

Research on Chinese Urban Modernity Issues From the Perspective of Technology Rational Critique

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With the development of urbanization, metropolises and megapolises are emerging. Urbanization is being completed with the driving force of capital; meanwhile, technology has achieved the quest of capital. In this thesis, in light of Henri Lefebvre's ideology of technology rational critique, Chinese urban modernity issues under the perspective of technology rational critique were analyzed, including issues like eroded urban texture, urban mechanization, and urban segregation. The technology rational root of Chinese urban modernity issues was discussed from the turn of technical artifacts from design intention to application intention. In the end, possible methods to solve these Chinese urban modernity issues were illustrated based on Henri Lefebvre's urban development theory.

Keywords: technology rational critique, urban modernity issues, technical artifacts, turn of intention

China is currently in a stage of rapid urbanization. Lots of significant achievements have been made, for example, the construction of the Hong Kong-Zhuhai-Macau Bridge, which is considered as the world-famous result of technological innovation and the milestone of the world's history of bridge construction technology. The bridge realizes the land route connection and promotes the urban construction and development in three cities. However, throughout the process of urbanization, we can see that innovation and progress of technology have also brought certain problems to the growth of cities. Therefore, in this thesis, while the emphasis was put on the urban development promoted by technology, urban modernity issues were also discussed.

Henri Lefebvre (1901-1991), the famous French ideologist, was the acknowledged "father of critique theory of everyday" and "father of modern French dialectics". He was the founder of space production theory, who had analyzed in detail on urban problems in his work. Lefebvre had always paid much attention to urban problems and he had made deep discussions on it based on urban rights, urban revolution, and space production theory. In his view, there was inseparable connection between the formation of urban society and the development of technology.

Henri Lefebvre's Critical Ideology of Technology Rational Critique

Henri Lefebvre held a critical attitude to technology reason. His logical approach mainly started with the belief that technology reason was the root of modernity and he suggested that in the development of

modernization, due to the dependence on technology, modernity would blindly pursue reason. Henri Lefebvre also believed that the emphasis of technology reason on efficiency, regulation, and innovation would lead to fragmented daily life, mechanized human behaviors and people would be stuck in material restraints.

The Emphasis of Technology Reason on Efficiency Will Make Daily Life Fragmented

According to Henri Lefebvre, technology was a means and also a way of existence for daily life. On the one hand, out of the pursuit of efficiency, technologies as means had promoted the infiltration of technical artifacts in every aspect of people's daily life, and they were separating daily life into several social worlds where systems were mutually justified but were absent from totality. He elaborated on this view mainly through the representative of technical artifacts—the automobile. He suggested that in everyday life-world, automobiles would isolate people from one another while gathering them to the same place. This kind of isolation was “noncommunicative simultaneity”, which meant that every system would enclose themselves and become separated from each other. On the other hand, technologies as ways of existence would realize the pursuit of efficiency by cutting down the distance between things and human in daily life. When there was no distance between things and human, they would become similar to images or symbols, with no “history” nor connection. Also, daily life made up of these single “things” would naturally lose their “sense of reality” and “origin”, thus becoming fragmented.

The Emphasis of Technology Reason on Regulation Will Lead to Mechanized Human Behavior

Henri Lefebvre thought that technology featured strong regularization and it required strict discipline in machine production. In machine production, people had to cooperate with the “monotonous” regulation of the technology system. Therefore, people's functionality and stability should be enhanced but their creativity would be inhibited so that they could work completely in accordance with the labor division and even consider themselves as a link of the industrial production line or a component of machine production. People were atomized and abstracted, and “The world became a ‘factory under control’ thus entering an era of ‘mechanical reproduction’, while daily life was pressed into a ‘flat surface’” (Wu, 2007, p. 135).

Variation and complexity were forced to collapse. In the meantime, the requirement of technology reason on discipline created “isolation” among individuals, especially in the working class. The all-round development and social relations of workers were shadowed and they were stuck in the colonization of technology reason, hence losing their historical direction and mission.

