# From diversity to justice – Unraveling pluralistic rationalities in urban design

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## ARTICLE INFO

## ABSTRACT

For Jane Jacobs, the city is a fundamental unit of diversity; she develops her ideas in the city around this key axiom. Diversity provides an ethical orientation and thus defines what a just city should achieve. For Jacobs, justice is represented by peoples' inherent right to 'make cities'. According to Jacobs, cities become just places by their ability to facilitate the spontaneous dynamics among social fabrics and urban spaces to generate the beauty and value of cities. This contribution picks up this claim for diversity and develops a theoretical lens to explore how diversity is incorporated in urban design. We use a theory on pluralism—Cultural Theory—to analyse forms of managing urban space in different types of goods. This is applied to analyse four idealistic urban spaces in the city of Leipzig.

## 1. Introduction

For Jane Jacobs, diversity is a key feature for just cities. Jacobs suggests that urban spaces should embrace diversity (Jacobs, 1961). This idea can be manifest in design principles that promote diversity of a built environment (i.e. short blocks and close-grained mingle of buildings) and uses in the urban environment (Schmitt & Hartmann, 2016, p. 47). Fainstein promotes diversity as a central "guiding principle for city planners" (Fainstein, 2010, p. 3), next to equity and democracy, to achieve the just city. The idea of justice that both Jacobs and Fainstein implicitly or explicitly promote is social justice.

It is acknowledged in the just city debate that social justice promotes only one concept of justice (Hartmann, 2012). So, if diversity were taken seriously, it would imply taking account for and recognising other concepts of justice. This concept goes back to a shift in spatial planning around the 1970s, when some began to see cities as wicked (Rittel & Webber, 1973), polyrational (Davy, 2008) and clumsy (Hartmann, 2012) realities in which interaction between people and spaces generated sentiments and meanings that escaped the purely rational evaluation of the 'justness', or 'goodness', of urban planning interventions. Planning theorists recognized in the last few decades that complex urban situations go beyond rationalistic reasoning (de Roo & Silva, 2010; Gunder & Hillier, 2009), since the 'clients' of 'city planners' – citizens, investors, land users – became 'restive' (Rittel & Webber,

1973, p. 173). In his social-constructivist analysis of spatial planning, Davy contends that urban planners tend to neglect plural rationalities and their related concepts of justice in their plans (Davy, 2008, 301). Davy contends that—due to the pure existence of other rationalities—plans need to embrace plurality. Plural rationalities, then, are a precondition for diversity such as Jane Jacobs promotes. This contribution aims to explore how *diverse* rationalities shape urban spaces (ultimately leading to diversity).

This contribution picks up Jacobs' claim of diversity and discusses it alongside four ideal-typical rationalities through the lens of a theory on pluralism: Cultural Theory. Mary Douglas' Cultural Theory[1] delivers a theory of plural rationalities to understand how social solidarities work. Cultural Theory is built on the assumption that every social situation can be described in terms of the four ideal-typical "cultures", or "rationalities" (Hartmann, 2012): individualism, egalitarianism, hierarchism, and fatalism. The rationalities are assumed to be internally consistent, mutually contradictory, and jointly exhaustive (Schwarz & Thompson, 1990). This means that each rationality is rational on its own, but irrational from the perspective of the other rationalities (Thompson, 2008). They are mutually exclusive. This implies that any solution that appears perfect to one rationality is irrational from three rationalities; in consequence, combining all rationalities in a solution must lead to an imperfect solution. Cultural Theory calls this a clumsy solution (Verweij & Thompson, 2006). In consequence, urban design

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and the prevalent planning is based on actions resulting from and consistent with these rationalities.

