

Polyrational property: rules for the many uses of land

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Abstract: Land uses are what land users do. When spatial planners and other policymakers promote or preclude certain land uses, they interfere with the rights of the users of land, most notably with property. The technical term for what connects land uses, planning, and property is land policy. My paper has a simple message: Good land policy provides a diversity of land uses with plural property relations. No single kind of property rules fits the purposes of all types of land uses. A detached single family house is not like a community garden, nor a highway like a retail chain. Each land use needs its own property “fingerprint.” In everyday practice, private and common property relations often accommodate a wide variety of demands made by the owners and users of land. Many theories of property and land policy, however, fail to recognize plural property relations. The simple message of my paper seeks to reconcile practice and theory. A polyrational theory of planning and property identifies eight types of land uses, each type needing its own kind of property rules. The eight types of land uses are: insular, opportunistic, kinship, collaborative, corporate, structural, container, and environmental uses of land. Polyrational land policy makes sure that desirable land uses are enveloped by appropriate property relations.

Keywords: common property, polyrationality, private property, spatial commons, spatial planning

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who have challenged me not just to rehash the final chapter of Davy 2012, but to write a proper journal article. Shortcomings that remain, of course, I share with no one, but claim as mine and mine alone. Occasionally, commons do not work.

I. Ostrom's Law and the use of urban land

"A resource arrangement that works in practice can work in theory," is how Fennell (2011, 9) defines what she calls Ostrom's Law. The snappy label warns all researchers interested in "the commons" of relying too much on presupposed categories and of neglecting what "works in practice." Popular categories such as "common property" versus "private property" are elegant and compelling, yet they should not make us forget Ostrom's Law. In this article, I suggest that the rules that lawmakers, courts, landowners, and other stakeholders establish for the many uses of land (Needham 2006) be examined on their own merits. The result of my application of Ostrom's Law to the rules for the many uses of land may be disappointing to theorists: It makes little sense to define broad concepts (e.g. "common property") and expect reality to fit. My result, however, is not surprising to practitioners: Each land use needs its own property "fingerprint." Forensic practice, of course, knows this. The German Federal Constitutional Court (*Bundesverfassungsgericht*) calls upon lawmakers to satisfy the needs of various land users by considering the intricacies of their land uses, based upon plural rationalities, as well as the interests of the general public:

Constitutional law (*Grundgesetz*) demands from lawmakers to create a system of property rights that considers the individual interests of the landowner as well as the interests of the general public ... Lawmakers are facing a twofold task: On the one hand, they must create private laws applicable to the legal relations among citizens (e.g. regarding the conveyance of title, the establishing of easements, the prevention of nuisance); on the other hand, lawmakers have to accommodate the interests of the general public – where every landowner is a member also – through public regulation. While private property law usually is limited to individual private rights and obligations, the *legal status* of a landowner, with regard to constitutional law, is defined equally by private *and* public law. Private property law is neither the exclusive source of property law nor can it demand precedence over public property law. (BVerfGE 58 [1981] 300 [335–336] – *Naßauskiesung*; author's translation, emphasis in the original).

I call the resulting body of various and diverse rules for the many uses of land "polyrational property" (Davy 2012). The rules for using land and the many uses of urban land mutually assert, challenge, and influence each other. The category "common property" (A) may frame and shape shared land uses, but shared land use practices (B), if successful, may also modify and instruct common property rules: A shapes B, and B shapes back A. The mutuality – the notion of a particular property "fingerprint" for each land use and the resulting polyrational property –

defies the widespread use of cast-iron categories such as “common property” or “private property” (Ostrom 2000; Demsetz 2002).

Still, an essential functioning of commons theory is the delimitation of categories that help understand better a variety of strategies to manage common pool resources. With respect to “cast-iron,” commons theorist must choose between tradition and now. In the traditional vein, most famously, Schlager and Ostrom (1992, 249–250) present a “conceptual analysis” delimiting a variety of roles for rights-holders based on access, withdrawal, management, exclusion, and alienation. The result are four categories: owner, proprietor, claimant, and authorized user (Schlager and Ostrom 1992, 252, Table 1). Moving from persons (the rights-holders) to institutions (such as private and common property) also has been popular with earlier efforts to examine strategies to manage common pool resources. For example, Bromley (1991, 31, Table 1) delimits four types of “property regimes”: state property, private property, common property, and non-property (see already Bromley and Cernea 1989, 11; Needham 2006, 42, Table 3.1). Theoretical categories are valuable tools, but their use value must be considered critically in light of experiences with a rich and complex real world because “operational details in the real world offer property theorists an important gauge against which to test their theories” (Fennell 2011, 16). Ostrom’s Law not only reminds us of the fact that property theorists “have much to learn from the complex ways in which resource users slice and dice entitlements into special-purpose ‘tenure niches’” (Fennell 2011, 15 quoting Ostrom 2000, 340). Ostrom’s Law also emphasizes that we need to reflect on why we think that a “resource arrangement ... works in practice” (Fennell 2011, 9). Surely, economists, judges, ecologists, or planners perceive differently whether and why a land use arrangement works. One way we can deal with diverse perceptions of what is working is the disclosure of our *Erkenntnisinteresse*, i.e. why we are interested in how resource arrangements work (and it is not a sign of good scholarship to dodge disclosure in order to achieve “objectivity”).