The Emphasis of Technology Reason on Innovation Will Make People Stuck in Material Restraints

Henri Lefebvre believed that the pursuit of innovation made technology reason establish a “fashion system” in people's daily life, and “Fashion governs everyday life by excluding it, for everyday life cannot be fashionable and therefore is not” (Lefebvre, 1994, p. 165).

Due to their fear of being “out of date”, people would keep pursuing the most “fashionable” technical artifacts and different daily life classes were formed based on the “fashion” degree of the technical artifacts they possessed during the pursuit. At the same time, technology reason worked with capital in embellishing the fancy technical artifacts into consumption goods, thus creating consumerist society “Make-believe”.

Make-believe as such is part of everyday life, everybody expects his daily (or weekly) ration; yet make-believe has a specific role in relation to everyday experience (compulsions and adaptation): it must disguise the predominance of compulsion and our limited capacity to adapt, the bitterness of conflicts and the weight of “real” problems. (Henri, 1994, p. 90)

Consumerist society “sham” led by technology reason not only provided consuming objects for human, but also shaped human into consumers and made them the materialized symbol marked by consumption goods.

Urban Modernity Issues

As technology has been deeply rooted in urban development, technology reason, by virtue of the efficiency, regulation, and innovation it has advocated, plays a positive effect on the promotion of urbanization. While we observe urban development from the perspective of technology rational critique proposed by Henri Lefebvre, however, it's not hard to find that the urban modernity issues come into being subsequently.

Urban Textures Are Eroded by the Efficiency Orientation of Technology Reason

Technology plays a key role in propelling the expansion of urban space in terms of its unique efficiency orientation. As building technologies have improved dwelling space, the enormous migration population brought by urbanization has gained satisfaction in the need for “settling down”. Transportation duration at long distances has been cut short by building highways, railways, expressways, and viaducts. Consequently the size of urban scale is no longer limited by walking distance, and the expansion from downtown to the outskirts has been realized. Nevertheless the efficiency orientation of technology reason has eroded urban textures to some extent.

On one hand, the efficiency orientation of technology reason has eroded urban space textures. The efficiency orientation of technology reason leads to its results-oriented “technical solution” regarding urban space. In pursuit of the high-speed production of space, the key elements of space systems like natural environment, urban structure, urban function, and urban morphology have been somehow overlooked, and even sacrificed. For instance, “building technologies” expand dwelling space towards vertical heights, which has transformed the existing multiple settlement structures and living environments, resulting in the monotonicity of settlement structures. To realize the expansion of traffic networks, “traffic technologies” have massively assarted lands to pave railways and highways, and popularized the use of private transportation vehicles, thus making the city more convenient for the free circulation and aggregation of people and goods. But in the meanwhile due consideration has not been given to the rational planning of road networks and the bearing capacity of urban space, moreover the natural environment has been damaged to a certain degree.

On the other hand, the efficiency orientation of technology reason has eroded urban cultural textures. The efficiency orientation of technology reason is normally inclined to emphasize “instrumentality”, and neglect “affectivity”. To observe from the viewpoint inside the cities, it is manifested as the disregard of technology reason towards urban culture and history. Urban culture and history serve as the humanistic foundation for common emotions and collective memories of urban residents, which are mainly coagulated and sedated in urban buildings and the lifestyles of urban residents. However, technology reason, in pursuit of efficiency, copies and pastes modern buildings like “chips off the old block” in each and every city, turning a blind eye to the city's stylistic attributes inherited from history. In the meantime, it fills up the lives of urban residents with fast-food style culture by means of information technologies, which blocks the chance for urban residents to communicate with other people and experience the city. Urban residents, who have been living under the impacts of technology reason, will now and then feel senses of reminiscence and lose; they reminisce about “memories” and “affections” for the past of the city, and get lost because of the strangeness of urban cities. It's a shame that such feelings of “reminiscence and lose” will not last long for the high efficiency of modern technologies will prompt urban residents to lose sight of urban culture and history before long. Suffering from

“collective amnesia”, urban residents will fail to find a “spiritual destination”, and “desperate desires for nostalgia” have become “epidemic”.

