Special Issue
Infrastructure Politics

Infrastructure Politics: Questioning Reliability of Modernity and Its Basis

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INTRODUCTION

It has been more than six years since the Great East Japan Earthquake occurred. Even now, vast and several problems remain in the process of reconstructing tsunami-devastated areas and responding to the Fukushima Daiichi nuclear accident. At the same time, Japanese society has faced a turning point. For instance, the National Resilience Act was enacted in 2013. Infrastructure development has been again expanded, while public works have been downsized under neoliberalized national policy since the last half of 1990. In the Greater Tokyo Area, renewal of urban spaces is underway, in preparing for the Tokyo 2020 Olympic and Paralympic Games. The Japanese government has increasingly promoted the export of infrastructure systems that include not only railways, roadways, and waterworks but also nuclear power plant development. It is not only in the realm of infrastructure that the government has promoted exportation: in 2014, the government relaxed its restraint on the exportation of weapons. In addition, through enacting the Act on the Protection of Specially Designated Secrets in 2013 and National Security Acts in 2015, the government has radically changed its national security policy. Further, social movements or street-level protests against such policies were activated. What will the disaster then mean for Japanese society? It is too difficult to explain such changes through referring simply to a "shock doctrine" (Klein 2007).

Indeed, since the Great East Japan Earthquake occurred, academic researchers have accumulated findings about various damages in tsunami-devastated areas, or about experiences of evacuees. On the other hand, it seems that the reality of the experiences of the disaster has been more and more segmented and fragmented under academic knowledge. Moreover, it also seems that the validity of experiences of the disaster has been evaluated and ordered under scientific or academic criteria. Then, such a situation requires theoretical perspectives that contribute to synthetic insight into the impact of the Great East Japan Earthquake. However, from the beginning, is such a theoretical perspective practical? This special issue entitled "Infrastructure Politics" is composed to wrestle with this difficult assignment.

Before each article included in this special issue, this paper will attempt to reveal the actuality of the sphere of problems concerning infrastructure politics.

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This paper attempts to consider the following two points. Firstly, how should infrastructure that supports the reliability of modernity be constituted? Secondly, where is the force to command infrastructure politics, and how can allocation of this force be grasped? Lastly, based upon these considerations, this paper will introduce each article included in this special issue.

INFRASTRUCTURE POLITICS AND THE CRISIS OF RELIABILITY OF MODERNITY

Experiences in Tokyo and Taro District under the Great East Japan Earthquake

It is necessary to reveal what kinds of crises people have experienced under the Great East Japan Earthquake in order to give consideration to the politics caused by the experiences of the disaster. The following two illustrations will be helpful in this regard.

The first case regards the experiences in Tokyo following the Great East Japan Earthquake.[1] Despite the fact that the earthquake measured an upper 5 on the seven-point Japanese scale, human and material damages were relatively slight in Tokyo. On March 11, 2011, the disorder of transportation systems caused a large number of stranded commuters, but such confusion dissolved on the following day (March 12). Rather, it was after March 14 when rolling blackouts began that Tokyo experienced more serious confusion.[2] Then, after March 23 when it was revealed that radioactive material mixed with tap water, the confusion in Tokyo escalated even further.[3] At this point, multiple infrastructure systems in Tokyo that required a stable supply of electricity and water fell into malfunction. People who lived in Tokyo were forced to individually confirm whether the tap water and electricity were usable in their urban daily lives. Consequently, even though the human and material damages were slight, urban daily life in Tokyo was disrupted.

The second episode regards the experiences in Taro District, Miyako City following the Great East Japan Earthquake.[4] Taro District has been struck by tsunamis many times in the past. In particular, the Sanriku Tsunami of 1896 caused catastrophic damages to Taro District. During the reconstruction process after the Sanriku Tsunami of 1896, Taro District attempted to design streets suitable to evacuation passages from the tsunami, and constructed a huge seawall. The seawall had been extended continuously until the X-shaped seawall (10m in height, with a total extension of 2,433m) was completed at the time of the Great East Japan Earthquake. However, the tsunami caused by the Great East Japan Earthquake rose above and destroyed the seawall, and Taro District was devastated by the tsunami. Despite the fact that the human and material damages were severe, people who lived in Taro District did not necessarily lose their confidence in the seawall. Some people in Taro District expressed that "if there were no seawall, I would not be saved even if I tried to evacuate toward higher ground."

