Chapter 8
From Public-Private-People Partnerships to Trading Zones in Urban Planning

Raine Mäntysalo

Abstract The chapter reviews critically the complexities involved in the idea of Public-Private-People Partnership (4P) in urban planning. The 4P idea, formulated by Majamaa and his colleagues, reaffirms the domination of the economic communication mode, familiar from Public-Private Partnerships, despite its aim of engaging the "people" in the partnerships. It thus undermines considerations on, e.g., political accountability, legal status, and scientific validity that may emerge in such partnership arrangements. Following Luhmann's social theory, each of these considerations has its own rationale that cannot be subjected to the economic mode of communication. The political, legal, and scientific considerations stem from their own communication modes, each with their own rules. This raises the question of how the coexistence of the different communication modes can be managed in 4Ps, without losing the partnerships' capability to perform. In discussing this challenge, the chapter focuses on the possibility of co-coordination between the communication modes, through the development of tools and platforms for boundary-crossing communication. For this purpose, the concepts of "boundary object" and "trading zone" are examined. Sociological studies in the history of science, by Galison and others, have revealed that different groups of scientists and experts have been able to co-coordinate their activities locally, by developing boundary objects and trading zones for exchanging information and services – despite not sharing their goals and conceptual understandings. A tentative analogy is drawn to "urban living labs." They are conceived as local semifixed platforms that combine spatial facilities and mapping, monitoring, and visualization technologies for the development of boundary objects and trading zones – in co-coordinating different views and understandings on urban planning issues. In this regard, an innate resource of planning is its storytelling approach to communication. In the conclusion, a reconceptualization of the 4P in urban planning is suggested, as a local trading zone of urban planning. Finally, some issues requiring further theoretical work are addressed.

R. Mäntysalo (✉)
Department of Built Environment, Aalto University, Espoo, Finland
e-mail: raine.mantysalo@aalto.fi

8.1 Introduction

Public-Private Partnerships of different sorts have been commonplace in urban planning for several decades. More recently, the concept of *Public-Private-People Partnership* has been introduced to add responsiveness of the partnership to the citizens' needs. However, with the addition of "people" to the partnership, further complexities arise, while some critical issues (e.g., public accountability) remain. This requires further theoretical work.

The aim of this chapter is to examine the theoretical aspects of the Public-Private-People Partnership (4P) idea, especially in reference to urban planning in the Finnish context. The study starts by recalling the development of Public-Private Partnerships in urban planning and then discusses the criticism they have received. The 4P model is discussed as a partial response to this criticism. First, the 4P model by Majamaa et al. (2008) is introduced. Then the narrowness of its approach to local governance is revealed in the broader context of different coexisting modes of local governance. As a potential response to this criticism, the approach of Kuronen (2011) is then scrutinized, as it conceives the 4P as a constellation of different mutually interacting systems. However, as argued below, a more elaborate systems perspective to 4P is needed.

For this end, the *Luhmannian systems approach* is introduced. In his sociological theory, Luhmann conceives modern societies to be constituted of different coexisting function systems that reproduce themselves by communicating in terms of their own distinctive codes and laws. Each function system, such as politics, economics, law, and science, has its own distinctive communication mode that is structured on the basis of its own core distinction, whereby it separates itself from its environment, e.g., government/opposition, ownership/non-ownership, legal/illegal, and true/false.

The Luhmannian approach raises the question of how these different function systems can be mutually coordinated. This is a question that was less considered by Luhmann himself, as he focused more on elaborating the codes and rules of each separate function system. He addressed the issue in his study of ecological communication in modern society (Luhmann 2004). Since, according to Luhmann, ecological communication does not have a corresponding societal function system, ecological goals have to be promoted "indirectly" through the coding mechanisms of relevant function systems that codify ecological issues on their own terms. Thereby the ecological issue appears as a political, economic, legal, and scientific (or other) issue. Striving for an ecological goal would thus entail the simultaneous harmonization of the relevant function systems' own ends – so that the ecological goal would make sense as a political, economic, legal, and scientific (or other) goal, as well.

The 4P concept aims to provide a methodology for the public, private, and "people" partners' cooperation in terms of a joint partnership. Now, if such a

partnership is revealed to have tensions and difficulties, due to the involvement of different communication modes, then the problem is how a more "sensitive" cooperation methodology could be developed that would enable the mutual harmonization of the different goals that emerge with the different communication modes employed by the actors. In this chapter, the focus is on urban planning in particular. Similarly to Luhmann's ecological communication, urban planning can be said not to belong to any societal function system specifically, but to emerge as a societal issue as encoded into an issue having political, economic (and other) implications, each in turn. Then, in order to be successful, urban planning too would entail the mutual harmonization of the different political, economic (and other) goals that emerge when the involved actors "translate" urban planning issues in terms of their respective communication modes.