In Douglas (1999) words', each rationality leads to institutions that constrain and guide acting. These institutions ensure a consistent framework which is developed and maintained through narrative to give reason, shared practices and set rules that are followed. As a result, an institutional framework of one rationality contradicts those of others. Consequently, diversity as poly-rationality leads to conflicts. To question the justice of a city means to understand how these conflicting rationalities are reconciled in the urban space.[2]

Here the question arises how this diversity of rationalities can be empirically observed in the urban realm. To explore how diverse rationalities shape urban spaces, we will discuss and test an analytical approach to observe rationalities in urban spaces. Considering the city and its amenities as a resource, Ostrom's conceptualization of institutions for the management of resources will be applied. According to Ostrom, resources can be managed as different economic goods: private goods, public goods, club goods, and commons (Ostrom, 2003). The resource we will focus on is the urban space. As the good is a result of the quality of a resource and the utilization of it, rationalities influence how the use is institutionalised. In other words: different management rationalities lead to urban space with different types of goods. The existence of the diversity of those different types of goods in the built urban environment, as a corollary, indicates a certain diversity of rationalities. For the analytical approach, the types of goods in urban space provide a lens to observe the different rationalities in the diverse city.

## 2. Economic goods and rational ways of managing them

### 2.1. Economic goods

According to Ostrom (2009), the management of the use of resources is determined by the substractability of the usage and determines how access is given (i.e. excludability). This leads to the formation of four types of economic goods, which are mapped in a diagram consisting of the two axes "excludability" and "subtractability" (sometimes called "rivalry") (see Fig. 1). Excludability describes the potentials for "excluding others from benefiting from a good"; subtractability describes the degree to which a good is used up when it is consumed (Ostrom, Gardner, & Walker, 1994). The distinction in the four types of goods is most often expressed relationally. Club goods and public goods are less subtractable than private goods and commons. Management as a private and club good is more likely based on the quality of the resource, as others can be easily excluded, whereas in the case for commons and public goods exclusion it is less likely (Hess & Ostrom, 2003).

Consequently, the typology of goods is partly an environmental constraint, and partly a result of managing resources (Drahos, 2004; Fuys & Dohrn, 2010; Ostrom, 2009) or a consequence of a certain management rationality. The biophysical world determines the types of goods. (Ostrom, 2003). To some extent the types of goods are socially constructed. By assigning particular rights and duties to the use of goods, law and property rights institutionalize what type of good a resource is beyond the environmental constraints (Freyfogle, 2003).

Urban space is also subject to subtractability and exclusion (Sandler & Tschirhart, 1997). Excludability and subtractability can be altered by increasing or decreasing the costs of exclusion, for example by establishing or avoiding physical barriers (Drahos, 2004). Physical and socially constructed barriers are relevant: Planning socially constructs spatial goods because it changes property rights in land.

| | HIGH SUBTRACTABILITY | LOW SUBTRACTABILITY |
|---|---|---|
| HIGH EXCLUDABLITY | Private goods | Club goods |
| LOW EXCLUDABLITY | Commons | Public goods |

**Fig. 1.** Typology of goods.

How can diversity of urban spaces by the management of diverse rationalities be observed in the urban realm? The following section elaborates on rational management strategies—derived from Cultural Theory—and subsequently elaborates a way to link the management of urban resources to the types of economic goods (i.e. as an expression of the management).

### 2.2. Cultural theory

Cultural Theory is a social-constructivist theory. Cultural Theory has anthropological origins and it has been much used in research on risk-perception (Douglas & Wildavsky, 1983; Renn, 2008). But it has also been applied and discussed in planning theory (Davy, 1997; Hartmann, 2011; Hartmann & Hengstermann, 2014; Hendriks, 1999; Zwanikken, 2001). In opposition to many other approaches in cultural anthropology, Mary Douglas developed a theory that enables analysing social interactions and cultural diversity without complicated ethnographic analysis. Her claim was to develop a framework "that is able to deal with culture everywhere" so her field work was not confined to Melanesia or Africa, but also included western societies (Mamadouh, 1999, p. 369). Cultural Theory does not restrict itself to analysing cultures, but instead refers to social solidarities (Thompson et al., 1990).