Infrastructure Politics and the Crisis of Reliability of Modernity

What was disrupted in Tokyo at the time of the Great East Japan Earthquake (and was not necessarily disrupted in Taro District) was the reliability of modernity of our society. Sociology, one of the empirical sciences that allows investigation of modern society, has revealed that exhaustive pursuits of rationality have been the basic principles of modernity in our society.[5] It may be correct to state that modernization involves projects that seek to bring about rationality, predictability, or computability in the world. However, there are hidden premises that enable such modernity. For instance, institutions that

enable pursuance of modernity will function only with the plausibility that others should obey those types of institutions and act according to similar criteria of rationality, predictability, or computability. It is only when rationality, predictability, or computability are reliable that modernity in our society proves to be practicable. Then, the crisis experienced in Japanese society under the Great East Japan Earthquake was a crisis of reliability of modernity. Political circumstances and the trends of Japanese society as referred to at the beginning of this paper would also come to be comprehensible in terms of the politics in which the reliability of modernity is disputed.

It is also important to question, in regards to our daily life, what has supported the plausibility of rationality, predictability, or computability. This paper defines infrastructure as the basis that supports the reliability of modernity in our daily life. According to this definition of infrastructure, the politics in a post-disaster situation in which the reliability of modernity is disputed can be referred to as infrastructure politics.

TOWARD AN ANALYSIS OF INFRASTRUCTURE POLITICS

"Infrastructural Turn" and Assemblage-based Approaches in Urban Studies

How may infrastructure that supports the reliability of modernity be constituted? Two episodes illustrating the experiences in Tokyo and Taro District under the Great East Japan Earthquake show that infrastructure is neither constituted in the sphere of the social, nor in the sphere of the material. Rather, infrastructure is constituted in the sphere between the social and the material, or between human and nonhuman. Infrastructure should be understood as an assemblage of the social and the material, or human and nonhuman, that supports the reliability of modernity of our society.

From this point of view, assemblage-based approaches in urban studies are useful in the comprehension of infrastructure as human-nonhuman assemblage.[6] Originally, urban spaces were spatialized and materialized mechanisms that attempt to deal with risks to human society and the urban has consisted of assemblages of complex infrastructures.[7] The urban, then, is situated in the critical point of infrastructure politics. Therefore, it is reasonable that assemblage-based approaches are helpful to grasp infrastructure politics.

Assemblage-based approaches apply the general ideas of the Actor Network Theory to urban studies and attempt to grasp or describe the urban as a network or assemblage of heterogeneous constituent elements (Farías and Bender eds. 2009; McFarlane 2011a, 2011b).[8] According to the basic ideas of the Actor Network Theory, assemblage-based approaches deal with human and nonhuman (or the social and the material) horizontally, as constituent elements of urban assemblage.[9] Then, assemblage-based approaches attempt to grasp the constituent process of urban assemblage through describing the assembling, reassembling, or disassembling process of heterogeneous constituent elements.

Specifically, infrastructure studies as one of the assemblage-based approaches have focused on the basis that supports the modernity of our society or urban daily life (Graham and Marvin 2001).These bases of modernity and urbanity of daily life are usually invisible and occur in a black box. However, such bases come to be visible when ordinariness in our urban or modern daily life is cut off. For instance, Graham (2010) attempted to approach a visualization of the basis of modernity and urbanity through focusing on the breakdown of infrastructure under disaster, war, or terrorism.[10] According to infrastructure studies, focusing on infrastructure enables us to approach a constitution of the basis of modern urbanity. Such conversion of perspective

on the urban is referred to as "Infrastructural Turn" (Graham 2010; Giddens and Sutton 2013).

On the other hand, however, assemblage-based approaches including infrastructure studies have been criticized by urban political economy (Brenner et al. 2012; Storper and Scott 2016). In particular, an urban political economy insists that assemblage-based approaches naively grasp or describe urban assemblage out of the political and economic context.[11] From this point of view, assemblage-based approaches seem to relinquish attempts to describe or explain structural forces that determine the assembling, reassembling, or disassembling process of urban assemblage. Then, assemblage-based approaches are required to respond to such criticism.

