

# Recharting The Philosophy of Technology in Contemporary Architecture

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**Abstract.** Technology is an indispensable aspect of architecture. In fact, it is being an essential part of the human effort in making architecture. Since the early modern era, technology that rapidly change has been seen as the sign of progress, not only pertaining to the technology itself, but also architecture and even civilization. Modern architectural theoreticians, from Sant'Elia to Le Corbusier, enthusiastically embraced the progressive side of technology and engineering. Philosophically, however, modern technology is regarded pessimistically. Heidegger and Jaspers considered technology as the source of alienation to the human being themselves and to the reality they face. To overcome this gap, Alan Dregson, proposed the four philosophy of technology to rechart the variety of tendency towards technology in Western society, consisting of (1) technological anarchy, (2) technophilia, (3) technophobia, and (4) technological appropriateness. In this explanation, he coined the terms "creative philosophy" to include many aspects and ways of thinking which might be incorporated in the creative activities like architectural design. This paper attempts to evaluate the appropriateness of Dregson's philosophical scheme as a platform for architectural education in Indonesia in general, by relating his framework with the architectural theories and practices in Indonesia. The result of this effort is while the formulation of his scheme is the very inclusive and closely related with creative activity like architectural design, it contains bias of industrial technology appearing in the Asian scene brought by Western European colonials. Discussing philosophy underlying Gandhi's movement in India to reject oppressive technology, we may arrive at the conclusion that the philosophy of non-violence, truth and justice based on the principle of self restrained are relevant to figure out the ideal of appropriate technology in Asia.

**Keywords:** Philosophy of technology, appropriate technology, architectural design

## Introduction

The advancement of technology in the last 100 years was fascinating for everyone. Flying high to reach the moon and far beyond, moving fast to compete with sound, to communicate face-to-face across the globe like in previously seen in science fictions, as well as to build taller and taller reaching the cloudy sky in the atmosphere. If Max Weber said that modern time was the era of disenchantment, that was true due to the progress of technology shifting the realm of ghosts, fieries and gods to the periphery since miracles could be performed by technology.

One of the most salients feature of technology is change, or in more anthusiastic tone is progress. Technology with all of its miracles is regarded as the saviour of human misery. By fully embracing the ever progressing technology, our houses, workplaces, and cities will be glorious. Writing in the first quarter of the twentieth century, Antonio Sant'Elia in his manifesto, proclaimed the arrival of Futurist Architecture and discarded the entire history of mankind in creating their built-environment:

*"From an architecture conceived in this way no formal or linear habit can grow, since the fundamental characteristics of Futurist architecture will be its impermanence and transience. THINGS WILL ENDURE LESS THAN US. EVERY GENERATION MUST BUILD ITS OWN CITY. This constant renewal of the architectonic environment will contribute to the victory of Futurism which has already been affirmed by WORDS-IN-FREEDOM, PLASTIC DYNAMISM, MUSIC WITHOUT QUADRATURE, AND THE ART OF NOISES, and for which we fight without respite against traditionalist cowardice (Sant'Elia, 2007: p. 17, originally published in 1914)".*

The speed of change was celebrated, written in all capital letters, "THINGS WILL ENDURE LESS THAN US. EVERY GENERATION MUST BUILD ITS OWN CITY". Cities which were previously seen as the most palpable signs of permanence, then were deemed disposable for the sake of embracing the ever changing technology.

In more a restrained manner but not less fundamental in promoting progress was Le Corbusier's pronounciation of "Architecture au Revolution". Social

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unrest, for him, rooted in the dissatisfaction of life, which was mainly as the result of improper built-environment that people have created. With the power of technology to provide “space—daylight—greenery”, the “essential joys of urban life” for all, then, revolution was unnecessary. Social justice, morality and progress could be achieved once we had a proper home and city to suit with modern life. Technology and rationality were the saviors of contemporary miseries.

Many architects, especially those from Western Europe during the interwar years, wholeheartedly embraced modern technology. For them the fate of humanity in the future depended on the way human able to foster and apply technology in their life. Engineers in other fields believe in such notion even more. The application of technology in the progressive spirit has made architecture into “Olympic situations” in which *citius, altius and fortius* can be measured.