The theory builds on the assumption that every social situation can be described in terms of the four ideal-typical (Hendriks, 1999) "cultures" (Ellis & Thompson, 1997) or "rationalities" (Hartmann, 2012): individualism, egalitarianism, hierarchism, and fatalism. Cultural Theory assumes that in every social situation these four rationalities emerge in some way—this is called the "impossibility theorem" (Thompson et al., 1990, p. 87).[3] However, they can be drowned or suppressed temporarily, and one or a few rationalities can become dominant.

These rationalities can be acted out by individuals, groups of individuals, or institutions (Douglas, 1986). They describe different rational ways to perceive and act in certain situations. It is an important notion to assign rationalities to situations, not to individuals (Davy, 2004). This situation-oriented approach to Cultural Theory assumes that no person's actions determine situations but rather situations influence a person's actions. The same person can act out one rationality in one situation, and another rationality in another situation.

The rationalities are assumed to be internally consistent, mutually contradictory, and jointly exhaustive (Schwarz & Thompson, 1990). This means that each rationality is rational on its own, but irrational from the perspective of the other rationalities (Thompson, 2008). Cultural Theorists regard the four rationalities as a system of plausible rather than empirically demonstrably true rationalities (Dake, 1992; Renn, 2008). The four rationalities are mapped in the two-dimensional "grid and group" scheme (see Fig. 2). "Grid" indicates the extent of autonomy of decision making to which a decision maker is bounded to externally imposed structure, rules, and prescriptions. A high grid stands, accordingly, for heteronymous decision-making; a weak grid refers to a high degree of self-determination. "Group" indicates whether an individual is likely to join a group or prefers to act as an individual. The higher the group dimension, the more community-bounded an individual acts (Thompson et al., 1990). Since the two dimensions are

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[2] Urban space refers to the space in cities between the buildings. We avoid the term public space as the space is not always public in the sense of economic goods or property rights.

[3] Admittedly, the name of this theorem is misleading, as it refers to the impossibilities in a social situation *not* all for rationalities that emerge.
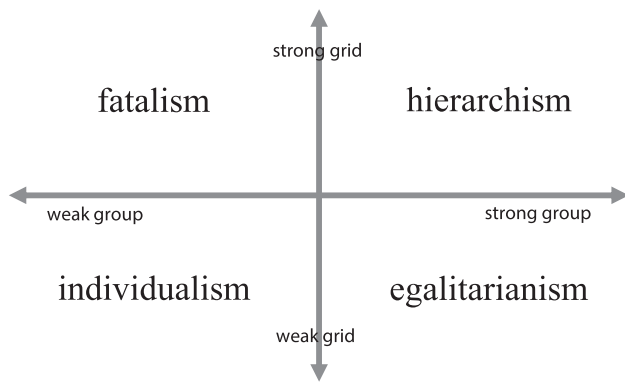
Fig. 2. The rationalities of Cultural Theory ("grid and group" scheme).

independent, they form a diagram with two axes and four quadrants. The four rationalities are in each quadrant, so that each rationality can be described by a combination of the two dimensions: grid and group (Thompson et al., 1990) (see Fig. 2). The rationalities are characterized as follows.[4]

### 2.3. Individualism

Individualism rejects regulations and does not generally believe in collaborative governance styles. Instead, this rationality prefers market approaches. In this way, it is the most libertarian rationality. It views spatial planning and urban design as to achieve efficient allocations of goods (Sorensen & Day, 1981). Accordingly, private property is regarded as a driving force for economic growth and welfare and public goods are considered as a source for market failures, as assumed by traditional economics (Cooter & Ulen, 2004; Ostrom, 2000). This rationality thus favours a city that increases private property to facilitate individual freedom.

### 2.4. Egalitarianism

The egalitarian rationality neglects governmental interventions and market schemes, but has a strong emphasis on community. Whereas in individualism, the organizing principle is the market, moral commitment to the community is the egalitarian imperative (Thompson, 2008). This fits participative and collaborative planning approaches. Urban planning should be carried out less by law and regulations and more by consensus and cooperation. Accordingly, urban design should create social spaces to allow communities to assemble and collaborate. Urban design should also facilitate social control. This means that common goods—common pool resources—are essential for this rationality.