In theoretically examining the possibilities and methods of harmonizing different coexisting communication modes, Star and Griesemer's (1989) concept of *boundary object* and Galison's (1997) concept of *trading zone* are discussed. When coining these concepts, Star and Griesemer (as well as Galison) were interested in studying the conditions that in certain historical settings had enabled the mutual coordination of actors that, in Star and Griesemer's terms, belonged to different "social worlds." According to Star and Griesemer (1989), such objects can be taken into use, or purposely designed, so that they are robust and flexible enough to be used across the boundaries of these different social worlds – as tools for sharing or storing information or as shared objects of action – while, at the same time, these objects would permit their use in the inner, more elaborate operations of each social world, respectively. A few key boundary objects can be combined to provide a local platform for the co-coordination of actors that, while occupying different social worlds, are mutually dependent and stand to gain from reaching the ability to cooperate. Galison built on Star and Griesemer's work, focusing on the emergence and evolution of such local platforms, especially regarding "multicultural" cooperation in the different realms of science, such as nanotechnology and biochemistry.

In this chapter, the trading zone concept is examined as a potential answer to the problem of coordinating different communication modes in the context of urban planning. Can urban planning be conceived as a local platform for coordinating the stakeholders' different communication modes, utilizing such interlinguistic potentialities that characterize trading zones? As we shall see, certain aspects of urban planning have "interlinguistic" power in their capability to communicate across the boundaries of the stakeholders' different "social worlds" or "communication modes."

8.2 Public-Private Partnership

Since the rise of neoliberal political ideology in the late 1970s, first in the USA and the UK, the redistributive welfarism of public planning has been under attack as bureaucratic, inefficient, and reactive. In the aftermath of the 1970s recessions,

public planning was expected to actively support the economy and the functionality of the globalizing markets. In urban planning, instead of guarding the public interest in a regulative manner, municipalities were expected to smoothen planning procedures and regulations and engage in private land development initiatives as a potential public partner and/or provider of different sorts of incentives (see a comprehensive account by Sager 2011).

The Nordic countries have also been heavily influenced by the political ideology of neoliberalism, with the associated reorganization of governmental structures in terms of new public management (NPM). The bureaucratic ethos has increasingly been replaced with operating principles drawn from the private sector, such as competitive bidding, outsourcing, purchaser-provider models, and Public-Private Partnerships. The mode of governance has received traits of *managerialism*. It approaches the municipality as a corporation, offering the municipal council a role resembling a managing board that makes the strategic decisions and hands their operational implementation over to the public officials (e.g., Möttönen 1997). Citizens are seen as customers of municipal services. Roivainen (2002) calls this mode of local governance *service municipality*. It aims at customer satisfaction, and the planning professional is no longer expected to plan for the universal citizen. He/she plans for the customer and for the desired customer especially. It is seen to be in the public interest to attract taxpayers and investors and thereby to promote local growth and competitiveness. What is "good" planning is seen to be identifiable through market behavior.

Regarding urban planning, the key policy tools of NPM are *Public-Private Partnerships*, with market actors having an active role in detailed planning and development projects (see Sager 2011; Mäntysalo 1999; Kurunmäki 2005). Public-Private Partnerships are an American innovation. In the USA they have been perceived as the key for urban revitalization, as the federal revenues for economic development, welfare services, and other urban programs have diminished (Squires 1996: 266). Squires, however, argues that the Public-Private Partnership in the USA is merely a newer name for a long-standing close relationship between private firms and public agencies (Squires 1996: 267). Public-Private Partnerships take many forms (Squires 1996: 266–267; Healey 1997: 267; Mayer 1997: 237–238; Sager 2011). Some partnerships are formal organizations, others informal cooperation arrangements. Some have persisted for decades, working with a multitude of issues, while some others are ad hoc arrangements that focus on a certain project, limited in both time and space. What they have in common is that the private sector receives direct subsidies from the public sector (Squires 1996: 266–267). Among the typical projects are those in which private housing, offices, commercial centers, and recreational facilities are designed for abandoned industrial sites and harbor areas situated close to the city center, which conceal land value development potential. Beyond the actual site, the project usually covers the development of public spaces and infrastructure, as well (e.g., Sager 2011).

