# Towards a Communicative City: Applying a New Framework for Understanding Communication and City

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## Abstract

ince the Industrial Revolution, with the productivity change brought by technology and modern mass media, the distance between time and space has been shortened and the imagined "urban community" has been brought about. Newspapers, television and other mass media can not only have information functions, but also unite and connect people into a whole through the communication network, thus promoting the integration of urban communities. However, with the development of the internet and the explosive growth of urban population, the rise of individualism has made the connection of traditional urban society declared unorganized, and the traditional mass media has also lost its unified integration ability (Bruhn, 2011:8). The city has fallen into an unprecedented communication crisis, and the construction of a coordinated and unified relationship between different individuals has become an urgent problem to be solved. In other words, the global expansion of the modernization process has led to the fragmentation of society, and people find themselves in a modern world that has lost contact with the roots of communicability. Internet technology, which originally hoped to improve the efficiency of social communication, has instead intensified social friction, conflict and differentiation, and "communicability" has become a significant dilemma faced by the media society.

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*Index terms*—

ince the Industrial Revolution, with the productivity change brought by technology and modern mass media, the distance between time and space has been shortened and the imagined "urban community" has been brought about. Newspapers, television and other mass media can not only have information functions, but also unite and connect people into a whole through the communication network, thus promoting the integration of urban communities. However, with the development of the internet and the explosive growth of urban population, the rise of individualism has made the connection of traditional urban society declared unorganized, and the traditional mass media has also lost its unified integration ability **??**Bruhn, 2011:8). The city has fallen into an unprecedented communication crisis, and the construction of a coordinated and unified relationship between different individuals has become an urgent problem to be solved. In other words, the global expansion of the modernization process has led to the fragmentation of society, and people find themselves in a modern world that has lost contact with the roots of communicability. Internet technology, which originally hoped to improve the efficiency of social communication, has instead intensified social friction, conflict and differentiation, and "communicability" has become a significant dilemma faced by the media society.

Nowadays, the rational communication among people in the megacity space is full of obstacles, the "filter bubble" effect under the intervention of algorithm technology makes the social consensus in the public opinion space difficult, and the embarrassment of ineffective communication exists in the network space under the distraction of information attention. Previous urban researchers paid more attention to the system integration of institutions, organizations and policies, but neglected to understand cities from the social integration of

44 communication and interaction (Bridge, 2005;Friedland, 2001). It is precisely because of the breakdown of public
45 communication networks that order and consensus in modern urban society are difficult to establish. With the rise
46 of network society, urban life is becoming more networked and disembedding. Urban communication researchers
47 believe that attention should be paid to the communication potential of urban public space, and transfer their
48 attention to the action potential of communication technology, calling for a new value concept that can rebuild
49 the order of public space, so as to generate "communicative city" and establish a more humanized new idea of
50 the city (Sutriadi & Wulandari, 2014).

51 According to Merriam-Webster's Dictionary of the English Language, communicability can be interpreted
52 in two ways. First, it can be used as a noun "communicability", which first appeared in 1533, referring
53 to the infectious ability of certain diseases in medicine, and also referring to the ability of individuals to
54 communicate. Second, as an adjective communicative, first appeared in 1651, communicative and closely
55 related to communication. It refers to the process of communication, transmission and feedback between people
56 and groups. Therefore, understanding the city from the perspective of communication and interaction means
57 highlighting the unique effect of communication network in forming the city, focusing on the communication,
58 connection and integration between individuals, individuals and communities, individuals and platforms in urban
59 public space. Facing this promising research work, the question is what kind of systematic analysis perspective
60 should we adopt to understand the relationship between communication and city, and then carry out the research
61 of "communicative city"? This study will first clarify the current field of academic discourse by reviewing
62 the academic map of communicative city in communication research. On this basis, we propose a systematic
63 framework for the study of communicative city through the theory of communication ecology.

