TECHNOLOGY AND THE PROBLEMS OF FREEDOM: PHENOMENOLOGICAL REFLECTIONS OF MARTIN HEIDEGGER

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Abstract

Inspired by the impact of science and technology on Western society, many Eastern leaders requested their societies to learn and live in by logic of science and technology. In this instrumentalist point of view, we control technology, or technology, as tool, can be controled to serve human interests. The article, however, wishes to suggest that our existence can be technologically textured (with respect to the rhythms and spaces of our daily life), or that technology controls us. This article, following the phenomenological reflections of Martin Heidegger, proposes a thesis that the relationship between technology and humans are ambiguous. On the one hand, technology can become a stock which is ready to use for our interests, but on the other hand, it can enframe human beings according to its created systems. In such a situation, the thinking or questioning, of this essence of technology, can be seen as a way towards human freedom and salvation.

INTRODUCTION

In a meeting with the Indonesian Science Academy (ISA), B.J. Habibie, former president of the Republic of Indonesia requested that the ISA elevate the quality of Indonesian human resources. He felt convinced that only through the promotion of science and technology can Indonesia become a superior nation. Like other Asian figures in Asia, such as Fukuzawa Yukichi and Hashida Kunihiko in Japan,[1] Habibie contended that the direction of the way the Eastern people think needs to be altered in line with the logic of science and technology so that they can compete with other nations in the Western world.

This attitude implies that science and technology is a system of learning different from the traditional system of learning. A major difference between the two systems of learning lay in their distinctive rela-

tionships with the established social order. While much of the traditional learning buttressed the feudalistic social system, modern natural science and technology promoted independence from such social order largely because they were constructed separately from such order. However, the question remains, if technology has become the texture of human life,[2] how can we speak of it giving promise to the future of Eastern nations?

The question is phenomenologically rooted. According to this perspective, technology is not a technical procedure or a neutral fact isolated from human world. By contrast, all human's experience in technology presupposes a human act and practice which involves the community, society, and the world. Also, our experience in technology is not merely subjective, but always contains ontological claims about human's existence.[3] Thus, in our technologies we recognize the world and ourselves.

To understand the relationship between man and technology, this article focuses on some important questions such as: what is technology and how can it present itself? Is there a space for freedom in the technological world? If there is a room for freedom, is technology neutral? If not, is it controlled? If it can be controlled, under what authority can it be controlled? More fundamentally, how can we talk about the relationship between man and technology?[4]

THE QUESTION CONCERNING TECHNOLOGY

These questions lead us to examine the question of the essence of technology. The question itself builds its own way, as Martin Heidegger put in his *Die Frage nach der Technik*, a paper which was presented in a series of academic seminars with the theme "Arts in Technological Era" held in Munich in 1953.[5]

Heidegger believed that the question concerning technology is an extraordinary question. This is because such a question is not considered through our daily interaction with technology, but through a more philosophical and fundamental reflection. Moreover, such a question is considered extraordinary because one's success in answering this question can be seen as an initial step to understand a free relationship with technology.[6]

With this in mind, Heidegger began his essay, *Die Frage nach der Technik* as follows: "In what follows we shall be *questioning* con-

cerning technology".[7] Using italics for the word 'questioning' Heidegger wanted to stress he is conducting a philosophical inquiry, an inquiry which relies on the ability in human questioning and thinking. Before an audience who were not all experts in philosophy, Heidegger asserted that the core of philosophy is thinking, which is unique to humans. Philosophy is not an alien from human life involving abstract concepts, but a thinking activity which can be done by everyone, including in this case, artists. All humans can think and their genuine thoughts can make them free and open to the existence of reality in general and of technical reality in particular.[8]

The same tone is also expressed in his closing mark of the essay. Heidegger wrote: "For questioning is the piety of thought".[9] The term "piety" here refers to religious tradition, where thinking is not seen as an arrogant or dominating attitude, but an obedient and submissive attitude, It would suggest a submissiveness to the reality which has its own way. To question technology, therefore, means to listen to the reality of technology.