In urban planning, the Public-Private Partnership often follows the logic of the plus-sum game, where every party gains a surplus for its investment, be it money or land property. Public-Private Partnerships vary greatly in their openness

and responsiveness to local interests, depending on local political traditions and the current balances of power (Mayer 1997: 239). The partnerships that focus on growth-promising central areas especially often involve an exclusive inner circle that represents selected interests only.

In Finland, Public-Private Partnerships have also become popular in urban planning. As tax revenues and national subsidies have decreased, the competition between municipalities for private investment and taxpayers has also intensified, especially in the urban regions comprising several municipalities (Hytönen et al. 2012, 2013). Following the principle of outsourcing and the associated purchaser-provider model, the Finnish municipalities are increasingly taking part in urban development partnerships of varying sizes. This usually includes a specially administered project plan, based on a private developer's or landowner's initiative. In economically less certain development projects, the municipality may share the risks involved with the private developer. Together with the developer side (the bank, the contractor, the state-managed organization, etc.), it forms a partnership that commits itself to prompt realization of the project.

A typical form of Finnish Public-Private Partnership is the *land use agreement*, concerning the planning and development of an area that is usually privately owned. In a sense, an argument similar to Squires' can be made regarding land use agreements in Finland. As noted above, Squires claims "Public-Private Partnership" to be a more recent name for a long-standing relationship in the US context. In a similar vein, although land use agreement was introduced as a legal instrument as late as 1999 in the Land Use and Building Act, land use agreements became popular already in the 1960s, when Finland became rapidly urbanized, and the rural municipalities neighboring Helsinki especially (e.g., Espoo and Vantaa) were faced with a rapidly growing population. To cope with this growth, the municipalities resorted to land use agreements with the developer-contractors that started to systematically purchase rural land for housing development (Hankonen 1994; Hirvonen-Kantola and Mäntysalo 2014). The basic motivating forces pushing both parties (the developer-contractor and the local government) toward a mutual land use agreement are still the same today. The developer has to depend on the local government's sharing of its aims, as in Finland the local governments are in charge of local land use planning, as they have the so-called planning monopoly. On the other hand, the local government is motivated to reach an agreement with the developer, as it needs the latter's financial sharing of costs for planning and infrastructure (Mäntysalo and Saglie 2010).

A survey of Public-Private Partnerships in Finland was published in 2007, including background data of 43 contemporary cases and deeper analyses of 13 cases (JYMY 2008). The findings of the survey stress the importance of early commitments between the partners to the shared project, in order to minimize the risks and to safeguard the project's smooth progress. In projects such as housing, where the land is usually owned by the private developer, the local government tends to conform to the developer's goals in broad terms. Local governance cultures can differ considerably and, accordingly, the agreement policies vary as well. Written agreement documents are not often used (JYMY 2008; see also Hakkola 2007).

Especially in the early stages of the project, it is commonplace to agree merely on a "handshake" basis, although in some cases a written preliminary agreement has been drawn up, describing common goals and programming of the project. In most cases, the first and only written agreement is the actual land use agreement devised just before the municipal council's approval of the finished detailed plan for the area (JYMY 2008.)

There are also local differences in the division of roles and responsibilities in planning. In large municipalities with sufficient planning resources, the respective detailed planning is conducted by the municipal planning agency, while the private developer is in charge of the area's preliminary planning, in addition to the project implementation design. In small municipalities the actual preparation of the detailed plan may be handed to a private planning consultancy, selected by the municipality or the developer. In these cases, too, the municipal planner's responsibility is to supervise the planning process and coordinate the associated procedures of public hearings, participation, and assessment. Detailed planning and implementation design are usually interlinked. This has been seen to aid in safeguarding developer commitment to the qualitative demands regarding the implementation. On the other hand, there have been difficulties in convincing the public, in the participatory detailed planning process, that planning goals have not been agreed upon beforehand (JYMY 2008; see also Mäntysalo and Saglie 2010).