Urban Mechanization Issues Under the Regulation Orientation of Technology Reason

The direction of technology reason regulation is the “manipulative” condition to guarantee technological efficiency and function. It not only makes the cities to advance efficiently and rapidly towards preset goals, but also enhances the preciseness and sustainability of urban development tracks. But with the deepening impacts of the manipulability of technology reason regulation on cities, the cities and their residents have become dominated by technology reason, urban diversity are restricted, technical living for urban residents are stipulated, and the prospects for organic life have become obscure.

On one hand, the regulation orientation of technology reason restrictions on urban diversity. In disregard of the cities’ types, geographical characteristics, cultural features, and historical traditions, the direction of technological reason rules will always make manipulative optimization for the cities as a whole, rather than makes concrete plans for them as unique individual units. Speaking more specifically, such modern technological plans of regularization are monotonous in general. Modern cities of the same style and filled with industrial atmosphere have emerged one after one incessantly. And urban development is no longer possessed with uniqueness and diversity in that the cities are confined by the shackles of the blueprints of modern technological regulation. There are even more concerns about the repeat of urban states in the industrialization period, that the cities might be led to the previous track of industrialization by technologies, which would drive the cities out of their own developing routes, and put them into the developing modes predetermined by technology reason. Perhaps the development issues in terms of physical space have been addressed somehow, but the cultural traditions sedated in every city, as well as the characteristic urban images, local landscapes, and emotional space which are generated by them have also become subject to the regulation of technology reason. The enduring attraction and sense of belonging, which are built upon the sediments between the cities and their residents after a long time, will gradually fade away at last due to the embarrassing situation in which “a thousand cities have the same look”.

On the other hand, the regulation orientation of technological reason stipulates technical living for urban residents. Technological reason rules prevent people from living in a laid-back way, and plunge them into an atomized living mode in the running system of the cities. The direction of technology reason regulation has made various urban space forms like “resource and geographic space”, and “culture and social space” to evolve into the current “cyber digital space”. Informationized urban space forms have been a strongly dominant factor regarding the working style, living style, and cultural selection of urban residents. Concretely speaking, technological reason, especially the regulatory direction of information technologies, has trapped urban residents in predictable urban lives which operate effectively, precisely, and mechanically. In such urban lives dominated by reason, the acts and minds of urban residents have become regularized, and urban culture has become prone to monotonicity under the dominance of technology reason. By losing urban culture gradually, urban residents have been deprived of the paths to “reminisce”, “savor”, and “inherit” the history of the cities. In addition, urban residents have even been reduced to atomized beings in the urban running system, just like goods on the industrial production line. For residents in modern cities, urban lives are no longer laid-back, but mechanical instead, while the city has become merely a place to live rather than a place to settle as a place called “home”.

The Urban Isolation Issue Under the Innovation Orientation of Technology Reason

The innovation orientation of technology reason can accumulate natural and social resources to largest extent in order to realize the constant renewal of technical artifacts. When it is applied to urbanization process, it could provide not just technical artifacts in a steady stream, also substantial resource support for urban development to big city, even megacity. However, when resources accumulate excessively in the city which generates the urban monopoly of resources, the city will occupy the countryside's physical and affective space. Once the resource accumulation cannot level off inside the city, the issue of urban map will come into being consequently.

On one side, the innovation orientation of technology reason caused urban sprawl. The innovation orientation of technology reason formed an "implosion" of resources in the city which supported the urban constant sprawl to change countryside into suburb and form a large or ultra-large city complex. Because of large spatial span, the countryside swallowed up by the city changed into the urban community which could be reached only by vehicle. Traffic inconvenience and relatively backward infrastructure compared with urban center resulted in extremely serious population loss, even that some places changed into "empty city" of high vacancy rate. Meanwhile, the people who flowed into urban center had a "rejection reaction" on the urban life for their low degree of modernization. Both their living habits and thoughts were out of step with the inhabitants in the city. Both sides did not care for each other with apathy. Even though they coexisted in the same place, they had irreconcilable affective isolation.