# 1   II.

# 2   Communicative City as Communication Networks

66 Since the beginning of the Industrial Revolution in the 19th century, urbanization has brought convenience,
67 but also caused serious urban diseases. Among these urban diseases, communication scholars have keenly
68 captured the "uncommunicable" urban disease, that is, the extensive coverage of seemingly new social
69 interconnection technology and intelligent perception technology has greatly improved the current situation
70 of urban communication (Allison, 2008). However, from the loneliness and strangeness of individuals in the
71 city to the cluster of urban contradictions, the urban disease is a fact that connection is more importance
72 than communication. Therefore, communication researchers propose that the first thing to be solved in the
73 process of promoting urbanization is the value of the city, that is, the "communicative city" as a communication
74 network (Carpentier, 2008). Firstly, communicative city is a kind of urban interactive network based on the
75 concept of "network". Understanding the city from the perspective of communication network means taking the
76 intensive interaction between people and the city as the nature of the city. This network includes three aspects:
77 geographical network connected by urban material and capital through media, social network constructed by
78 interpersonal interaction and coordination, and cultural sharing and identification network realized through
79 symbolic symbols. Furthermore, since complex networks are characterized by emergence, dynamics and self-
80 organization, communicative city resorts to the concept of "complexity" to interpret the dynamic change,
81 reorganization and connection of urban communication networks **?**Gumpert & Drucker, 2008). In this sense,
82 the urban communication network has the characteristics of what Castells called "space of flow ", that is, the
83 social consensus space without regional proximity, and the media network constructed by social relations and
84 communication technology is in the process of changing and reconnecting (Castells, 2020).

85 Secondly, communicative city has different evaluation indexes. A study on communicative city by German
86 scholar Kunzmann(1997: 28) put forward the normative concept, he believes that communicative city stresses
87 the role of information communication technologies (ICTs) in city construction, protecting citizens' urban
88 rights from information provision and participation opportunities, creating local identity, civic pride, and civic
89 participation. Kuntzmann's definition emphasizes the social and political dimension of ICTs. The former meets
90 the information and connection needs of citizens' discussion through communication technology, while the latter
91 connects communication with politics, aiming to meet people's needs for political participation. Carpentier
92 (2008), a European communication scholar, also believes that different from the concept of "information city"
93 proposed by Castells, the communicative city has more political implications, namely the ability of citizens to
94 actively participate in and influence urban policies and the ability of cross-regional information flow. He explains
95 the role of alternative media organizations in shaping communicable cities. As a kind of local media hidden in
96 the community and ignored by the mainstream urban culture, compared with the mainstream media, it is more
97 capable of organizing mobilization and media empowerment. Therefore, communicative city should embrace the
98 local "alternative media" and increase the communicable features of openness, respect and inclusiveness. In the
99 view of American communication scholar Jeffres (2010), every community has a communication system. The
100 concept of "communicative city" helps to arouse people's attention on the communication mode that connects
101 people in the city and the relationship between city and communication. It will also help those who plan,
102 design and manage cities to recognize the impact of their activities on communication and how communication
103 in turn affects civil society and sustainable urban development. Specifically, the features of communicative city
104 include six aspects: urban communication mode promotes community attachment; communication connects

citizens of different backgrounds; communication tools, models, and policies that help the most vulnerable members; communication mode supports and stimulates the economic activity of the city; communication systems support community culture; communication patterns help perpetuate community traditions. Drucker & Gumpert (2018) argue that the starting point of urban communication research is that cities are places and products of communication. The communicative city is a moral and idealized concept that shows the urban landscape as it should be. Three seminars on Communicable cities held in 2007-2008 reached a consensus on the characteristics of communicable cities, which are divided into three typical clusters: one is social interaction, with a wide range of places and opportunities for social interaction; Second, infrastructure, the city has a good information communication network; The third is civil society, with strong opportunities for civic participation and political venues. The Communicative City Index has even been created to be incorporated into the urban public policy agenda to encourage cities to provide healthy communication environments (Drucker & Gumpert, 2020).

In general, previous studies have conducted preliminary exploration around communicable cities, mainly focusing on two types of urban public spaces, namely urban public places and urban public media. Firstly, through the exploration of urban public interaction places, the purpose is to explore how the physical space establishes a wide connection between space and people. For example, the qualitative study of public space in urban space, such as historical blocks, community museums, city squares and so on (Drucker & Gumpert, 2020). Secondly, researchers focus on the communication practice of city public media, such as the research on government affairs social media platform (Molinillo et al., 2019). "Communicative city" is essentially a public issue, which is how to rebuild the consensus of social community through rational communication process. Although communicative city is an insightful field of academic research, current research is fragmented and interdisciplinary research is lacking. Therefore, this study proposes a systematic research framework to help clarify how communication forms urban consensus and builds urban community.

# 3 III.

# 4 A Research Framework for Communicative City from the Perspective of Communication Ecology

In the view of communication scholar Kerry Communication, communicative city is not only a study on the communication efficiency of information transmission, but also a study on the social impact of communication (Churcher, 2011). Urban public communication spaces consist of urban public places and public media platforms. How do these media contribute to urban connection and communication? The communication ecological framework provides a middle-level analysis framework and thinking path for the systematic interpretation of "communicative city".