### 2.5. Hierarchism

Hierarchism prefers a high grid – this implies that rules and regulations are a preferable as mode of governance. This implies that the integrity of institutions is important. Note that in the rationality of hierarchism such institutions do not necessarily need to be governmental (Douglas, 1999). Ultimately, this rationality prefers regulating goods instead of using market approaches or community schemes to allocate and distribute goods. The regulation of goods does thereby not necessarily come from an official authority (like a planning agency), but it could also come from the group itself. One of the major features of hierarchism opposed to fatalism (see below) is that the group has some considerable control over the imposed regulations. In public policy, this implies some sort of democratic system in place. However, from the perspective of urban design on a local scale, this control over the

regulations implies that the users establish rules for the use of urban spaces by themselves (i.e. some terms of use of certain spaces).

### 2.6. Fatalism

Whereas the three previously presented rationalities are often categorized as the active rationalities, fatalism is the passive rationality. It stands for a laissez-faire governance approach. This rationality is overwhelmed by the complexity and wickedness of social situations. According to fatalism, it is simply not possible to predict the chaotic jumble of pluralistic behaviour of people. Because of the low group dimension, fatalists tend to not feel associated to a group or a neighbourhood. Instead, in the urban realm other people are considered strangers. Translated to the residents' perspective on urban space this means that the different way people behave in public space is so complex and difficult to influence. According to the high grid dimension, fatalists accept, though, that there are certain rules for using urban space (such as to not vandalize infrastructure, or not have open fire in a park etc.). These rules obstruct fatalists to take action in public space (e.g. urban gardening etc.), but they feel powerless to influence these rules. So, this rationality can be related to public goods.[5] The rules for using public goods are defined by a more or less abstract public body (i.e. municipality, legislator etc.). One might argue that those rules can be influenced via elections and participation, but from the perspective on individual citizens, the group of people who decide on the rules is too large and thus individuals are insignificant (low group dimension in the social map).

## 3. Uncover four cities

To identify a diversity of rationalities in the urban realm, institutions that define the management of urban space need to be unravelled. Depending on the *morphology* of urban land use, differences in the subtractability become visible. Understanding a public park as a common good, for example, shows that, when used for recreational purposes, it is highly subtractable (non-rivalrous). However, when the use increases and rules are not applied, degradation becomes a problem. Depending on the way it is used, the park can become a rivalrous good (Foster, 2011). Not only an increase of users can increase subtractability (that, one could argue, would be just an expression of low excludability), but also specialization and designation of special zones in a park increases substractability. If a public park is zoned into an area for sports, one for walking with dogs, one designated area for children to play, and another section of the park is for fishing, then the park becomes increasingly substractable.

It is discussed in this paper that the morphology of a certain area influences the evolution of certain types of management, which can then be explained by different rationalities. In other words, there is a link between urban form (morphology) and the management of urban space by its users. We, hence, take a user-perspective, which means we are looking at the residents' and users' behaviour in relation to urban morphologies. We, therefore deliberately leave out public policy intervention. This has implications for the assignment of rationalities to urban space, as it shall be elaborate below.

Based on the definition of the four types of economic goods as the outcomes of different rationalities, this section will now experiment

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[4] These descriptions are largely derived from literature about Cultural Theory.

