

The Regionalism of Tamanoi Yoshirō: Its Timeliness and Potential for the Anthropocene

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We live in the world, that is, among various non-human life forms and things. Language is the site of mediation between three *topoi* – the self, people other than the self, and nature, or more precisely, the site of interaction between the three. Human society is not an autonomous system. Individuals who are members of this system are not directly connected to other individuals, but are connected through their relationship to the world, that is, to nature. Language is a function of such a field.

–Watanabe Kyōji (2006, 81)

1. Introduction¹: The Anthropocene and the Entropic Process

The 21st century differs significantly from the previous modern eras in that the counterproductive nature of industrial society has become apparent in multiple dimensions and its effects are escalating on a global scale. In particular, the accelerating pace of global warming is dramatically altering the conditions of human existence, and the catastrophic future this will bring about is becoming more real every day, as evidenced by a series of reports by the UN Intergovernmental Panel on Climate Change (IPCC) and the frequent occurrence of natural disasters attributed to climate change.

In this context, a group of scholars in the field of Earth science have proposed a new geological epoch, the *Anthropocene*, at the beginning of the twenty-first century, drawing attention to the profound geological impact of human activity since the Industrial Revolution². As historians

of science, technology, and the environment Christophe Bonneuil and Jean-Baptiste Fressoz (2016) argue, this geological proposal challenges the “human exceptionalist” conception of history established in the modern West. Western modernity had cultivated a distinctive view of history that sharply separated human from natural history. Human societies were imagined to evolve autonomously—driven by science, technology, and industrial economy—while the Earth’s ecosystem appeared as a stable backdrop external to human activity. Yet the environmental pollution, global resource depletion, and climate change that became apparent in the second half of the twentieth century have revealed how human economic and social activities destabilize the global ecosystem, in turn undermining the stability and security of human livelihoods. These developments compel a fundamental rethinking of human history as inseparably embedded within natural history on a planetary scale.

Among the economists who anticipated the issues of the Anthropocene from the perspective of evolutionary biology was Nicholas Georgescu-Roegen from Romania. In a paper presented at the University of Florence, Italy, in 1974, he analysed the peculiar structure of the human biological evolutionary process as follows: Humans, like all other life forms, depend on the natural environment for their survival. In this respect, humans are biological beings. However, if we look at the process of human evolution, we

see not only an "endosomatic evolution" based on biological functions, but also an "exosomatic evolution" in which various tools are used as extensions of the body for survival. In fact, it is the latter that drives human evolution, as humans gradually come to live in organised societies (Georgescu-Roegen 2003).

According to Georgescu-Roegen, humanity is facing three problems as societies become more organised: (1) the emergence of social conflicts between the rulers and the ruled, (2) increasing dependence on industrial commodities, and (3) the waste of natural resources. After referring to the third problem, he concludes that "*although the problems associated with exosomatic activity are not all purely biological in nature, at the deepest level they are (anche se i problemi connessi con l'attività esosomatica non sono tutti di natura puramente biologica, i più profondi lo sono)*" (Georgescu-Roegen 2003, 78, original emphasis).

This may seem like a roundabout argument, but it is a brilliant one that explains the structure of the feedback loop between human society and the natural world from an evolutionary perspective. Georgescu-Roegen's intuition is developed further by the Italian economist Mauro Bonaiuti from the perspective of complex systems science and autopoiesis theory. According to Bonaiuti, there is a bidirectional feedback loop between the material system, the biological system, and the social system. The direction of causality is not only the "upward causation" that operates from the lower-class material system to the higher-class social system (the level beyond the laws of physics). There is also the "downward causation" that operates from the latter to the former. Human social life is not only dependent on and constrained by material and biological systems. The economic and technological systems created by humans force the evolution of social systems in a certain direction, which in turn influences the evolution of biological and material systems³ (Bonaiuti 2023). Examples of the globalisation of the fos-

sil-fuel based economic and technological system that underpins industrial society include the emergence of greenhouse effects and the rise of global temperature as a result of increased carbon dioxide levels in the atmosphere, and the pollution of soils and oceans from the mass disposal of plastic products.