- As a planner, I am fascinated by how people use land and other natural resources. Land uses constantly switch between restricted uses (when only one person uses the land) and shared uses (when many users share the use of the land). Homeowners who plant trees and flowers on their property – often unwittingly – cooperate with other homeowners in creating a landscape of urban green spaces. By defining a site coverage index, planners determine how much space will be left for backyard and front gardens. Ultimately, however, the homeowners decide for themselves whether to plant a gorgeous flowerbed or a simple lawn. Complex land uses require from everybody to learn and apply different use strategies. The same person who insists on sleeping by herself in her own bed has no problem to ride the overcrowded underground train or share her office with others.
- As a lawyer, I am interested in the legal relations between land users (often owners) and everybody else. If eager shoppers may access a shopping

mall, why not also a political activist who distributes leaflets? If the government allows cars to sleep on the curbside (calling it “parking”), why does the government prohibit that homeless persons sleep rough (calling it “loitering”)? The rights to use land – most prominently: property rights – are as complex as the restricted and shared uses themselves. If a landowner owns the soil of her property, why not also the groundwater below the surface or the air above? And how can the law distinguish between air and airspace (in many jurisdictions, landowners have a right in the use of the airspace, but no property system grants landowners the exclusive use right in ambient air).

I am interested neither in fishery nor forestry; my interest in the commons pertains to spatial commons, particularly urban commons. I am using the term “spatial commons” to refer to the shared land uses typical of cities and other human settlements. The literature on urban commons examines, among other things, public spaces such as parks or plazas (Kayden 2000; Madanipour 2003), the shared use of infrastructure (Frischmann 2005, 2012), the nexus between private land and public amenities (Fischel 2001, 2010; Webster 2002; Fennell 2009), the urban ecology (Foster 2006; Colding et al. 2013), the consequences of informal uses of urban commons (Brown 2006; Blomley 2007; Foster 2009). Over time, I grew more and more interested in two peculiarities of spatial commons: the rules designed for the use of different types of spatial commons vary greatly (Needham 2006); and spatial commons frequently are closely linked to private land uses. In my book *Land Policy* (Davy 2012), I have developed a theory of land uses and land rights based on Cultural Theory, an anthropological take on plural rationalities developed by Mary Douglas (Douglas 1966, 1982; Douglas and Wildavsky 1983; Douglas and Ney 1998). In the remainder of the article, I shall present this theory with a view to spatial commons. I shall briefly introduce and explain eight monorational types of land uses (a land use is called monorational because of the predominant rationality it represents). Next, I shall show that these eight monorational types of land uses cannot exist in their ideal form, but exist as components of the inevitable connection between restricted and shared land uses. In order to link my theoretical considerations to practice, I shall illustrate the significance of polyrational property with some examples from German case law. Finally, I shall discuss the significance of polyrational property to the management of spatial commons.

2. Many the uses of land

2.1. Shared and restricted land uses: ingredients of polyrationality

The theory of polyrational property helps planners and lawyers examine and shape complex land uses by distinguishing eight types of “monorational” land uses. The eight types of land uses are: insular, opportunistic, kinship, collaborative, corporate, structural, container, and environmental uses of land (Davy 2012, 87). Four of these types are restricted uses (insular, kinship, corporate, and container

uses), the other four types are shared uses of land (opportunistic, collaborative, structural, and environmental uses). Each type of monorational land use requires its own kind of property rules. With regard to spatial commons, the theory of polyrational property explains how common pool resources are essential, but not exclusive components of urban land use patterns. Moreover, the theory of polyrational property explains why a variety of spatial commons are a prerequisite of private property.