8.3   4P: Public-Private-People Partnership

Public-Private Partnership planning is problematic from the point of view of the Nordic planning tradition with an emphasis on participation, openness, and the strong action of the local government. On the other hand, the often privately initiated partnership projects require early investments from the private developer, and the management of the risks involved obviously requires some sort of safeguarding through public-private agreements and commitments on the goals of the respective future plan. With the agreements, private law steps in, justifying secrecy on agreed issues, such as financial commitments, duties in implementation, and sanctions for failure to comply with the contract. A severe contradiction with the planning law's principles of participatory planning may follow, if the local government resorts to drafting agreements and planning schemes with the developers regarding the contents of the future plans before starting the official participatory planning processes. The local government may adopt an inherently contradictory role in partnerships where market criteria dominate. As an investor in the partnership, it shares the interest of economic benefit with the private partners, and it is tempted to use secretive strategies in its own planning. On the other hand, as a democratically governed public organization, it is assumed to guarantee public accountability of the plans it produces. It has difficulties in finding an inner balance to discern what ought to be treated as business secrets and what should be considered as public matters (Mäntysalo 1999; Mäntysalo and Saglie 2010; Mäkinen 2000).

The criticisms on Public-Private Partnerships, regarding the lack of public accountability and the loss of responsiveness to citizens' needs, have been raised internationally, not merely in the Nordic context (e.g., Puerari 2014). While acknowledging that Public-Private Partnerships are inevitable under the conditions of global capitalism, Fainstein argues that "what needs to be done is ensure that the public component is more controlling and shares more in the proceeds" (Fainstein 1997: 140).

Reflecting on the criticism regarding the loss of responsiveness to citizens' needs, Majamaa et al. (2008) have proposed the model of *Public-Private-People Partnership* (4P) for public service provision involving real estate development. They examine Public-Private Partnerships within the context of consumer society, where societal relations are seen to be dominated by consumerism. The Public-Private Partnership is approached from the point of view of the purchaser-provider model. The public body (e.g., municipality) is in charge of the public service for its citizens (perceived as end-user customers), and the private actor is contracted to provide this service to the public body. Majamaa et al. (2008) argue that in such settings, the focus of the partnership is on the interface between the public and the private actor and not on the actual end users (citizens) of the produced public service. There is no incentive for either party to develop the service based on the end users' actual feedback, as the public body focuses on following the legal requirements on the level of the public service and the private provider is looking for the cost-efficient provision of such service. End users are treated as homogeneous subjects of services which have no direct contact to the actual private service provider, but have to give their feedback to the public body responsible for the service via the local democracy channels.

Majamaa and his colleagues (2008) offer their 4P model in order to shift the focus to the end users (people) who are the "real" customers of the service – not the public purchaser. In a 4P setting, in addition to the formal local democracy channels with the public body, end users would have informal channels to influence private providers, which, in turn, would be encouraged to develop their service provision further – and even to create additional third-party services, in response to the end users' further needs related to real estate and facility development, thus exceeding the actual legal requirements on the public service in question. Thereby the 4P model would support active end-user participation in the production of public services, approaching the idea of *coproduction* (Leadbeater 2004; see also Wallin 2010). In his doctoral thesis, Majamaa (2008) extends this argument to urban planning and design, too, as forms of public service.

However, the 4P concept by Majamaa et al. (2008) can be criticized for its narrowness, regarding the tasks and duties of the municipality in connection to the provision of public services. Their concept of municipality corresponds to Roivainen's "service municipality" described above. But this is only one of the three coexisting modes of local governance that Roivainen (2002) has identified in the Finnish context. The other two are *administrator municipality* and *citizen municipality*.

The *administrator municipality* represents the traditional bureaucratic public sector. Decisions are largely determined within the administration, to be more or less rubber-stamped by the elected politicians. The formal authority of the municipal administrator derives from her/his position as a holder of public office, regulated by laws and rules of conduct. The professional's knowledge reflects the modernist belief in truth identifiable through scientific methods. The impartial and rational professional makes decisions based on facts. The citizens have a fairly passive role in this model: they are subordinates to the top-down order. Municipal politicians form a link between the citizens and the government: citizens vote for the representatives of their particular interests, and the representatives then communicate these interests in municipal decision-making (Roivainen 2002).

The *citizen municipality* embraces the idea of active citizenship. Citizens participate in the co-governance of their municipality through deliberating with public officers and politicians on collective issues. In this model, the administrator-officer has become a networker, a facilitator of interaction. The values that are forwarded in this model are participation, transparency, and public accountability (Table 8.1).

The neoliberal political ideology fosters the identification of local governance in terms of service municipality, while the coexisting civil society movement supports citizen municipality. On the other hand, the institutional framework of Finnish local governance continues to divide roles and duties in local administration and decision-making in accordance to the administrator municipality model, with its dualistic separation of the administrators' allegedly fact-based preparation of decisions and the politicians' value-based making of decisions.