Communicative ecology theory understands communication among groups from a holistic perspective rather than focusing on a single channel of communication. The term "ecology" is used to understand how people interact with each other in a broader public space. Therefore, the research perspective does not limit its analysis to traditional print, broadcast, and telecommunications media, but also to social networking applications, transportation infrastructure that enables face-to-face interaction, and public and private places where people meet and chat (Hearn & Foth?2007). Therefore, it is appropriate to analyze communicative city from the theoretical perspective of communication ecology, which can understand urban communication media and their communication behavior from an ecological perspective. Foth & Hearn (2007) believed that communication ecology has three levels, including the technological layer composed of devices and media capable of communication; social layer is used to describe the social relations of different groups, including informal groups, formal community organizations or social entities such as companies and laws. discursive layer refers to the actual content of interpersonal interaction, stories, understandings, beliefs, and symbols embodied in specific practices. In addition, changes in the technical layer in the communication ecology can affect the social layer and the discussion layer, either accelerating their changes or inhibiting their changes (Hearn & Foth, 2007;Hearn et al., 2014). We believe that communicable city is a multi-dimensional academic field, covering communication technology, communication narrative and communication subject. By analyzing the series of communicable practices of "technology-narrationsubject", this paper provides theoretical reference for finding the reality gap in current urban communication.

# 5 a) The communicability of communication subjects

Although the internet facilitates people's remote contact, different backgrounds, ideas and behaviors converge into the media public space, and there are still obstacles to rational communication among people (Peel & Lloyd, 2008). The communicative city is finally implemented by people, and the action purposes are realized through interpersonal interaction. The communicability of the communication subject means that interactive subject rather than the individual can promote the truly meaningful communication. Therefore, the communicative city must first pay attention to the interpersonal communication effectiveness in the urban public space.

Since the Enlightenment, the exaltation of rationalization has brought about the problem of intersubjective communicability. Habermas believes that modernity is an "unfinished design". Rationalization promotes the development of modern society and makes it legitimate, but it also leads to undesirable consequences in society. In

Habermas's view, the invasion of the economic and administrative systems into the living world with the structure of communication resulted in the colonization of the living world –the constant monetization and bureaucracies of the infrastructure of social interaction (Ingram, 2005). It advocates the transformation from subjectivity to intersubjectivity by reconstructing communicative rationality which is hidden in people's daily discourse structure and shared by interactive participants. With the introduction of modern media, especially social media platforms into urban social life, the former one-way mode of information transmission has been changed. People can express their views on cities in public media spaces such as urban forums, and government administrators can also get feedback to enhance the interactive relationship between the people and power agents. Compared with Habermas' understanding of communicability in the form of subject relations, Mead's symbolic interaction theory and Collins' interactive ritual theory interpret the understanding of communicability in the perspective of action, emphasizing the psychological feedbacks. Around the question "how is meaningful communication generated", Mead believes that the human mind has the ability to understand symbols, through role play, meaning is created in human interaction. There are two basic characteristics of significance: participation and communicability. But only when the behavior made by an individual leads to the gesture of a corresponding response made by another individual, and also leads to the same response in the individual's heart, such communication is meaningful (Meltzer, 1994). Collins understands intersubjective communicability from the perspective of interactive ritual. Communication between interactive agents plays an integrated role in two core mechanisms: mutual attention and emotional connection. Interactive ritual is essentially to establish a communicative subject relationship, which can produce a series of results, including: promoting group unity, common sense of identity.

Both Habermas's "intersubjective" interaction, Mead's "meaningful gesture", and Collins's "interactive ritual" are common in that they emphasize the connection between subjects and psychological feedback. People live in the urban public space, especially the online virtual network space, communication is happening all the time. However, such urban communication space is often filled with fake news, cyber violence, algorithm bubbles, and vicious communication events. The communicative city has become a more urgent social problem in the current media era with increasing uncertainties and risks. The research on the communicative city should first pay attention to the communication subjects and their daily communication effectiveness.

# 6   b) The communicability of communication technology

Communicative city is a communication and interactive network built on certain communication infrastructure. Especially, the rise of networked society makes urban public space increasingly rely on digital media technology to connect people, such as various digital public affairs and public social platforms. The access and use of urban public media platform is another indication to measure the communicative city.