With the target of characterizing humans as thinking subjects who are open to the reality of technology, Heidegger commenced his essay by criticizing instrumentalism. According to this view, technology is merely a means to an end. In Heidegger's view, this idea of instrumentalism is beneficial for understanding the development of technology and its user community. War technology, for instance, has developed rapidly in nations suspicious of other nations, and that's why it has become both an instrument for self-defense, and one for threatening foes. Machine technology has developed when the society developed manufacturing industries in aristocratic societies for the sake of improving productivity. Information Technology developed when information became commodity, and at the same time, a means for the development of democratic communities after World War II. However, this instrumental conception of technology conditions and distorts every attempt to bring man into the right relation to technology. Heidegger recognized that in the instrumental approach, humans are conditioned to use technology to dominate. He writes: "On our manipulating technology in the proper manner as a means, we will 'get' technology 'spiritually in hand'".[10] Technology is no longer seen as its own reality, but as only a means for dealing with technical and social problems humans are facing.

For Heidegger, what is never thought in the instrumental approach is the fact that technology has its own truth which should not be limited

to instrumental logic. With this argument, Heidegger wanted to emphasize that the instrumental approach is not wrong. The technological concept of a thing has even become one of the key thoughts in *Being and Time* which was published in 1927. In his example of the hammer,[11] he emphasized that it was not possible for an object to become a thing because every object always becomes "something for something others" *(Etwas um-zu)*. However, it needs to be added that technology never becomes something which is under our plan and control. Conversely, technology has its own causality, which brings certain effects which we have never imagined before.[12] It has its own truth which can reveal itself to us.[13] Or to put it in a more extreme manner, technology can become something through which we can recognize our world more clearly.

To pursue this question concerning technology, Heidegger discusses Aristotle's thoughts on causality, namely: *causa materialis* (the material cause), *causa formalis* (the formalist cause), *causa finalis* (the final cause), and *causa efficiens* (the effect or efficient cause). Taking an example of a silver chalice, which is commonly used in a liturgical ceremony, Heidegger tried to explain four sources of causalities which made the silver chalice possible to be present as an object ready to be used in a liturgical service.[14] Just as a silver chalice has causality in its own prior to being used in a liturgy, so does technology: every technology has its own causality which makes it possible to be called technology. In this way Heidegger highlighted that the instrumental view of the essence of technology is presupposed by a more fundamental view of causality which is technology itself. To understand the essence of technology we need to understand the principles of its causality which undergirds all truth on technology.

PHENOMENOLOGY OF TECHNOLOGY

The question concerning the essence of technology is not easy to answer because technology is not equivalent to the essence of technology itself.[15] With the ambition of using a phenomenological approach, Heidegger tried to investigate the way technology exists. In a formulation which was almost close to Nietzsche's style, he tried to explain that technology itself had a "desire" to manifest itself. It had its own law which was not determined by humans; on the other hand, humans experienced it as something moving with its own logic.

To understand this view, Heidegger used the term *bringing-forth or pro-duction,*[16] a term he used beforehand in his book *Being and Time*, when he talked about humans as Dasein, a being-there, who always exist in space and time.[17] This term contains meaning that technology has the ability to reveal itself and the world around it. In his example of a watch, for example, Heidegger explained that in seeing a watch, we also see the sun as a measurement of time, because the watch was developed in a theoretical system concerning time and solar rotation. Thus, using a watch reflects a certain attitude concerning reality.[18]

A similar understanding is explained using another way in *Die Frage nach der Technik*. Heidegger wrote:

> We are questioning concerning technology, and we have arrived now at *aletheia*, at revealing. What has the essence of technology to do with revealing? The answer: everything. For every bringing-forth is grounded in revealing…. If we inquire, step by step, into what technology, represented as means, actually is, then we shall arrive at revealing. The possibility of all productive manufacturing lies in revealing.[19]

Technology, therefore, is not a mere thing or a means to an end. Conversely, it has its own existence and way to capture the world, the place where we live. It is for this reason that technology cannot sufficiently be understood in an instrumental rationality, but it needs to be viewed comprehensively as a way of existence and revelation where the existence of technology and the truth of the world can reveal itself *(aletheia)*.

With this understanding of technology as a way of revealing itself, Heidegger did not mean to account for the fact that all kinds of technology conceal itself in a similar way, but any kinds of technology can conceal itself differently in accordance with the contexts where technology develops – that's why, this difference determines the way we view the world and the earth where we live. Here lies the difference between traditional technology and modern technology. Traditional farming technology reveals the unique relationship between farmers and their world: the knowledge for caring and cultivating *(poiesis)*. By way of contrast, modern technology, because of its basis in natural science as an exact science, has the tendency to order the world *(Gestell, enframed)* as

a system with a planned intricacy and interest which we ourselves are unaware of:[20] be they in business, political and power engineering, or education.