Humanity has developed from hunter-gatherer to agricultural and eventually industrial societies, moving toward ever greater socio-technical complexity. According to Joseph Tainter (2006; 2011), such transitions to what he terms "complex societies" have historically emerged as responses to existential challenges such as hunger and scarcity. In this sense, the rise of complex societies was historically valid within the contexts in which Western and other modernising societies were embedded. Today, however, humanity faces a paradox: the very systems of industrial society that once secured survival have, in their transformation into highly complex consumer societies, generated feedback loops that undermine the biological and even geological foundations of human existence on a global scale. As Tainter argues, complex societies ultimately confront rising environmental and social maintenance costs that lead, over time, to collapse. From the above considerations, the following structural problems of the contemporary world can be derived.

(1) As Georgescu-Roegen has made clear, according to the second law of thermodynamics, economic processes irreversibly increase entropy (disorder). Historically, industrial societies that consume large amounts of thermal energy have increased entropy at an accelerating rate⁴.

(2) The laws of thermodynamics imply not only the quantitative problem of increasing entropy. According to Ilya Prigogine and Isabelle Stengers, the laws of thermodynamics have shown that heat causes a change in the forms of matter ("*la chaleur transforme la matière*"), i.e. a change in its intrinsic properties and state (Prigogine & Stengers 1986, 168,

original emphasis). In other words, the entropy process is one that changes the forms of matter.

(3) Introducing the laws of thermodynamics into the analysis of economic processes therefore means analysing not only the quantitative increase in entropy, but also the associated changes in the forms of matter. When we study the changes in the forms of matter at the macro-system level, we are analysing the changes in the forms of socio-biophysical systems caused by economic processes (*This is a point related to Tamano's reflections on the "*materielles Dasein*" (*busshitsu no gensonzai*) in his later years and is addressed in the final chapter of this paper).

(4) The task of social science research in the Anthropocene is to analyse the changes in the forms of real world caused by the particular socio-technical regime of a globalised consumer society. For an illustration, see figures (A) to (C) (available on the journal website). The figures show, respectively, (A) the shape of the Antarctic ozone hole (NASA observation, 21 October 2019), (B) the shape of the coastline of the Japanese archipelago changed by the landslides of Typhoon Hagibis (GCOM-C1 observation satellite, taken on 13 October 2019 at about 10:55 a.m.), and (C) the metamorphosis of the marine ecosystem due to the disposal of plastic waste (National Geographic, June 2018). They are all morphological changes in material and ecological systems caused directly or indirectly by the globalised consumer society and the urban design that supports it. This suggests the breadth and depth of the geological influence of human exosomatic evolution. The social sciences of the 21st century will have to take into account the morphological changes that contemporary social systems impose on the real world as a whole. In other words, areas of research such as social morphology or economic morphology in the broader sense (including material and biological systems) will become necessary⁵.

(5) Today, as it becomes increasingly clear that the globalised consumer society is ecologically and socially unsustainable, there are various theoretical and practical attempts to envisage a transition to a sustainable civilization. The core idea of these attempts, collectively known as transition design, is that social design defines the ontological possibilities of humans, other organisms and material systems (for example, see Fry 2010). Thus, envisioning a sustainable future requires a design that takes into account the ontological dimension, i.e., 'ontological designing', as suggested by Tony Fry (2010) and Anne-Marie Willis (2006).

2. Transition Design and Post-Development Theory

2.1. From Development Critique to Transition Design

Post-development theory has been a major intellectual current shaping the academic discourse of Transition Design (see, for example, Escobar 2018). Emerging in the early 1990s, it interprets development policy—framed within the economic paradigm of Western modernity—as a “modern design project.” Post-developmentalists have since critiqued the cultural, social, and environmental consequences of such policies worldwide. Early research highlighted the erosion of local autonomy and culture in the Global South and began to conceptualize alternative societal models rooted in grassroots and indigenous community movements.