Toward Analysis of Infrastructure Politics

In order to respond to criticism by an urban political economy, it is necessary to connect assemblage-based approaches to an analysis of forces that determines the assembling, reassembling, or disassembling process of urban assemblage. In this case, the theoretical problem to be solved is how to think about the allocation of forces that enable the potential transformation of urban assemblage. This theoretical problem is also critical in the analysis of infrastructure politics.

Then, how have existing urban studies thought about the allocation of forces transforming the urban or urban spaces? The Chicago School of urban sociology presumed that the character of urban society is determined by ecological factors such as size, density, or heterogeneity of the population (Wirth 1938). Urban political economy including new urban sociology, another approach in urban studies that criticizes the Chicago School of urban sociology, emphasized the macro-structural context in which urban society or urban spaces are situated. For instance, Castells (1977) focused on the over-determination of urban spaces in the economic,

political, and ideological level, and Harvey (1985) tried to explain the production of urbanization according to a capitalist mode of production. In another approach to the urban, Lefebvre (1974) theorized the production of spaces including urban spaces as dialectic relations between "spatial practices," "representations of space," and "spaces of representation."

On the other hand, according to the ideas of assemblage-based approaches, transformation of urban assemblage has occurred in a chain of impacts on the assemblages that began at the emergence or identification of a new consistent element. In other words, assemblage-based approaches consider that the potential for transformation of urban assemblage is located in the transforming process of the assemblage caused by the emergence or identification of a new consistent element.

In fact, the urban political economy is a readily available approach to clarify structural contexts upon which consistent elements of urban assemblage are located. However, transformation of urban assemblage is not necessarily ruled by absolute structural determination. That does not necessarily mean that the transforming process of urban assemblage is ruled by absolute contingency. Then, it is necessary to approach the allocation of forces that canalize chained impacts on the urban assemblage, excluding every thought of absolute structural determination or absolute contingency.

When focusing on the fact that the transformation of urban assemblage is caused by the emergence or identification of a new consistent element, the constituent element that can identify or recognize the emergence of a new constituent element and its impacts should play an important role in the transformation process of urban assemblages. Therefore, critical and theoretical approaches to infrastructure politics require an analysis of the struggle concerning identification or recognition

of such a new constituent element.[12] In addition, struggles concerning what types of elements can identify or recognize such a new element and occupy such unique positions in assemblage should also be a focal area in analyzing infrastructure politics.

CONTENTS OF THIS SPECIAL ISSUE

The Great East Japan Earthquake revealed how our urbanized daily life deeply depends on the complexity of infrastructures. Firstly, this paper argues that infrastructure is constituted of the assemblage of human and nonhuman, or of the social and the material, and suggests that political circumstances in a post-disaster Japan would be comprehensible in terms of the infrastructure politics: politics in which the reliability of modernity is disputed. Secondly, this paper argues that infrastructure studies or assemblage-based approaches in urban studies can contribute to the comprehension of such constitutions of infrastructure. Through the critical consideration of ideas adopted in assemblage-based approaches, this paper argues that constituent elements that can recognize urban assemblage from the internal assemblage should play a critical role in the assembling, reassembling, or disassembling processes of the urban. The considerations in this paper simply operate as a first step in approaching infrastructure politics. Each article included in this special issue offer useful perspectives in the theoretical considerations approaching infrastructure politics.

The articles proposed by Nishikawa and Sunaga both focus on the interface between the social and the material, or of human and nonhuman. Through a theoretical review of recent literature concerning governmentality and the notion of milieu as proposed by Michel Foucault, Nishikawa argues that there is the advantage of the perspective of governmentality in regarding the material element of the city and

discovering the power operation within it. Nishikawa further reveals that urban infrastructure is understood as a means for intervention into human life. On the other hand, focusing on the West End of London in the mid-Victorian era, Sunaga describes the reception process of crinoline by servants. Sunaga shows that modernized and urbanized subjects emerged from the interactive process between servants and crinoline.

Then, the articles of Haraguchi and Iwadate particularly focus on urban infrastructure, and argue intervention power and counter-power. Referring to David Harvey, in the first place, Haraguchi defines infrastructure as a built environment that is produced under capitalism. However, Haraguchi emphasizes that the production of infrastructure is not solely an economic process. Focusing on the historical geography of Kamagasaki (known as a job market for day laborers) and describing how day laborers become victims of infrastructure, Haraguchi discusses the possibility of a true "people's infrastructure." On the other hand, through review of the notion of collective consumption by Manuel Casttells, Iwadate proposes a theoretical task to re-conceptualize state interventionism in neoliberal capitalism. Focusing on the crisis of the Tokyo water supply system under the Great East Japan Earthquake, Iwadate argues on the availability of the perspective of translation in the Actor Network Theory in investigation into the materiality of intervention.