To understand this difference Heidegger talked about how the development of water electricity power and windmills changed the relationship between humans and their world. Windmills have long emerged in a period when humans used natural power without changing its surrounding environment. This is in contrast to the hydro-electric dams created along the Rhein River, a river which comes from springs in the Alps and flows through large German cities to the sea. Modern humans who use the latter technology no longer allow nature to provide energy as was used in the windmills technology. The hydro-electric dam, and modern technology provokes/challenges *(Herausfordern)* nature. If traditional technology had the character of revealing itself, modern technology presents itself with the character of provoking/challenging.[21]

Explaining what he meant by provoking/challenging, Heidegger expressed his uneasiness with the development of hydro-electric power. The Rhein River had been challenged to become a source of power which could be stored and distributed to regions through power lines. As such, the technology of hydro-eclectric power revealed itself in a certain systems which was neatly ordered: the energy stored in the nature is transformed; what has been transformed is stored; and what has been stored is distributed; and what has been distributed can be switched on. Transforming, storing, distributing, and switching on power are systematic steps of revealing the technology of hydro-electric power.[22]

Using these examples, Heidegger explains that life in the world of technology, without our awareness, always means living in the system of order of the technology. For this reason, the essence of technology does not lie in certain artifacts but in the technological desire which makes those certain artifacts show its meaning in a certain system. Being in that system we view our own world and humans around us differently. The fundamental issue comes into being in its own: modern technology develops itself and has the tendency to develop itself as a center. Humans cannot escape themselves from such a realm, meaning that they were as if being thrown away or entrapped in an instrumental technology point of view. Humans no longer become free as rational beings. In this perspective of technology, the world has never become something in its own and been approached in a reciprocal care.[23] If traditional humans constructed a wooden bridge so that they pass over the river, while let-

ting the river flow, modern humans with their technological desires see the same river as a possibility for a hydro-electric project which can change the river into a source for further planning. The world, nature and humans are seen as sources that need to be taken into account, and as such humans are entrapped in a system of meaning created by technology. Technology is no longer a means to an end, but an end in itself. Through technology, nothing is allowed to reveal itself. All things are swept away together with a massive network. They only bear a meaning, provided that they have a significant contribution to the whole network. All things are under the control of these networks. Heidegger calls this condition *Bestand*, standing-reserve.[24] Technology orders everything for the perpetuation of its order.

TECHNOLOGICAL FREEDOM

The strength of Heidegger's philosophy lies in its effort to understand the reality of technology which can reveal itself. However, as has been alluded to before, Heidegger also asserted that technology can become a *Gestell* or a metaphysic framework which determines the way we live and understand the world around us, both nature and humans. With this new view, the concrete questions for us in the context of the ethics of technology are: Who holds responsibility for the process of technological *enframing*? In what kinds of ethics are we allowed to talk about technology as *enframing*?

Heidegger did not specifically talk about the ethics of technology. Nevertheless, all his thoughts on technology have on ethical orientation because of his deep understanding of ethical problems. The fundamental ethical issue in Heidegger's thinking is always related to the possibility of occurrence of the free relationship among humans, technology and nature, a relationship based on *Sorge, care* between humans and humans and between humans and nature. As a consequence, in his essays, we never find basic ethics principles as have been expressed in golden rules, the Sermon on the Mount, or even deontological and utilitarian normative theories of ethics. Heidegger even casted doubts over the basic assumptions of traditional ethics, because in facing with technological problems, we are not concerned with human superiority, but with human impotence. If Francis Bacon optimistically expressed his credo *knowledge is power*, then Heidegger expresses the pessimistic idea

that human beings are dominated by their own technologies. He writes:

> Where do we find ourselves brought to, if now we think one step further regarding what Enframing itself actually is? It is nothing technological, nothing on the order of a machine. It is the way in which the real reveals itself as standing-reserve. Again we ask: Does this revealing happen somewhere beyond all human doing. No. But neither does it happen exclusively in man, or decisively through man.[25]