However, as we enter the 21st century, the negative impact of our globalised consumer society on the Earth's ecosystem is becoming increasingly serious, and it has become necessary to embrace a paradigm shift. It is precisely for these reasons that degrowth (*décroissance*) of the developed world has been proposed, mainly by Southern European post-developmentalists (for example, Latouche 2007). Today, global research of post-development is conceptualising scenarios of transition to a sustainable and plu-

ralistic world, while rediscovering and re-evaluating non-modern philosophical and cultural thoughts, as well as non-capitalist community economies in the regions of the Global North and the Global South (Escobar 2018).

2.2. From Humanist Cultural Theory to an Earth-Centric/Relational Ontology

It is important to note the methodological shift at the root of the changing debate on post-development. In the early 1990s, a number of post-developmentalists, inspired by post-structuralist and post-colonial critique of development discourses, denounced epistemological closure and violence conferred by the Western development paradigm and sought to reassess alternative forms of knowledge and cultural practices historically practised in non-Western societies to be in harmony with the organic universe (=cosmos).

For example, in his book *L'occidentalisation du monde*, Serge Latouche proposes two distinct cultural concepts 'vernacular culture' (*la culture culturelle*) and 'humanistic culture' (*la culture culturelle*)⁶ (Latouche 2005, 66-82). The former refers to the totality of skills, wisdom and perspectives on nature that have been historically maintained in everyday life of different communities around the world, and in which humans are seen as corporeal beings embedded in the local milieu. The latter, on the other hand, is a concept of culture peculiar to Western civilization, which reduces culture exclusively to the realm of human mental activity. The origins of this concept can be traced back to the separation of mind and matter in Platonism. Humanist culture developed from the Renaissance to the 19th century as the culture and art of the intellectual class and became mass-popularised in the form of a cultural industry as consumer society began to emerge in the 20th century. According to Latouche, the globalisation of consumer society, that progressed through the post-war period of 'development', was nothing other than a process of destruction of

the vernacular cultures of non-Western societies, which led to the colonisation of social imaginaries with the globalised cultural products (i.e., consumer goods) encoded as images and symbols.

Post-development theorists from Latin America, South Asia, and West Africa share a common theoretical orientation that challenges Western epistemologies of development. The Colombian anthropologist Arturo Escobar (1995, 2008),⁷ for instance, critiques the discourses of the international development system as epistemes rooted in modern Western thought. At the same time, he approaches non-Western cultural practices—such as those found in Latin American popular struggles against top-down development projects, in ways that reveal their ontological dimensions and alternative forms of knowledge, without reducing them to mere discourses or ideas. In this way, post-developmentalists emphasize the non-modern and non-capitalist character of vernacular life and culture in non-Western societies, embedded in relational systems where humans, other living beings, and both natural and man-made objects intersect.

It can be said, however, that some current of post-development, despite its critique of the Eurocentrism of development paradigm, could not escape a humanist tradition of social critique in its early stages. This tendency is evident in the work of one of its pioneers, Ivan Illich. While acknowledging everyday culture of non-Western societies as 'the vernacular', he maintained a humanist position on ecological issues (Paquot 2013). It should be noted that his humanist critique of development, together with his contemporaries such as André Gorz, Jacques Ellul, and Cornelius Castoriadis, contributed to the emergence of political ecology (*écologie politique*) and has lasting influence on the conceptualisation of degrowth in Europe, especially in France.

Illich's critique of the radical monopolies and counterproductivities of industrial societies remains highly relevant for today's globalised consumer so-

cieties. His reflections on the commons, discussed in *Gender* (1982), have been revisited by contemporary commons theorists such as David Bollier (2013), who organises countermovement against the neoliberal global economy. Illich's later work, particularly after *H2O and the Waters of Forgetfulness* (1985), advanced arguments with far-reaching implications for understanding the historical transformation of material culture and the body. Yet his humanist orientation may have limited his capacity to grasp the scale and depth of the challenges posed by the Anthropocene, particularly the entanglement between contemporary capitalism and the Earth system. At the same time, his critique of Earth System Science—especially its tendency to reduce humans to mere elements within a system—remains valuable at a moment when systems-theoretical approaches to ecology dominate environmental thought.