Regarding planning, Bäcklund and Mäntysalo (2010) argue that this coexistence of different modes of local governance is a potential source of *institutional ambiguity* (concept borrowed from Hajer 2006):

> [W]e find ourselves in a complex reality of planning when different understandings of the determinants of good democracy, legitimate planning and roles of different actors in producing and managing valid knowledge coexist and compete with each other [. . .] This poses a critical challenge that has been largely ignored by the researchers in participatory planning. (Bäcklund and Mäntysalo 2010: 348)

The 4P model based on mere service relations (purchaser, provider, and customer of public services) is not capable of sorting out this institutional ambiguity. There are other kinds of relations, too, that stem from the administrator and citizen municipality modes of governance. As seen above, Majamaa et al. (2008) included local democracy as a formal channel for the citizens' customer feedback. This is

Table 8.1 Roles of actors in administrator, service, and citizen municipalities

	Administrator municipality	Service municipality	Citizen municipality
Public administrator	Executor	Expert	Networker
Elected politician	Representative	Manager	Interpreter of community
Citizen	Subject	Customer	Citizen

a strikingly narrow understanding of the nature of democracy. The introduction of People to the partnership model makes the picture much more complicated than merely adding new service relations.

In his doctoral thesis, Kuronen (2011; see also Kuronen et al. 2010) has attempted to develop the 4P model further. He approaches the relationships between "public," "private," and "people" in terms of three different subsystems: the *economic subsystem* set between the private and the people, the *administrative subsystem* between the public and the private, and the *political subsystem* between the people and the public (Kuronen 2011: 42). The approach is inspired by Mäntysalo's (2000) description of land use planning as a political system consisting of three subsystems, i.e., politics, expertise, and economics.

However, Kuronen's (and his colleagues') systems approach is not elaborate enough to grasp the differences between the three subsystems and the interrelations between them (see Joutsiniemi 2013). Mäntysalo's (2000) theoretical analysis of the land use planning system was focused on the contradictions and double binds within and between the subsystems of planning and on (inter)organizational learning in overcoming these contradictions and double binds while acknowledging the unavoidable persistence of tensions between the mutually interdependent subsystems. His systems approach was based on the combination of Luhmann's (1990) theory of autopoietic social systems and Bateson's (1987) cybernetic explanation of human behavior.

## 8.4   The Luhmannian Approach: Toward Co-coordination

The Luhmannian (Luhmann 1990, 2004) systems view approaches social systems as different *modes of communication*. These systems do not consist of actors but *roles* that the actors receive according to the systems' basic distinctions and programs. Each social system has its own basic distinction that encodes its communication, such as *ownership/non-ownership* in the system of economics, *government/opposition* in the system of politics, and *true/false* in the system of science. These distinctions also determine how actors enter these systems in terms of roles. An actor enters the economic system as an "owner" or "nonowner" (e.g., landowner, investor, buyer, consumer). Accordingly, the political system consists of the members and supporters of government or opposition, and the system of science consists of scientists and experts and laypersons.

Thus, if we analyze the Public-Private-People Partnership as interdependent coexistence of Luhmannian social systems, we are not actually dealing with public, private, and people as unambiguous actors any longer, but with the different roles that each of them receives in different systems that become actualized through the actors' mutual communication. Undoubtedly, in the urban planning context, economic, political, and scientific modes of communication are usually actualized, but others are as well, such as legal communication (*legal/illegal*), e.g., in the applications of the public and private law in planning work and in formalizing partnership relations.

In the Luhmannian view, Majamaa's and his colleagues' 4P model can be seen to follow essentially the communication mode of the economic system: the three-actor groups basically receive their roles according to the ownership/non-ownership distinction (purchaser, provider, customer). When the Public-Private-People Partnership is proposed as a normative model for the coproduction of public services, in the vein of Majamaa et al. (2008), we need to discern the economic communication mode at its origin. Yet, there are other communication modes (systems) that tend to become actualized in such partnership formation. The political justification of the partnership may be questioned. Who is involved and who is not in it? What is the public accountability of the partnership and its decisions? From the science perspective system in turn, what is the factual basis for the surveys made and plans proposed? Has the relevant knowledge been provided? Have proper experts been involved? From the law system point of view, the legal weight and consequences of the partnership are usually checked and may be tested, as well. Which other communication modes (systems) enter the scene, and how, is actually an empirical question to be examined in each case.