[5] Note that Thompson et al. assign club goods to fatalism and public goods to fatalism Thompson, Grendstad, and Selle (2013, p. 32). Their assignment uses different perspectives: if club goods are regarded from a governmental (policy science) perspective then they are per definition excluding. In this logic, public goods are much more controllable (i.e. relate to hierarchism). The present paper, however, looks from a user perspective to the goods. This means that club goods require hierarchic steering (i.e. a defined group of users subscribing to membership in the club and following the rules for using the good; public goods relate to fatalism, as the influence of users on the regulations of how to use them is quite vague (i.e. fatalistic).
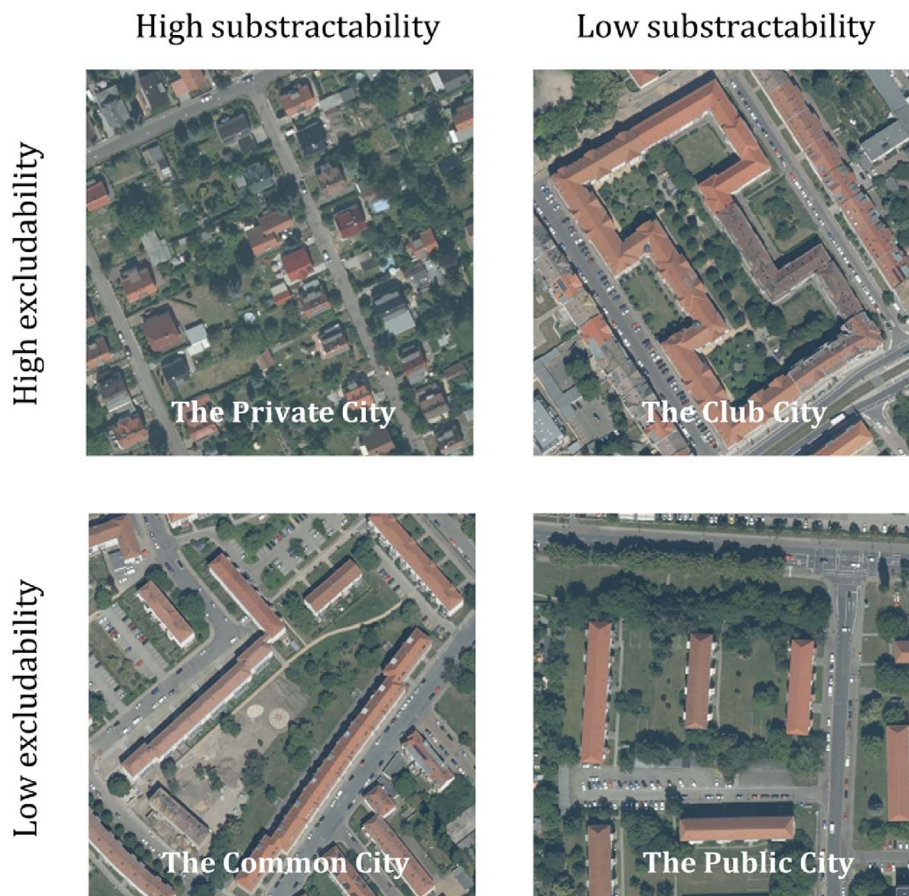
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**Fig. 3.** Urban spaces in Leipzig according to the four types of goods (DOP 20 © GeoBasis-DE/BKG (2018)).

with taking these goods as a typology to analyse urban space regarding diversity. Starting with the urban design that shapes the goods' general quality, we also reflect on the form of management. Fig. 3 shows four real world examples (urban space resources) from the city of Leipzig, which are assigned to ideal-typical goods. Looking at urban space and urban morphology within city of Leipzig delivers an interesting test-case due to the urban design, which shows the legacy of socialist and capitalist urban paradigms.

### 3.1. The private city

The example for the *private city* is taken from a suburban setting. Urban space is managed through subdividing it into privately owned and maintained plots. This good consists of single family houses with private gardens. Urban design shapes subtractability of urban space because once the plots are sold to private landowners, they can no longer be used by others. The excludability of the land is high. Public space, with low excludability, is minimized to the streets, which are necessary to reach the plots. To ensure management and maintenance, landowners fence their property. Consequently, the private city has high subtractability, as urban space can only be used once.

This urban design increases – like none of the other designs – the autonomy of the landowners by providing individual plots of land on which they can pursue their own ideas (to the extent the land-use plans permits). The restrictions are thus minimal (low grid), and opposed to the other cities, the private city offers the most individual freedom, and simultaneously requires the least cooperation with other landowners (low group). Ultimately, the private city is the city of individualism.