As Iwadate's article also mentions,[13] knowledge that enables us to comprehend chaotic situations of infrastructure plays a critical role, when reliability of modernity falls in to a crisis. While scientific knowledge has been privileged in such knowledge, existing scientific knowledge has been contested since the Great East Japan Earthquake or Fukushima Daiichi nuclear accident occurred. The validity of such knowledge, then, has become a critical issue in infrastructure politics. Motonao Mori's article is concerned with this particular argument. Referring

to Whitehead's philosophy, Motonao Mori criticized narrowly specialized and fragmented scientific knowledge or "fast science," and offered the wisdom of concreteness as an alternative.

Originally, the regionalization of nation-states and the process of making infrastructures are indivisible, leading to the assertion that infrastructure is not only the basis of modernized society but also the basis of a nation-state. Therefore, the military or naked power of a nation-state comes to be visible, when infrastructure is destroyed. Focusing on the role of the military as an agent in disaster rescue, Keisuke Mori argues how military reason has emerged in civil society. Keisuke Mori's article also points out the geographical differentiation of social awareness of the military.

All authors of the articles in this special issue were also presenters for the three interdisciplinary workshops on "Infrastructural Perspective on the (Re)Formation of Contemporary Society: Events, Scenery, and Governmentality," held in December 2013 and January and February 2014, Hitotsubashi University. For more information, see the report of workshops added to the end of this special issue.

Notes

1 The Study Group on Infrastructure and Society focused on the urban experience of the Great East Japan Earth Quake in its bulletin, *Disaster, Infrastructure and Society* No.4 (Special Issue: Disrupted Tokyo). See also *Disaster, Infrastructure and Society* No.1 (Special Issue: The Great East Japan Earthquake Chronicle).

2 The rolling blackouts were caused by electricity shortages due to the Fukushima Daiichi nuclear accident.

3 The radioactive material was scattered by the Fukushima Daiichi nuclear accident.

4 Taro District in Miyako City is situated in the coastline of Iwate Prefecture.

5 For instance, capitalism and bureaucracy are included here.

6 The Great East Japan Earthquake made use of assemblage-based approaches visible. In Japan, under the neoliberalization of urban governance, the technologies based on human engineering have increasingly influenced the urbanized sphere. Then, before the disaster, urbanized spheres grew to prove suitably grasped through assemblage-based approaches.

7 Therefore, a breakdown of infrastructure increasingly influences urbanized society as it deeply depends on such infrastructures.

8 It is a most basic idea of the Actor Network Theory that the disposition of network or assemblage is determined in relations between constituent elements of the network (Callon 1986; Latour 1991). From this point of view, the Actor Network Theory follows the basic idea of structuralism. However, the Actor Network Theory is original in the non-anthropocentric idea that deals with human and nonhuman (or the social and the material) horizontally.

9 According to DeLanda (2006), a basic idea of understanding the social as assemblage comes from Deleuze and Guattari (1987).

10 Another approach in infrastructure studies focuses on the relation between regionalization of modernized society and the process of making infrastructures. For more information, see Badenoch and Fickers eds. (2010) or Högselius et al. (2013).

11 For instance, see the indication of Brenner et al. (2012): "In explicitly rejecting concepts of structure as remnant of an outdated model of social science explanation, or simply ignoring the questions raised by such concept, ontological approaches to assemblage analysis deprive themselves of a key explanatory tool for understanding the sociospatial, political-economic, and institutional contexts in which urban spaces and locally embedded social forces are positioned" (Brenner et al. 2012: 128).

12 From this point of view, expertise on design, production, operation, or maintenance of infrastructure is critical in transformation of urban assemblage including infrastructures. Expertise on urban planning, civil engineering, or architecture mentioned in Ueda (2013) is one illustration.

13 Focusing on the crisis of the Tokyo water supply system, Iwadate argued that expertise played an important role in comprehending the situation that occurred when radioactive materials were detected from tap water.

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