Twenty-first-century post-development theory, while retaining its earlier cultural critique, has shifted from a humanist orientation toward an earth-centred relational ontology that highlights the interdependence of humans, other living beings, and both natural and man-made objects⁸. As the global ecological crisis intensifies, this shift urges post-development theory to reconceptualize its foundations. Escobar (2018), in particular, has embraced autopoiesis theory and the currents of New Materialism in the English-speaking human sciences, advancing an 'ontological turn' within post-development thought. Building on this intellectual shift, several Southern European degrowth theorists conceptualize the transition to a sustainable world through similarly relational and ontology-oriented frameworks.⁹

3. Tamanoi Yoshirō's regionalism in the present day

Incidentally, there is a Japanese current of thought that is overlooked in the international discourse on post-development theory. In the second half of the 1970s, the economist Tamanoi Yoshirō

introduced a unique transition design called "regionalism" (*chi'ikishugi*). Such a regionalism was proposed in response to the severe destruction of life in Japan caused by the industrial pollution of the post-war growth years. It established the ideal of sustainable reproduction of life as the foundation of peace and conceptualized a decentralised economic system based on local ecosystems. At its core is a unique realism called the "economy of the living system" (*seimei-kei no keizai*).

From a theoretical point of view, Tamanoi initiated a Copernican paradigm shift. First, he took note of the argument about the second law of thermodynamics (the law of increasing entropy) found in Georgescu-Roegen's work and asserted the unsustainability of industrial society. This is a way of thinking in line with the concept of the "time of projection (*le temps du projet*)" proposed by Jean-Pierre Dupuy in *Pour un catastrophisme éclairé* (For an Enlightened Catastrophism) (Dupuy 2002). It thus offers an argument that shows the limits of the ideology of productivism and urges a degrowth paradigm.

Second, he developed a distinctive ecological economics that he termed the "economics of the living system." For Tamanoi, the living system is "a system that sustains its overtime life activities by disposing the redundant entropy generated by life process" (Tamanoi 1985, 15). This framework conceives of humans not as subjects dominating nature but as beings metabolically interdependent with the ecosystem. On this basis, the economics of the living system breaks with the anthropocentrism that has shaped modern philosophy since Descartes and advances a biocentric ontology that re-embeds human beings within the metabolic cycles of other life forms.

Third, he introduced historical and cultural perspectives into the economy of the living system through the activities of the Regionalism Study Group, and his life experience in Okinawa, and his intellectual dialogue with Karl Polanyi and Illich. One of the things that Tamanoi

oi observed was the role of the local water-soil-cycles in dealing with the excess entropy generated by economic activity, which was managed as unique local commons through traditional agriculture, forestry, and fishing (Tamanoi 1985, 56). Illich appreciated Tamanoi's approach as a product of Japanese sensibility not found in Western ecological research at the time:

[I]n his own teaching and writing he [Tamanoi] brought a uniquely Japanese flavor to ecological research by relating cultural to physical dimensions. He did so by focusing on the interaction between an epoch's economic ideology and the corresponding soil-water matrix of social life. [...] To this purpose he used 'entropy' as a *semeion*, a signal for the impending threat to an exquisitely Japanese perception of locality referred to with terms which seem to have no comparable Western equivalent, like *fûdô*. [...] Tamanoi made me understand that it is possible to include soil, water and sun in philosophical anthropology, to speak of a 'philosophy of soil.' [...] A philosophy of soil starts from the certainty that reason is worthless without a reciprocal shaping of norms and tangibility; *seeing* the culturally shaped body cum 'environment' as it is in a concrete place and time. And this interaction is formed by esthetic and moral style as much as by the 'spirits' which ritual and art evoke from the earthly matrix of a place. (Illich 1992, 70-72, original emphasis)

In other papers (Nakano 2016, 2019), I have discussed how Tamanoi's regionalism aimed to reconstruct a community or commons based on the economy of the living system. In addition, I pointed out how his concept of "community", which he refers to as *kyô* (the common or the communal), goes beyond the category of economics and attempts to expand into politics, aesthetics and ethics.¹⁰ Due to the length-constraint, it is not possible to go into detail, but the summary of its central aims is as follows:

1) A politics for the common good: Promoting regional decentralization of powers, limiting environmentally damaging development,

preserving regional ecosystems and culture, guaranteeing regional peace and involving citizens in local politics.