In modern society, media technology has a profound impact on people's daily life. From printing to the internet, from physical space to virtual space, from manual distribution to algorithmic distribution, from interpersonal communication to machine communication, people have entered the stage of "digital survival", and media platform has become the infrastructure for people to carry out computer-mediated communication. From the technical point of view, communicative city focuses on the communication infrastructure in urban public space, which can be mainly carried out from two perspectives: the research on the access process and affordance of communication technology.

The communicable attribute of technology is firstly expressed in the psychological feeling of using media technology. It designs aims to define the interaction between people and products, while also taking into account people's cognitive abilities. Most scholars choose the technology acceptance model to test the relationship between perceived usefulness, perceived ease of use , and explain individual behaviors in media technology use (Serenko & Bontis, 2004). Perceived usefulness refers to the extent to which users perceive the use of a particular technology or system to improve performance. The higher the perceived usefulness, the stronger the user's willingness to communicate. Perceived ease of use refers to the amount of effort a user perceives to use a particular technology or system. The easier the media is to access and use, the stronger the communicability of the media. For example, in various urban public spaces such as museums and memorials, the application of new media technologies such as VR and AR is to effectively improve the audience's spatial experience, knowledge learning and even historical dialogue.

The communicability attribute of technology is also reflected in the affordance of media technology. Gibson, an ecological psychologist, first proposed the concept of affordance based on his interest in visual perception, referring to the action possibility evoked by objects or environments. It is independent of the actor's experience and is related to the subject's perception ??Gibson, 2014:41). Technological affordance captures how objects (including digital technologies) provide functional possibilities for goal-oriented actors to act (Markus & Silver, 2008). This means that media technology has the potential to inspire action, to enable people to have some practical abilities that can be exercised. For example, Majchrzak et al (2013) proposed four kinds of affordance of social media in the study on influencing people to use social media to participate in online knowledge dialogue. Namely, meta voicing, triggered attending, network-informed linkage and generative role-taking. These technology affordance opens up possibilities for people to communicate, connect and act collectively in urban life. To study communicative city, it is necessary to study how the affordance of these communication technologies promotes the dialogue between individuals and cities and is conducive to reaching consensus.

# 7  c) The communicability of communication narratives

From the content level of communication ecology, the study of communicable city also needs to discuss the communication narrative that connects individuals and cities. As the communication infrastructure, the urban public space flows various ideographic symbols such as text and image and the content of face-to-face interaction. However, in order to break through the interpersonal communication dilemma and realize the communicative city, we need to resort to the effectiveness of communication narrative.

Narrative structure and rhetoric affect people's cognitive schema. From the perspective of audience, human is a kind of "narrative animal" with narrative rationality, and individuals will use narrative rationality standard to judge the stories they hear. Narrative rationality refers to the method of judging the value of a story based on two criteria: consistency and fidelity. The former refers to the likelihood of a complete story, the latter to the extent to which the story corresponds to reality (Fisher, 1984). Goffman (1979) believes that people's induction, structure and interpretation of reality experience rely on a narrative framework, which enables people to locate, perceive, understand and summarize numerous specific information. Framework is a cognitive structure used by people to understand and interpret the external objective world. By comparing traditional narrative with communicable narrative, it can be found that traditional narrative is a closed structure with existing meaning and self-contained structure, while communicable narrative is an open structure, in which everyone can talk to each other. Traditional narrative focuses on "language", while communicable narrative focuses on "context". Traditional narrative is a single narrative, while communicable narrative emphasizes polysemous. Different media have their own "narrative attributes". In order to better promote the communication between civil society and government, with the development of China's mobile internet and the influence of policies, a large number of government affairs media have emerged on social media platforms. They show city news, image and charm by elaborately designing lens language, media text and performance image, and promote the relationship between residents, city and government.

Communication narrative has always been the core of communication effect. Communicative city cannot do without communication narrative framework, which highlights the scarcity and efficiency of communication in the increasingly complex network society.

# 8  IV.

# 9  Conclusion

With the growth of urban population and the impact of globalization, relying on urbanization alone is not an effective solution to social problems. "Communicative City" is an interdisciplinary research field focusing on the role of urban communication and interactive networks in urban integration to address social issues in a more effective way. Throughout the current academic research, there is no clear explanation for how to systematically study communicative city. Therefore, this study proposes a framework of communication ecology, which is illustrated from three aspects: technical layer, social layer and content layer.

Urban public space, including offline physical public space and online virtual public space, are valuable public resources that connect individuals and cities to establish more humane communication infrastructure and to enhance effective interpersonal interaction, and to implement more effective narrative persuasion for building communicative cities in the future.

# 9 CONCLUSION

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