In a Luhmannian interpretation, the same criticisms that have been posed to the Public-Private Partnerships from a political perspective (e.g., lack of public accountability and openness, domination of market criteria) can be repeated with the 4P model, since, in essence, it extends the partnership merely in terms of economic communication. With its economic mode of communication, it cannot provide a political response to the criticisms that are made from the perspective of the political system, nor can it subject political communication to economic transactions. The political criticism can be addressed only if the political mode of communication is understood to coexist on its own terms, and then used, alongside the economic communication of the 4P. While the actors involved in the 4P are given economic roles, the political criticism reveals that they have political roles as well, like it or not. Who is the municipal councilor representing with his/her involvement in the partnership? Is the citizen, involved in the partnership, some kind of political representative and of whom? What is the status of the partnership in relation to the formal bodies of municipal decision-making? Political communication bears consequences on the economic system, and vice versa, but each can respond to these only in terms of their own codes and rules. The actors, however, are not victims to any system and corresponding role, but they can shift from one communication mode and role to another in pursuing their goals, and often do so with tactical skill (Fig. 8.1).

While the 4P model by Majamaa et al. oversimplifies the complexity related to 4P, Kuronen, in turn, although better addressing complexity with his systems approach, oversimplifies his view on systems, at least from the Luhmannian point of view. The Luhmannian idea of the coexistence of mutually interdependent, yet autopoietic (self-regulating), systems of modern society instructs us not to build any simple relationships and direct causalities between economics, politics, science, etc. Instead, if we wish to develop the 4P model as responsive to, e.g., political criticism, we need to focus on the *co-coordination of the different communication modes* that become actualized with it. Through co-coordination of different communication modes related to 4P, the challenge of institutional ambiguity can also be met.
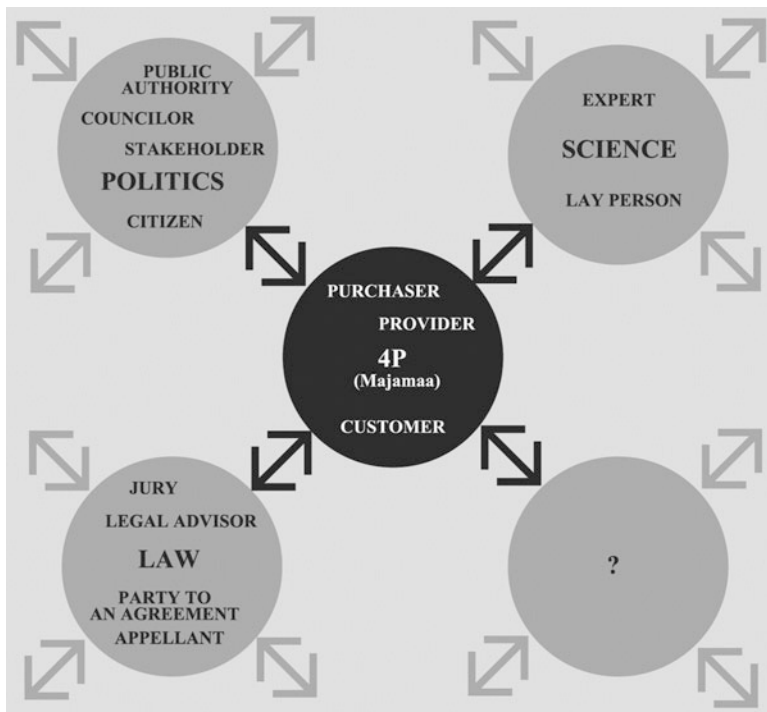
Fig. 8.1 The 4P model by Majamaa et al. (2008) with its actor roles, interpreted as an economic communication mode interacting with its environment of other communication modes (political, scientific, legal, etc.), in each of which the actors receive different roles

8.5 Boundary Objects, Trading Zones, and Urban Living Labs

In the search for means to enable the co-coordination of different communication modes, the concepts of *boundary object* and *trading zone* may be of use. These concepts have been coined as analytical aid in studies seeking to explain how different groups, such as scientists and policy-makers, have been able to develop, in certain specific circumstances, arrangements of coordinated interaction, despite the separateness of their "social worlds" (Star and Griesemer 1989), including separateness of basic goals and values and conceptual understandings.