2) An economy of the commons: Building a circular economy that deals with excess entropy by adopting the perspective of the economy of the living system.

3) An aesthetics of a human-scale living space: The construction of a human-scale life-world that guarantees the reproduction of life. Inspired by Illich's argument in *Gender* (1982), concepts such as (gender) diversity and complementarity of human bodily senses and spatial perception are observed.

4) An ethics of the future: The conception of a biocentric ethics to preserve the life of future generations.

In the following passage on the ethics of the future, there is a clear gesture towards a post-anthropocentric ontology, in line with the arguments of today's post-development theory and new materialism:

For people living in a human-scale lifeworld, the most important principle is *identification*. A human-scale lifeworld is not the world dominated by the masculine principles that instrumentalise life for the sake of profit-making, efficiency and violent revolution. It is the world of living things in which goal and means become one. Since Galileo and Descartes, modern philosophy has created a world which transforms living things to lifeless objects. Philosophy is still evolving in that direction even today. The paradigm of modern philosophy makes it extremely difficult to find the world of living things. For my part, I have deepened my thought through the concept of the 'living system' and reached a conclusion that this is the only world with which human beings can identify themselves. For exploring the world of the living system, is there any more positive expression than *identifying ourselves with the flow of life, including future generations?* (Tamanoi 1985, 41, my emphasis).¹¹

Of course, Tamanoi's thought was limited by his time. He did not anticipate the acceleration of global warming, the profound commodification of life under neoliberal globalisation, or the transforma-

tions brought by large-scale urbanisation and global mobility. Nevertheless, his regionalist vision of a future society offers conceptual tools that resonate with many transition design theories and discourses emerging in the twenty-first century. The visions of post-development in Japan can be deepened by revisiting the philosophical questions raised in Tamanoi's later work within the broader context of global intellectual history.

4. Conclusion – Exploring Unanswered Questions

Finally, we will touch on two unanswered topics that need to be explored to enable the development of Tamanoi's regionalism as a foundational theory for transition design in the 21st century.

The first area, as I have argued elsewhere (Nakano 2016, 2019), is the development of regionalism towards an "aesthetics of place" within the context of the global research on the "epistemologies of the South" (de Sousa Santos 2016). The later Tamanoi's concept of a "human-scale lifeworld" has the potential to develop into a unique theory of body and place that rethinks human life and its reproduction from the perspective of the living system. The scope of this concept includes even deeper reality than the "everyday life world" in the phenomeno-

logical sense. However, Tamanoi's argument at the time was articulated on the basis of Illich's theory of "vernacular gender," which may have imposed limitations by reducing the human-scale life space to the vernacular lifeworld of female and male complementarity. However, from the perspective of contemporary philosophy, it should be possible to actively integrate relationships with non-human organisms and objects into the living system and reconstruct the human-scale lifeworld without adhering to a dualistic view of gender. New Materialism in contemporary philosophy and anthropological research on material culture offer a pluralistic approach that does not reduce matter and life to energy.

The second area, which I propose for the first time in this paper, requires a deeper investigation of the "form" of human life space, focusing on the concept of "*materielles Dasein*" (*busshitsu no gensonzai*) that Tamanoi intuitively posited in his last years (Tamanoi 1985, 73-74). Drawing on insights from Leopold Kohr and E.F. Schumacher's review of economic theory, especially their reflections on scale and technology, as well as morphological thinking in critical design studies, this second area could pave the way for a new research field, perhaps called "economic morphology".