## Heidegger’s Dilemma Of Modern Technology

Philosophy questions everything in life, including technology which greatly shapes the life of most people around the globe. While technology gives obvious axiological appearance on how it might be, it lacks ontological ground on what technology essentially is.

In his seminal lecture, “The Question Concerning Technology,” initially published in 1954, the philosopher Martin Heidegger addressed the inquiry on the ontological foundation of technology. He went beyond the commonly accepted notions of technology being a machine or a set of technical procedures.

The main concern of Heidegger’s philosophy is the question of being. Thus, when Heidegger claims that technology is a way of revealing, he means that it involves a specific kind of being. It rests upon a relation between human beings and reality, one involving a way of revealing in which human beings “set upon” and “challenge” what they bring forth as real. As a result, reality is understood in terms of what is available to and can be controlled by human beings. The way of revealing of the ancient Greeks provides a ready contrast. The word “technology,” Heidegger points out, comes from the ancient Greek word “*technikon*”, which refers to everything pertaining to *technè*. *Technè* comprised both craft and art alike. It was a form of “*poièsis*”, which is generally translated loosely as “making.” Human existence is emphasized in as creator in the application of *technè*.

In contrast from the *technè*, modern technology, in Heidegger’s view develop a much different way of disclosure. Modern technology is created as processing device. Nature, therefore, presents as raw material or resources rather than reality to discover and disclose. Humans no longer encounter nature as entities that “emerge from concealment into unconcealment”. The surroundings simply serve as a storehouse of available raw materials.

In discussing the presence of technology in the form of construction, Heidegger (2001), in his essay, “Building

Dwelling Thinking”. In this writing, he questions the “thingness” of a building by being a “dwelling”. Dwelling is the end, while building is its means. Not every building is a dwelling. Only buildings which provide meaningful habitation are qualified as dwellings.

## Drengson’s Inclusive Notion On The Philosophy Of Technology

Trying to redefine the word “philosophy”, Drengson (1982, p. 27) proposes the term as “a way of life formed by attitudes and assumptions which, taken together, constitute a systematic way of conceptualizing actions and experiences by means of an implicit process of unquestioned judgments and conditioned emotional responses”. This notion encompasses three stages, from a certain patterns of thinking and practice, to the explicit formulation of assumption, axioms and other forms of verbal elaboration, and at the end to be a creative activity of conceptual inquiry in order to develop more appropriate cultural practices.

Observing the dynamics, variety and historical progress of Western industrial society, Drengson develop a framework to understand variety of fundamental attitudes toward technology.

1. technological anarchy,
2. technophilia,
3. technophobia, and
4. technological appropriateness.

Technological anarchy is the initial state of technological exploration and innovation. This situation is based on “a philosophy of exuberant, youthful curiosity and self-centeredness” being “an expression of optimistic self-assertion and individual opportunism” (Drengson, 1982, p. 29). It is a highly divergent period with few government regulation, direction or limitation. Market will determine which technology to support and to promote.

In the state of technophilia, certain technology is already in the advanced stage. Supported by the forces of the market, technology now becomes industry. It is the primary way to supply society, to gain financial benefit even later directed forces governing many aspects of life. It becomes the savior for the future of humankind and universe. Experiencing the state of technophilia or the love of technology, we are enamored with, and entrapped by technology. “Technology, which was originally pursued as an instrument to satisfy desires and needs, tends in such a context to become an end in itself” (Drengson 1982, p. 29). As technology permeates into, and direct our activities and existence, life becomes merely mechanism. The prominence of technology often causes the lost of control over technology, as human becomes mere operator or even appendage to the mighty industrial machine.

It is quite natural to realize in the technophilia state that technology threaten human existence and the natural world. Sensibility, sensitivity and spontaneity of life are replaced by the ever growing hegemony of industrial machine manifested in myriad facets of life. The choice to develop and then to embrace technology is conceived

as a big mistake. To redeem, some people attempt to make distance with the machine and even challenge themselves to do “de-technologization” as seeing technology becomes a dehumanizing force.