This line of research stems largely from Star and Griesemer's groundbreaking case study of the establishment of the Berkeley's Museum of Vertebrate Zoology in the early twentieth century, in which they introduced the concept of boundary object (Star and Griesemer 1989). Star and Griesemer describe how the director of the newly founded zoological museum in the University of California, Joseph Grinnell, managed to develop and use a repertoire of instruments and objects when coordinating the activities of various actors with different motives and understandings, such as researchers, sponsors, university management, amateur

collectors, and hunters. These instruments and objects included repositories, ideal types, standardized forms, and coincident (geographical) boundaries. According to Star and Griesemer (1989), they had the character of boundary object, since they could be used in a coordinated way as shared objects and tools of activity across different social worlds. In their definition:

> Boundary objects are objects which are both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites. [. . .] They have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable, a means of translation. (Star and Griesemer 1989: 393)

Star and Griesemer argue, further, that the "creation and management of boundary objects is a key process in developing and maintaining coherence across intersecting social worlds" (Star and Griesemer 1989: 393). Boundary objects constitute a sort of shared platform or infrastructure for coordinated interaction across different social worlds. For example, Harvey and Chrisman (1998) and Kahila-Tani (2013) have studied GIS technology as such a negotiated infrastructure between different social groups.

A related concept, introduced by Galison (1997), is the *trading zone*. Galison has studied interaction between theorists, experimentalists, and instrumentalists in particle physics, conceiving each as a subculture of its own. In accordance with Star and Griesemer, Galison has identified infrastructures of shared concepts and instruments that have enabled the exchange of information and services between the different "social worlds" of particle physics. Similarly to Star and Griesemer, in their reference to boundary objects, Galison stresses the *locality* of the trading zone: it is a specific site – partly symbolic, partly spatial – in which local coordination between theory and action takes place (Galison 1997). The concepts differ in their relation to development. Whereas boundary objects denote fixed infrastructures for mutual translation between different social worlds, trading zones refer to infrastructures that *evolve* and may go through different developmental changes, such as evolving from scientific jargon to pidgin and further to creole, a living hybrid interlanguage of science (see Galison 2010).

In their article, Mäntysalo et al. (2011) have outlined the so-called *trading zone approach* as a potential method for dealing with complex urban planning problems with multiple stakeholders. Combining the idea of trading zones and boundary objects with agonistic democracy, they seek to replace the consensus principle of the communicative planning theory with mutual coordination between the stakeholders. Galison's accounts of different scientists reaching the capability to cooperate successfully by intentionally *not* striving for consensus, but rather aiming at a sufficient level of co-coordination, provide a fresh alternative perspective to view the challenges of planning communication. The aforementioned article generated a book project (Balducci and Mäntysalo 2013) involving numerous case studies by Italian and Finnish researchers on trading zones in urban planning.

Leino (2008, 2012) has further studied the organizational aspects of participatory planning as boundary work. In sociological science and technology studies (STS), different kinds of institutional structures have been identified to emerge as facilitators of knowledge transfer between research, politics, and business. Some may be quite fixed "boundary organizations" (Guston 1999), while others may be "hybrids" that could rapidly change their form (Miller 2001). In urban planning we have witnessed the recent emergence of different *urban living labs* that may be perceived as some kind of boundary organizations. When such boundary organizations are generated in urban planning, it is crucial, from the point of view of political legitimacy, legal status, and scientific renewability, that they should not become too fixed and institutionalized. Continuous critical consideration needs to be maintained to prevent them from turning into exclusive clubs of selected stakeholders, which would thereby gradually lose their role as facilitators of communication and interaction, and challenge the formal organs of decision-making.

The concepts presented above suggest the possibility of approaching the 4P in urban planning as a semifixed local platform that could be developed into a trading zone between the stakeholders' different communication modes. In his groundbreaking study regarding co-coordination in microphysics, Galison noticed that certain practico-linguistic settings had been generated to enable the mutual exchange of knowledge and services between the scientists representing different "subcultures." Galison identified local infrastructures of shared concepts, laboratory equipment, and spatial settings that had facilitated such exchange. These infrastructures had functioned as platforms for the generation of localized "exchange languages." Such exchange languages had enabled the mutual "out-talk" between members of different subcultures, transforming highly elaborate and complicated issues into "thin descriptions." Accordingly, when a local urban living lab is developed with the aim of reaching trading zone quality, the focus would be on the whole practico-linguistic setting of the erected platform. It would focus on how the spatial arrangements of furnishing and equipping the meeting and studio room(s), the technologies of visualizing plans and monitoring development, and the verbal means of discussing planning issues would jointly contribute in creating the conditions for mutual "out-talk" on planning with "thin descriptions."