On the other side, the innovation orientation of technology reason caused urban map. The resources accumulated by the innovation orientation of technology reason inside the city could not level off; different urban places were graded according to resources obtained. People in the city entered into the places in different grades depending on their wealth; their status was "tied" consequently by where they were, the people who were in the place in the same grade united into "reciprocal and equal" community group. Therefore, when relatively "high-grade place" became the trophy of the rich, the salariat or lower-income group had to live in "low-grade place". As a result, they lost comparatively perfect service and infrastructure, upward mobility provided by "high-grade place". Inequalities appeared in urban communities. Accordingly the city presented the mode of urban map interlaced by "high-grade place" and "low-grade place".

Technological Rational Root of Urban Modernity Issues

As technology develops, the city is full of technical artifacts. Even the city itself has been renovated by technology into a huge technical artifact. "Technical artifact is the external expression of technological realization" (Wu, Fu, & Qi, 2019, p. 113).

Technical artifacts are non-natural things that are designed and used. Due to the complicated subjective intention of the designers and users, technical artifacts, while applied in the city, trigger "intention turn", which is exactly the technological rational root of urban modernity issues.

Intention Construct of Urban Technical Artifacts

Different from natural objects, technical artifacts are synthesis which integrates people's subjective intentions, objects' objective attributes, and the social practice of technology. If only inspecting technical artifacts from people's subjective intentions, it can be interpreted as "the products of designers' intentions".

“Instead of originating from nothing, designers’ intentions have three origins, including social intentions..., users’ intentions ...and designers’ intentions...” (Yang & Wu, 2008, p. 32).

Based on the intention origins above, urban technical artifacts are the component used for infrastructures in urban physical space. When implementing design, designers should take subjective and objective factors such as urban cultural environment and natural environment into consideration from the perspective of social intentions, thereby ensuring that urban technical artifacts have consistent attributes with the cities. Then, they should make clear urban people’s dominant intentions like direct use appeal, while give consideration to their recessive intentions such as behavior modes, daily habits, psychological characteristics, thus to improve users’ satisfaction for technical artifacts. Finally, starting from the designers’ intentions, they are subjected to the influence of their own value system and aesthetic orientation imperceptibly in the process of design.

The diversification of urban technical artifacts’ origins determines the diversification of its intention construct. Users’ intention, social intention, and designers’ intention are reflected in the urban technical artifacts, forming its function intention, value intention, and ethic intention. Function intention indicates the physical structure and technical function of urban technical artifacts, which are its application range and method in cities. Value intention is its social value, namely, the endowed political, economic, cultural, ecological, and aesthetic value orientations. These value orientations either exist alone or coexist in the urban technical artifacts. Ethic intention is the moral condition and human category of urban technical artifacts, which demonstrates designers’ ethic responsibilities and the society’s ethic restraint for them.

When urban technical artifacts are used in urban construction and renewal, their design intentions will be transformed due to urban planner’s value selection, ethic viewpoints, and power structure. Truly, some of these transformations are adjustments aiming to adapt to the actual situation of cities, but some are subjective changes imposed by the urban planner blindly and forcibly on the design intention of urban technical artifacts.

Intention Turn of Technical Artifact in the City

First of all, symbolized turn of function intention. The function intention of urban technical artifact should be the most fundamental and profound intention, which even has developed into a conditioned reflex of modern people. For example, road is for transportation, and civil buildings are for living and residence. However, out of seeking quick success and instant benefits of urban development, urban planner conducts symbolized turn of the function intention of urban technical artifact. To be specific, some urban technical artifacts, especially those huge, modern ones, are introduced into the urban not for fulfilling the task of maintaining urban operation and increasing urban functions, but for highlighting the so-called metropolis identity of a city. For example, the function intention of flyover should be easing traffic jams caused by heavy traffic, but some cities use it as a modern symbol. Embarrassingly, such symbolic flyovers are idle because of low use rate, or become new “congestion spots” due to improper location. When the function of urban technological artifact meets the symbol demand instead of the development demand of the city, the space system of the city is exclusive to it; while it’s abstract for the human system, it will block and tear the urban texture to a certain extent.