Drengson (1982, p. 30) calls this state as technophobia with underlying principles of rejecting technological autonomy and asserting human autonomy over it. Technophobia leads to two achievements by renewing commitment to human values and revitalizing arts, crafts, technics and skills. Personal development is more important than technological supremacy over human and nature. Maturity and wisdom are more meaningful than progress and advancement.

Technophilia and technophobia lead human engagement with nature in the opposing directions. One sees technology as the most certain promise of the glorious future; the other one considers technology is a monster threatening the very existence of life.

In this conflicting situation, one politically correct answer is notion of “appropriate technology” seen by Drengson (1982, 31) as the most mature state of attitude and philosophy toward technology. Diverse choice of thechnology and the ways to develop, appropriate, and exploit are available. He emphasizes on the role of appropriate technology in incorporating three other philosophies by considering the role of the mature selves in selecting technology and directing its progress without losing control over the devices.

With gigantic capitals supporting certain choice of technology with its massive greed, the idea of appropriate technology being benign technology able to revitalize the spirit of community sounds utopian. Drengson (1982, p. 33), however, attempts to propose some way to “tame” technology in order to suit with the spirit of appropriate technology in four ways, namely: 1) technological modification, 2) technological hybridization, 3) technological mutation, and 4) technological mastery and creation.

## Asian Resistance

With its long involvement in the process of Industrial Revolution, Western European society see technology in its liberating forces freeing mankind from the burden of menial labor, albeit many discontents along its course. They are then engaged in the mission of civilizing the world with rationalism and technology.

Asia have ver much different history in their involvement with modern technology. This type of human advancement for them arrived in one pack with Colonialism. Entering the Asian land with the spirit of exploitation, technology and industrialization often conceived in its negative sides of dehumanization.

Mahatma Gandhi (1869-1948) is one figure prominently standing for Asian voice against Colonialism by liberating themselves from the bondage of technology. He leads the movement to reject British industrial products as they are associated with the oppressive forces of Colonialism. He establishes nonviolent non-co-operation platform epitomized in the swadeshi policy—to boycott foreign-made goods,

especially British industrial goods exported to India. He advocate to wear khadi (homespun cloth) instead of British-made textiles. Indian men and women, rich or poor, should spend their time spinning khadi to support independence movement.

Callicott and McRae (2014) investigate the philosophy underlying Gandhi movement. The centerpiece of Gandhi philosophy is “ahimsa” or non-injury. Based on personal non-injury commitment, this philosophy is extended to social, economic and political forces. The second prominent notion is “satyagraha” or or persevering in the truth without recourse to violence of any kind. The third underlying spirit of Gandhi is “asteya”, means abstention from stealing or the misappropriation of the possessions of others.

Relying on these philosophical themes, Gandhi sees massive industrialization as practiced by the British is a betrayal of truth, realized with violent means with the spirit of greed stealing resources from the colonized land ad people.

Quoting Gandhi’s words, Callicot and Mc Rae (2014, p. 20) considers that people fall from the pursuit of the ideal of plain living and high thinking at the moment they want to multiply his daily want. People’s inability to distinguish between wants and needs multiply the unreasonable demands on the environment. Concerning with the exhaustion of natural resources, he says that “The earth provides enough to satisfy every man’s need, but not every man’s greed.”

## Appropriateness Of Technology And Architecture

Gandhi’s philosophy of the self to restrain from the over exploitation of the people and environment to discover the inner truth and higher spirit inspires the world in many respects. In the field of architecture, a number of figures can best understood in Gandhi’s spirit even though none of them is an avowed follower of Gandhi, especially those receiving the Aga Khan Award of Architecture such as Hassan Fathy in Egypt, Barefoot Architects Group in India and Mangunwijaya of Indonesia. Fathy’s insistence on the application of adobe to use abundant resources with people’s own hand, Barefoot Architects with their social organization, and Manguwijaya with his effort to ennoble marginalized people, might be understood in revealing the truth of humanity in just ways.

The aforementioned philosophy of self restrained manifested in the notions of non-violence, truth and justice may enhance and direct the Drengson’s philosophy of appropriate technology to better serve humanity and human’s role as cutodians—rather than possessors—of the earth; including in the field of architecture.

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