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Endnotes

- ¹ This paper was presented at the annual conference of the Peace Studies Association of Japan (PSAJ) (The University of Niigata Prefecture, November 3, 2019). The translation is a revised version and was newly annotated on August 3, 2024 by Nakano Yoshihiro, specially appointed associate professor, Graduate School of Social Design Studies, Rikkyo University.
- ² In March 2024, the International Union of Geological Science (IUGS) rejected the proposal by the Anthropocene Working Group (AWG), formed by the Subcommission on Quaternary Stratigraphy (SQS), of adopting the Anthropocene as a new geological timescale. This paper, originally presented in 2019, discusses the Anthropocene as a hotly discussed academic topic in the human and social sciences at the time.
- ³ The first edition of Mauro Bonaiuti's book was published in 2013, but the complex feedback loops between social, biological and material systems will be explored in greater depth in the 2023 edition.
- ⁴ The second law of thermodynamics (the law of increasing entropy) is based on the model of a closed system. In contrast, the Earth is actually an open-steady system formed by a circulating system of water and soil that cools the excess thermal energy released by economic processes (*This point is explained in detail in the works of Yoshiro Tamanoi and Takeshi Murota). However, today's accelerated progress of climate change and the analysis of a number of IPCC reports show that human activities are destroying the balance of the global ecosystem to an extent that even the open Earth system cannot cope with.
- ⁵ A pioneering study that proposed the concept of social morphology was the study of Eskimo society by the anthropologist Marcel Mauss (1950): As for Mauss' anthropology, his work on symbolism as represented by the theory of the gift influenced the French "anti-utilitarian movement in the social sciences (M.A.U.S.S.)" (e.g. Alain Caillé) and the degrowth movement (*décroissance*) (e.g. Serge Latouche). His study on technologies and body has also been re-evaluated in recent years by the British anthropologist Tim Ingold and others (see, for example, Tim Ingold, *The Perception of the environment*, London: Routledge, 2000). However, Mauss' work on social morphology was not explicitly discussed in these schools of thought. On the other hand, Yoshiro Tamanoi, a pioneer of ecological economics in Japan, proposed a perspective that interprets entropic processes as "material morphology" in dialogue with Georgescu-Regen's theory. This conception may offer the possibility of reframing Mauss' social morphology within the metabolism of the Earth system. Let us call this perspective "economic morphology", based on Tamanoi's particular field of research. To put it in Karl Polanyi (1977), the "economy" here, however, does not refer to the formal economy in the narrow sense of the term, but to the substantive economy in the broader sense.
- ⁶ The adjective *cultural* in '*la culture culturale*' originally referred to the act of cultivating the land through agriculture. In Latouche's thought, this meaning is more generalised to include all the techniques of life that come from the communion with the natural world. It is a concept that corresponds to '*le vernaculaire*' in the writings of Ivan Illich.
- ⁷ The Latin American post-development practices that Escobar seeks to make visible through his post-structuralist ethnography are located in the realm of nature-culture made invisible by the spatial power of modern Western development discourses. This point is particularly articulated in Escobar (2008).
- ⁸ For example, Shiva (2005) introduces an Earth-centric perspective in her theorising of Earth democracy. Escobar (2018) introduces relational ontology as an alternative to the modern dualist ontology that separates culture from nature. In his work on degrowth, Latouche (2010), whilst retaining humanist critique of development such as Illich, Gorz, Ellul and Castoriadis, also revisits diverse cultures outside Europe which have cultivated non-productivist ways of living in harmony with nature. All these theorists seek to overcome the anthropocentrism of the modern West in their respective manners and call for the pluriverse.
- ⁹ This is particularly true of the writings of Mauro Bonaiuti (Bonaiuti 2023).
- ¹⁰ Nakano (2016) is a Japanese language paper that summarizes the three viewpoints of political science, economics and aesthetics. Nakano (2019) is an English-language paper that adds a new ethical perspective to the argument.
- ¹¹ Translation from Nakano (2019, 44).