However, all Heidegger's philosophy projects concerning technology is predicated on the conviction that humans are moral subjects who must hold responsibility for all developments of themselves and technology, although it must be noted that humans cannot control activities and technological development, and they even cannot control the technology's revealing process where the reality of technology can reveal itself to us. "But, never too late comes the question as to whether we actually experience ourselves as the ones whose activities everywhere, public and private, are challenged forth by Enframing". said Heidegger.[26] Heidegger, however, sees a way out. "The essence of modern technology starts man upon the way of that revealing through which the real everywhere, more or less distinctly, becoming standing-reserve. To start upon a way means to send in our ordinary language. We shall call that sending-that-gather which first starts man upon a way of revealing, destining (Geschick). It is from out of this destining that the essence of all history is determined".[27] This means that humans alone can determine their own fate as a core of their history. In a situation where they find themselves entrapped in technology as a fate, they still see themselves as a subject that does not bow to the blind fate,[28] because they still have the ability to hear and listen to their situation.[29]

For this reason, humans can still attain a degree of freedom toward technological enframing. However, the idea of freedom in Heideggar's thinking is not conventional, as has been thought in John Stuart Mill as a freedom from the shackles of society and politics. Also, the fundamental essence of freedom is not related to a will or even to causality of humans' desire as has been developed in the philosophy of Immanuel Kant. On the contrary, when speaking of freedom, Heidegger talks about events or moments of truth.[30] Freedom means letting the

truth penetrate fate, so the reality of the fate can reveal its own path.[31]

With this concept of freedom, Heidegger reminds us that the technological *enframing* process indeed contains a real peril to the relationship between humans with themselves and with their surrounding nature,[32] a mechanism which allows us to reveal ourselves only according to technological logic by ignoring other possibilities to reveal ourselves through reality of nature. This is a process which can be compared to a monochromatic picture of world, and leads us to ignore other perspectives such as arts and literature. Heidegger emphasizes that technological *enframing* blocks truth that came spontaneously, and because of this it could entrap us to ignore the mystery of reality.[33] However, he also emphasized that humans have the ability to release themselves from this peril. Here Heidegger appeals to Hölderlin's statement: "But where danger is, grows the saving power also"[34] Salvation is not used here in the sense of saving something from danger. Instead, it means to reunite something with its nature in the sense that it acknowledges something as its origin or home.[35] This means that the technological *enframing* process tends to endanger, and effort to reunite technology in its essence is an initial step to salvation. Heidegger wrote: "If the essence of technology, enframing, is the extreme danger, and if there is truth in Hölderlin's words, then the rule of enframing cannot exhaust itself solely in blocking all lighting-up of every revealing, all appearing of truth. Rather, precisely the essence of technology must harbor in itself the growth of the saving power".[36] Technology has the ability to reveal and salvage itself. And for Heidegger, humans, as *Dasein,* are called to be a medium where technology reveals itself. So, human beings are the subject of power that salvages. Heidegger wrote: "Here and now ... that we may foster the saving power in its increase. This includes holding always before our eyes the extreme danger".[37]

Heidegger, therefore, was convinced that the development of technology has ethical function; that is, the ability to salvage humans, if humans open themselves to the truth of technology. However, Heidegger himself did not explain in detail how this technological salvation can take place, if in reality the technological *enframing* process indeed changes humans.

THE PROBLEMS OF THE DEHUMANIZATION

Heidegger's thoughts on the essence of technology touch on several key issues. *First,* technology conceived of as a machine or instrument. Although the idea on instrumentality has colored *Being and Time*, in an essay *Die Frage nach der Technik* Heidegger candidly rejected instrumentality. The difference in emphasis is very much determined by the goal of the essay, namely to account for technology as a process of revealing the natural and the human. With this goal, technology has functions which are the same as arts and literature whose goals are to reveal the world. In Heidegger's view, both art and technology have the same basis, namely *poiesis*, a creative ability to reveal itself. *Second*, Heidegger's view that humans are always entrapped in the technological *Gestell* process suggests Sophocles' idea that humans have passed.[38] Because of the *Gestell* process, humans become an object of technology. Of course, this does not mean that Heidegger did not have hope. He still viewed humanity as a historical subject who could direct their destiny if they are sensitive toward what has been revealed by technology. In other words, technology is a semantic field which can illuminate the world where we live. *Third,* Heidegger realized that human subjectivity is not determined by their absolute consciousness, but is conditioned by space and time including the context of technological *Gestell*. Thus, Heidegger has paved the way to the postmodernism understanding that humans are always contextual. Technological *enframing* is a form of contextualization of human existence in their social and cultural scopes.