Secondly, instrumentalized turn of value intention. The value intention of urban technical artifacts refers to their social value. However, to seek the constant extension of urban modern function, urban planner tends to treat technical artifacts as products from the assembly line—only paying attention to their “usefulness”. In this way, the value intention of urban technical artifacts is instrumentalized. For example, urban civil buildings used

to carry such social values as optimizing the citizens' living space, keeping up the citizens' common feelings, and continuing the urban history. But urban planner, in order to maximize their space carrying capacity, chooses to build modern high-rise buildings that can increase height and density on a large scale. As thus, the historic significance and diversity of urban appearance are damaged by the instrumentalized value turn of civil buildings. Due to the instrumentalized turn of value intention of urban technological artifacts, the urban will fall into the pragmatic functionalism. The supremacy of function means the loss of cultural, aesthetic, and other humanistic values. Urban development will no longer focus on cultural inheritance and poetic dwelling, but step into the track of standardization and mechanization.

The last, hierarchical turn of ethic intention. Considering the fact that the users and application space of urban technical artifact are respectively the citizens as a whole and the city—as a whole, the ethical intention should be popularity and equity. However, due to the rapid expansion of urban space and urban population explosion triggered by the inflow of migrants, the ethical intention of urban technical artifacts become de-massified and hierarchical. For example, urban roads are built to provide convenient transportation and used equally by all citizens. In reality, however, the road network is denser near the downtown area, where people can enjoy more convenient transportation, while the road network in the suburb is less dense, so that it is not so convenient for people to go out. For city, the hierarchical turn of ethical intention of urban technological artifact means that urban people no longer have urban equally, and the urban rights enjoyed by communities will be differentiated, thus causing spatial and emotional isolation.

The Possibility of Solving Urban Modernity Issues in Beyond Technology Reason

In respect of cities from the perspective of technology reason, Henri Lefebvre thinks that,

Any revolutionary scheme or rational design scheme in the domain of political and economic system cannot demonstrate its limitation and transcend the vision of essentialism and rationalism respectively proposed in Platonism and Hegelianism. Yet they, with no exception, will impose certain technical planning scheme on the social reality in metropolises. (Liu, 2006, p. 367)

Therefore, he proposes to make reforms on people's urban daily life from three aspects, namely technology, poetry creation, and urban right, with urban daily life as the breakthrough to solve the problem.

Technology Serving for Urban Daily Life

“Henri Lefebvre advocates humanization technology and holds that the goal of modernization is humanitarianism and technology is oriented at serving for people's daily life and solving conflicts as well as crisis in modern times” (Wu, 2018, p. 93).

The erosion of urban texture arising from technical rationality needs to be solved through the development of humanization technology. On the one hand, the development of technology should be based on protecting the spatial texture of a city and developing livelihood technology centered on key points of urban construction such as green energy, comprehensive transportation, and ecological environment. On the other hand, restrictions of value and ethics should be placed on the development of technology, adapting technology to the humanity texture of metropolis and thus promoting the protection and inheritance of its culture as well as history. Ultimately, the connection between technology and people's subjectivity in urban areas should be put in a right place, making technology as the guarantee to promote individual equality and free development in urban areas.

The Integration of Technology Reason and Urban Humanities

Henri Lefebvre proposed poetry creation in urban life, which means the creative integration of poetic flavor and urban daily life. In this way, a urban culture with living style while not institutional will come into being, thus creating a new life scenario and living space according to urban people's desire. The poetry creation is characterized by festive style. "In festivals, natural orders as well as people's living orders and their affection are highly intermingled. People exert all their energy and passion freely" (Liu, 2006, pp. 181-182).

More specifically, we are supposed to make poetry creation to promote the integration of technology reason and urban humanity and surmount monotony and functionalism in urban areas resulted from technical rationality, thus achieving poetic and creative development with multiple possibility of metropolises and people living there.

The Integration of Technology Reason and Urban Right

Henri Lefebvre held that the final goal of urban daily life is to help urban people find their rights to integrate into cities. Generally, the right of integrating into cities is to "possessing cities", which not only refers to, "Right to acquire space of urban, but also more extensive right to obtain and participate in urban life, right to equally use and shape urban and also right to live in urban" (Lefebvre, 2018, p. 28).

The integration of technology reason and urban rights is needed to realize the popularization and equality of the application of urban technological artifacts and break the barrier among human beings, information, and things in cities brought by technology reason based on the tolerating disparities among groups in metropolises.

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