A specific feature that equips urban planning with such integrative power is its inclination to shape information in the format of *stories* (Throgmorton 1996; Forester 1999). The rhetorical strength of storytelling is its everyday familiarity. It involves certain scenes, different characters, and a plot with twists and turns that unfold with the story. A plan presented as a good story invites the listeners to share imagining the conditions, events, and episodes envisioned by it. Like a good history lesson, it concentrates on explaining the forces that influence the outcome of events, rather than plain numbers and names. In this way it is easier for people to react to the envisioned future and start discussing how to make it happen (Mäntysalo and Grišakov 2015).

Hence, planning as storytelling has trading zone characteristics. Without being limited to verbal means of communication, it provides tools for the mutual

"out-talk" with "thin descriptions." In an urban living lab of urban planning, storytelling is a key means in generating a trading zone, enabling co-coordinative inquiry across the boundaries of different communication modes.

8.6   Conclusion

In this chapter, the complexities involved in the idea of Public-Private-People Partnership (4P) have been critically examined through the theoretical perspective offered by Luhmann's social theory. This perspective focuses on the differences between the different communication modes that become actualized in such partnerships. The economic communication mode that provides the rationale for Public-Private Partnerships in arranging public service relations has been further applied by Majamaa, who has proposed more "customer-sensitive" 4Ps in urban planning and development. His approach, however, undermines considerations on issues that may emerge in such partnership arrangements, such as political accountability, legal status, and scientific validity. Following Luhmann, each of these considerations has its own rationale that cannot be subjected to the economic mode of communication. Political, legal, and scientific considerations stem from their own communication modes, each with their own rules. This raises the question of how the coexistence of the different communication modes can be managed in 4Ps, without losing the partnerships' capability to perform.

   This challenge calls for highly reflective leadership and orchestration, but also for the development of intermediating tools and platforms, for the co-coordination of different arguments and activities that stem from the different coexisting rationales. In this chapter the focus is on the latter. The concepts of "boundary object" and "trading zone" are fruitful in this regard. They have been coined, in the realm of sociological studies of science and technology (STS), to describe and analyze specific practico-linguistic capabilities that have been generated in certain local contexts. Different groups that do not share goals and conceptual understandings have been able to co-coordinate their activities by developing boundary objects and trading zones for the joint exchange of information and services. In a sense, specific local platforms for the generation of "win-win-win settings" have thus been created. In certain cases, such local platforms may have been developed into more or less permanent and institutionalized "boundary organizations."

   In this chapter, a tentative analogy has been drawn to "urban living labs" that could be seen as semifixed local boundary organizations of 4P urban planning. As such, urban living labs would use spatial facilities, as well as mapping, monitoring, and visualization technologies, for the development of boundary objects and trading zones – in co-coordinating different views and understandings on urban planning. The inclination to communicate planning issues in terms of stories in particular, both verbally and visually, can be perceived as a resource that has innate trading zone qualities. Stories bring people together.

This line of reasoning suggests the reconceptualization of the 4P, in the context of urban planning, into an *urban planning living lab*, with the above described trading zone capacities.

If so, how should the "win-win-win settings," aimed in at such living labs, be understood? This question brings us to the difference between Star and Griesemer's concept of "social world" and Luhmann's concept of "communication mode." While Star and Griesemer seem to approach the different social worlds as if they were occupied by different "people," Luhmann's different communication modes are not occupied by "people" but by "roles." This is a more fundamental conceptual difference than might appear at first glance. The conditions on which the Luhmannian roles may enter into a win-win-win situation are more complex. As an individual person receives many roles simultaneously in different function systems, reaching a win-win-win settlement is also a question of a person settling with his/her own different coexisting roles (political, economic, etc.). The roles have different principles and obligations attached to them. It is thus not just a question of "should I agree?", but "am I entitled, in this role, to agree?" Further theoretical work is required to assess the possible limitations of treating "social worlds" and "communication modes" as analogous to each other, the way it has been done in this chapter.

Moreover, a too straightforward translation to the context of urban planning of the ideas developed in the realm of STS on trading zones and boundary objects might lead to oversimplifications. As noted by Healey (2014: 927):

> Work in the sociotechnical systems tradition is full of useful ideas about how to analyze the social interactions between disparate groups, but it is important to remember that the institutional settings in which urban governance and urban planning activity take place is much more complex than in the scientific community, with more complex ways in which knowledge claims and legitimacy are established, and a much greater diversity of groups involved in interactions.

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