However, Heidegger does seem to take into account that humans can no longer be sensitive to what technology reveals or can no longer maintain a critical attitude towards technology. What Heidegger does not consider is that technology had contributed to new anxieties. Technology continues to deepen its own trap. According to Hans Jonas, technology not only alters the nature, but also alters humans. He provided the following three examples.[39]

First, the advancement in the field of biological which can slow down the aging process in humans. The advancement of knowledge and technique in this field has a consequence for our view of death. In a traditional view, we learn that death is inevitable. Traditional humans believe without questioning the words of the psalmist that "the days of our years are threescore years; and if by reason of strength they be fourscore years, yet is their strength labor and sorrow; for it is soon cut off,

and we fly away". Yet, the modern technique hitherto seems to have revived a big dream of George Bernard Shaw and Jonathan Swift that humans are immortal. It appears that modern humans no longer take heed of the words of psalmist that say: "So teach us to number our days, that we may apply our hearts unto wisdom". (Psalm, 90). Death is no longer seen as inevitable, but as something to be avoided. Thus, for the first time in human history we face the problem of individual desire fighting against death and fate of humans as a species. Death has no longer had a positive correlation with a creative newborn, as was envisaged by Hannah Arendt,[40] which give birth to a new generation that brings an optimistic future. Can we imagine a generation with long-lived people, without younger generations? It seems that the discovery in the field of biological cell compels humans to realize their own ambition, so that death is no longer viewed as meaningful for the emergence of a more creative newborn.

Second, the emergence of scientific behavior-control techniques. Social engineering approaches are used increasingly for ruling over the masses. However, the use of the social engineering method has become a big problem especially when it touches on our ideas of human rights and of what it means to become humans. Can we induce drugs to our kindergarten children so that they can learn easily without being motivated to be independent and to be free as children? Can we program a child to be an individual who fits the behavior system we desire?

It is perhaps no exaggeration to say here that those questions emanate from a traditional view that every person has autonomy in the sense that he can make his own decisions based on his own considerations and be a valuable member in a community. Modern technology raises a question: How can we account for an individual's autonomy if this individual is not seen as a value which needs to be respected? Every person must be held accountable for recognizing himself as the human individual he wishes to become.

Third, the new development of genetics and the genetic control technique over future humans. According to Jonas, humans nowadays seem to want to determine their own genetic development. Evolution no longer plays the role of species integrity. But, do we really have the right to play the role in creating ourselves? What will the human being become in the future?

Aside from the above three instances, we can add another example which is related to the advancement of information technology

such as television and computer. Many communication experts explain that information technology can facilitate communication among humans. However, such technology can entrap us. Concerning television, for example, Robert E. Denton, an expert in American political communication once wrote: "Historically, television was valued as the main instrument of democracy. No other media that can unite us, educate us, and as a consequence can improve our action and choice over public policies...(however), because its ability to penetrate, we tend to forget that television too plays a role as a power and control.[41]

The above examples highlight that technology is not a mere fruit of excellence of human civilization. Of course, humans reap many practical benefits of the development of technology: our life and work has become easier to deal with.[42] However, as has been said by Ihde,[43] technology traps in a technological network which controls our behaviors and actions. Or in the words of Herbert Marcuse in his *One Dimensional Man* and Jacques Ellul in his *The Technological Society,* technology is not only dominant, but total, it has changed into a milieu that determines how humans must live and how a community must be built.

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Endnotes

[1]Akira Tachikawa, "Localism and Universalism in Scientific Training and Research" in *Philosophical Reflections on Globalisation in the Asia-Pacific Region.* Manila: Ateneo de Manila University and APPEND, 2006

[2]Don Ihde, *Technology and the Lifeworld, From Garden to Earth* (Bloomington and Indianapolis: Indiana University Press, 1990), p. 1

[3]Theodore, Adorno, *Minima Moralia, Reflections on a Damaged Life* (New York: Verso, 2005), p. 7

[4]I have proposed my efforts in answering the questions in my book, *Kebebasan Ilmu Pengetahuan dan Teknologi, sebuah Esei Etika* (Yogyakarta: Kanisius, 2011), especially p. 53-69

[5]Martin Heidegger, *The Question Concerning Technology and Other Essays* (New York: Harper & Row 1977), p. 3. I owe Mahon O'Brien for his "Commentary on Heidegger's 'The Question Concerning Technology'" printed in *Thinking Together. Proceedings of the IWM Junior Fellows' Conference, Winter 2003,* ed. A. Cashin and J. Jirsa, Vienna: IWM Junior Visiting Fellows' Conference, Vol. 6. This writing became the basis for my interpretation of the text.