### 3.2. The common city

The *common city* reduces the excludability of urban space by arraying all the houses on the edge of a common area which is collectively managed. To be characterized as a common city, the green space in the middle is accessible from outside the arrayed buildings, implying a low level of excludability. As a common good, the common city can be used for several purposes. The subtractability of the common city is higher than in the public or club city, as institutions to regulate the use are relatively weak, what gives the individual user more freedom.

In the common city, the balance between individual and common use is evolving. Because of the low excludability, it is generally possible for all kinds of users outside the area to make use of the public area in the middle. The morphology would make it possible for tenants of the buildings and outsiders to use the common land in the middle for their own private purposes. Regarding substractability and excludability, institutions need to evolve that limit use and ensure a common use of urban space. As Ostrom's work proposes, a well-defined group and well-defined boundaries are necessary as a basis for this form of management (Fuys & Dohrn, 2010; Ostrom, 2009). Also concluding from Ostrom's observations, the management of common areas does not necessarily require forms of hierarchy – common areas are often managed based more on social control than on formal rules (i.e. the neighbours watching the streets and places) (low grid). For this social control a strong community is pivotal in the common city (high group).

### 3.3. The club city

In the *club city's* example, the houses are arrayed as blocks along the streets. As in the private city, the publicly owned space is minimized to the streets necessary to access the houses. In contrast to the common

city, the area in the middle is collectively owned and controlled by the landowners. So although no landowner can exclude other landowners or tenants from using the courtyard, other inhabitants of the city are excluded. The design of the buildings forms a barrier. The excludability is higher than in the common or the public city, but not as high as in the private city. The urban design contributes to – but also requires to – reducing subtractability. Compared with the private and the common city the use of the collectively owned urban space cannot be changed by one owner or user without interfering with the interests of the defined group of users (club members).

Maintaining and regulating the size of the club is a crucial feature of club goods, and so it is for the club city (Drahos, 2004). So the access to the collectively owned area is restricted and controlled by the rules of the community itself. The layout of the club city recalls gated communities. The club city requires a well-functioning exclusion mechanism that monitors the utilization of the good. Such exclusion mechanisms need to be enforceable against non-members of the club (Sandler & Tschirhart, 1997). Therefore, the optimal number of members of the club is required. For the club city, this means too many users will lead to over-consumption and thus increase the subtractability of the urban space; too few will lead to low costs of exclusion. An effective management of the club city depends on the ability to manage the size of the club and enforce exclusion. Therefore, the club city relies on strong institutions to regulate the use of urban space, which are implemented and enforced by an actor, such as a housing corporation. Therewith, features of the hierarchic rationality form the basis of the management.

### 3.4. The public city

The example of the *public city* is given by urban space in an area of socialist housing. The open urban morphology indicates low excludability; the urban space is accessible for the inhabitants as well as for others. As a consequence, the options to use the resource of urban space is limited, which leads to low substractability. In other words, as the costs of exclusion are relatively high, the subtractability is less than in the other described cities.

So, the user-perspective (i.e. the residents of the respective area) leads to the concept of public goods. Through the rules not only the behaviour is strictly regulated but also the access to the good. Urban space as a public good implies that hierachists accept the rules that are already set and expect other members of the defined group to do so as well. In comparison to the other cities, the public city requires and receives the least amount of attention to its governance. In the public city "non-cooperative actions by one individual do not make a dramatic difference for others" (Ostrom, 2003, pp. 242–243). None of the rationalities responds better to the public city than fatalism.

### 4. An urban design that considers rationalities

Ultimately, the four cities respond to the four institutional designs (Ostrom 2008) to manage urban space, which, as we show above, correspond to the ideal-typical rationalities of Cultural Theory.[6] Vice versa, each rationality is linked to the morphology of a specific urban design, which, as physical qualities of a resource do, shape the institutional design of urban space. This interlinkage allows for uncovering conflicting rationalities, which lie beneath urban design concepts and principles. Accordingly, the four cities are contrasted.

