority is the view that matters form assemblages through relationships based

on their inherent(internal) properties, while relations of exteriority is the view that matters form assemblages through relationships based on the relational(external) capabilities they exhibit. In this case, relational capabilities are expressed only when there is a relative object, and the type of capability varies depending on what the relative object is. Therefore, we can say that the nature of matter is determined by externality, not by inherent properties that are independent of the environment.

The distinction between internal and external relations can be identified from Hegel's concept of totality, which is opposed to Deleuze and Guattari's concept of agencement. Hegelian totality describes the relations in which the properties of the parts constitute the whole. In short, it is also seen as a relation of interiority, since it is by the very relations that the parts have with other parts in the whole that the parts themselves are internally constituted. In such a whole, the parts form logically necessary relations that can be investigated by reason alone, a prime example of which is the theory of organisms.

However, the occurrence of individual differences and variation, which is a necessary condition for evolution, is extended to the principle of universal Darwinism, which concludes that 'the evolution of matter results from individual differences and variation, which are changes in the capabilities of individuals and occur randomly in their interaction with the environment.' In such a situation where all human beings, living beings, nature, and objects are co-evolving as equal substances, it is highly likely that human beings, who have long enjoyed absolute dominance under the banner of humanism, will be transferred to the world of flat ontology along with other non-human living beings and objects, and human identity will be plunged into deep chaos.

8. Conclusion

In the hyper-connected era, where unlimited access is possible, the universal communication between humans and non-humans, living beings and objects is approaching. The technologies that activate the trend are those of cyborgs, the Internet of Things and AI. If cyborgs as machine humans are for the objectification of humans, the Internet of Things promotes the humanization of things. Add to this the AI technology that can artificially create intellectual abilities that are innately given to humans who have been considered the only autonomous beings, is being challenged by the emergence of new 'subjects' that can independently understand, judge, and cope with situations they face. As a result, dichotomies such as human and nonhuman, subject and object are losing their discriminatory power, and the posthuman debate is in full swing, calling for the inclusion of other living beings and objects armed with advanced technology in the category of human beings, which has been monopolized by living humans.

Donna J. Haraway, who has been leading cyborg research by focusing on the collapse of the boundaries between human/animal, organism/machine, and material/immaterial, and the process of combining and coevolving all kinds of heterogeneous beings, has also proposed sympoiesis as a key element of social discourse, in which humans and nonhumans come together to engage in 'worlding-with' (Haraway 2016). Human life turns out to be a symbiotic

existence in which we live together with non-human beings, such as other living creatures and things.

Given the condition of human and non-human hybridization, individuals who hybridize into various types of cyborgs will experience a deep identity crisis of who they really are on a genetic level. Moreover, the matter of human identity will become a fatal problematic at the time when the number of augmented humans with enhanced physical, cognitive, emotional, bodily, sensory and spiritual functions is increasing. Then, the concept of humanity, which has been given only to inborn humans, will have to be expanded to include various types of hybrid humans

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