[6]Ibid

[7]Ibid., p. 5.

[8]Ibid. Compare William J. Richardson, *Heidegger, Through Phenomenology to Thought* (Louvain: The Hague 1967), p. 16

[9]Ibid., p. 35

[10]Ibid., p. 5

[11]Martin Heidegger, *Being and Time,* trans. John Macquarrie and Edward Robinson (New York: Harper and Row, 1962), p. 95-99

[12]Martin Heidegger, *Die Technik und die Kehre* (Tubingen: Gunther Neske Pfullingen, 1962), p. 10.

[13]Ibid., p. 7. "Wo Zwecke verfolgt, Mittel verwendet werden, wo das Instrumentale herrscht, da waltet Ursachlichkeit, Kausalitat". The translated version reads, "Wherever ends are pursued and means are employed, wherever instrumentality reigns, there reigns causality".

[14]Causa materialis is a silver substance used to make a chalice; causa formalis is a flat chalice; causa finalis is the use of the chalice which at the same time determines the shape and substance of a chalice; causa efficiens, the cause that determines an actual chalice.

[15]Martin Heidegger, *The Question concerning Technology and Other Essays*, Op. Cit., p. 5

[16]Ibid., p. 12

[17]Martin Heidegger, *Being and Time*, op.cit., p. 274.

[18]Ibid., p. 101

[19]Martin Heidegger, *The Question concerning Technology and Other Essays*, Op. Cit., p.12

[20]Ibid., p. 14. The verb *stellen* (to put) has varied uses. It can refer to put an object to a certain place, to arrange, to order, to supply, and in a military sense can mean to challenge and to occupy.

[21]Ibid., p. 14-16

[22]This did not happen in a windmill technology. Its propeller rotated in line with the compass -so it relied heavily on the power of the wind.

[23]This idea became Heidegger's main idea in *Being and Time*. As *Dasein*, humans have been thrown away to a world with a certain system. However, the relationship between humans and their world is marked by *Sorge*, and *care,* and maintenance.

[24]Ibid., p. 16

[25]Ibid., p. 23-24

[26]Ibid., p. 24

[27]Ibid.

[28]Ibid.

[29]The concept of listen or *hoeren* is important for explaining the fact that a body activity is a basic indication of the basic indetermination/freedom of humans. Besides, *hoeren* becomes a primitive attitude of an act of communication.

[30]Ibid., p. 25

[31]Ibid. Fate in Heidegger's thoughts is not an unchangeable path, but a horizon full of possibility which opens a room for freedom.

[32]Ibid., p. 26

[33]Ibid., p. 27

[34]Ibid., p. 28

[35]Ibid.

[36]Ibid.

[37]Ibid., p. 33

[38]Sophocles is an ancient Greek playwright who had a positive view of humans. He viewed humans as not only the inhabitants of this world, but with the techniques they had, they tried to change the nature He wrote:

Nothing extraordinary but humans
Only they can explore the rough ocean which was caused by the winter's wind
The earth, the creation of the immortal God
They used it from year to year with their power.

[39]Hans Jonas, op.cit., p. 47-53

[40]Hannah Arendt, *The Origin of Totalitarianism* (London: Secker and Warburg, 1951), p. 473

[41]Robert E. Denton, Jr. (Editor), *Political Communication Ethics, an Axymoron?* (London: Praeger Series in Political Communication, 2000), p. 91

[42]Bertrand Russell illustrated the impact of science and technology on society in his book The Impact of Science on Society which was already translated in Indonesian language under the title, *Dampak Ilmu Pengetahuan atas Masyarakat.*

[43]Don Ihde, T*echnology and the Life World, From Garden to Earth,* op.cit., p. 6

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