The urban design of the private city, with individual housing and private land relies on the rationality of individualism. This gives the user and owner a high degree of freedom (high excludability) and enables an easy exchange of urban space as an economic good. The design

is based on a highly substractable urban space. Subsequently, the design does not provide accessible space for social interaction (Warner, 2011).

The design if the *common* city, on the other hand, promotes an urban space that is as substractable as in the public city, but due to its morphology has a lower excludability in contrast to the private city. The design is to facilitate and requires social interaction and inclusion, since it creates more "social space" (Carmona, 2010). The design relies on an egalitarian rationality as rules of a common use cannot be enforced (due to low excludability), but only mutually agreed on by users through social interaction.

The design of the *club* city limits social interaction to a defined group of users (high excludability). Urban space is used in a way that fulfils the anticipated needs of all club members (low sustractability). The low substractability of the urban space is ensured by a hierarchical management that defines rules of use beyond the sphere of the users.

In comparison, urban design of the *public* city shows a low level of substractability – does not limit access and, hence, shows low excludability. In terms of rationalities, the public city is related to the fatalistic rationality, where nobody is engaged in the management, as there is no chance to enforce rules. Vandalism is often assigned to public spaces because of a lack of maintenance and responsibility (Foster, 2011). Here, as a result, external management and regulation through the state becomes vital to ensure standards that allow for social interaction.

Ultimately, this paper concludes that the morphology of the city (i.e. the building blocks) can be considered as an ingredient to institutionalize a particular rationality. Conceptually this means that this can be also used strategically in urban design: By designing a city *as* a private, common, public or a club good, particular rationalities get ingrained in the structure of the city. This understanding is thus a powerful tool for designing a pluralistic city.

### 5. Conclusion: The mosaic makes the just city

What does this mean for Jane Jacobs' ideal of a diverse city? We contend that instead of taking a normative point of view on diversity to guide design principles, urban design should be informed by rationalities and consequential ways of managing urban space, which lead to differing and conflicting ways of managing urban space.

Linking contradicting rationalities of Cultural Theory to the management of urban space – which we describe as economic good (Hess & Ostrom, 2003)) – we show that urban design always is imperfect, awkward, or clumsy from the perspective of another rationality. This is evident for Cultural Theory, as a situation, which is considered rational from one rationality always is irrational from other rationalities, as they exclude each other. Thus, Cultural Theory informs planning not to purse perfect, but rather "clumsy solutions". Such clumsy solutions are polyrational by definition (Schmitt & Hartmann, 2016; Verweij & Thompson, 2006).

Regarding urban design, this clumsiness, i.e. polyrationality implies inherently conflicting understandings and convictions of how urban space is used and managed. Subsequently, different rationalities lead to different types of economic goods. (i.e. ways of use of urban space). We conclude that four different rationalities lead to four different *cities:* the private city, the common, the club and the public.

This proposes a new way of thinking diversity. As it does not necessarily mean that this is the only way to capture diversity of rationalities in the context of urban design, but it is a viable way, making diversity analysable (Douglas, 1999; Mamadouh, 1999; Verweij, 2011) and enrich the ongoing and debate on diversity in urban planning. We therefore propose that being aware of the *four cities* supports urban planning to analyse and consider diversity, as demanded by Jacobs. Based on this, the theoretical approach should lead to further empirical work to test its applicability.

The design of a city needs to be assessed by the way the build environment affects the ability to manage urban space, but also how the management of urban space is institutionalised as an economic good. As

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[6] It is not suggested here that the axes of the grid and group scheme of Cultural Theory match with excludability and subtractability of the typology of goods.

Davy (2004) points out, robust urban design needs to consider all rationalities, which are referred to as the clumsy city. As we argue, to put this request into practice an approach to urban design is required that is aware of urban space as a mosaic of private, common, club and public goods. Through merging the concepts of economic goods and Cultural Theory, we thus operationalise the excludability and subtractability of urban space as design criteria. A city design that embraces these perspectives offers an informed way to consider Jacobs' ideals of a city that, through diversity, enables justice.

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