The eight types of land uses, shaped by various social constructions of land and property relations, reflect one of four rationalities: hierarchical, individualist, egalitarian, fatalistic. The rationality-based approach to land uses and land policy draws from Mary Douglas' grid/group theory (Douglas 1982, 183–254; Douglas and Ney 1998, 122–124) used in policy analysis. A “rationality” characterizes a complex social situation, not separate persons. Nobody is egalitarian all by herself (we need others to be egalitarian). Polyrationality implies that monorational land uses do not exist by themselves, but only as elements in a land use pattern where each of these rationalities is present. Why (only) eight types of land uses? Mary Douglas' grid/group theory (or cultural theory) considers *plural* rationalities, it is not important whether “four, or five or fifty” rationalities exist (Douglas 1982, 185). A polyrational theory of planning and property also does not insist on numbers, but seeks to avoid both over-simplification (too few rationalities) and over-specialization (too many rationalities). Common and private property relations envelop and pervade the diversity of land uses. Regarding the spatiality of property, policy analysis is not so much concerned with *who* owns the land, but with *how* property relations and land uses produce viable urban patterns (Davy 2012).

2.2. Restricted land uses need private property rules

Land uses restricted to individual landowners direct the benefit stream of land use towards the holders of private property rights, including joint ownership, condominium property, corporate property, and users authorized by the owner (e.g. tenants). The restriction of the use of land often follows from law, but also from political clout, the local property culture, or social conventions. The following examples of four types of restricted land uses include agrarian uses, retail, and housing.

2.2.1. Insular uses of land

Insular uses of land do not depend on regular interactions with adjacent uses and do not need exchanges with particular other uses (e.g. neighbors or business partners). Also, users determine for themselves how they want to use their land. Insular uses of land are the paradigm of private property as an expression of liberty, personhood, and self-sufficiency (“My home is my castle!”). Insular uses follow the individualist rationality. Users make their decisions autonomously and with their own benefit in mind. In exchange as well as in competition, they have to negotiate for and take care of themselves. Typical examples are a remote

homestead (agrarian), the grocery on the corner (retail), a single family house occupied by its owner (housing). Insular uses require property rules which support individual liberty and autonomy, but also limit harm (nuisance) to adjacent land uses.

2.2.2. Kinship uses of land

Kinship uses of land combine similar or corresponding uses in spatial proximity to each other. The interaction of users within kinship uses creates mutual gain. Kinship uses reflect the egalitarian rationality, are based on trust, and accumulate social capital. This does not mean that there is no competition between the uses, but ultimately a sense of community prevails. Kinship uses need each other and the use value of land used in kinship includes a neighborhood premium. Typical examples are a farming cooperative (agrarian), high street shops (retail), a group home or shared apartment (housing). Kinship uses require property rules which promote the inclusion of similarity, often with a fair sense of group informality, yet also the exclusion of incompatible uses. Also, property rules must help the kinship users to restrain free riders.

2.2.3. Corporate uses of land

Corporate uses of land connect single uses with a view to profits that exceed the utility of each single use. The corporation establishes a hierarchy of land uses, frequently distant from each other, to profit from economics of scale, accumulation, or a network of locations. Corporate uses are hierarchical. The use value of the corporate land depends on its utility for the hierarchy established by the corporation. Typical examples are a company that operates cattle farms, transport, abattoirs, and butcher's outlets (agrarian), a chain of supermarkets (retail), an investor owning real estate at many locations in several cities (housing). Corporate uses require property rules which help the corporation to control closely all inferior uses by superior management. Control is particularly sensitive in transboundary settings where land uses are vulnerable to local influences.

2.2.4. Container uses of land

Container uses of land bring together unrelated (and in this sense insular) uses "under one roof." Single uses within the container are not connected to each other, but through the owner's interest in an expedient and cost-saving operation of the container. The container comprises many unconnected uses, the users relate to each other in a rather fatalistic fashion. The use value of container uses depends on the quality and management of the container. Typical examples are a silo or storehouse owned by a company that processes all crops from farmers in an area (agrarian), a shopping mall with individual shops mostly benefiting from services provided by the mall management (retail), high-rises for social housing, a hotel, or a refugee camp (housing). Container uses require property rules which facilitate multiple uses with little or no mutual exchange or transaction cost.

2.3. Shared land uses need common property rules

Shared land uses direct the benefit stream of land use towards the members of the use community or the general public. Common property comprises formal use rights or membership as well as traditional group rights or tacit permission. Common property scholars often point out that Hardin (1968) does not analyze the tragedy of common pool resources, but the consequences of opportunistic behavior in open access situations (Ostrom 2009, 26–27). If the variety of shared land uses remains unclear, it makes little sense to distinguish between commons, common pool resources, or open access. A polyrational theory of land policy, instead of splitting words, distinguishes four types of shared uses of land. In common property relations in land or other natural resources, all members of a use community have a right to share the use of the common (without regard to the legal owner of the land or natural resource). The use value of spatial commons depends on their availability to their members, yet also on the wear and tear of the accumulated use activities. The following examples of four types of shared land uses (spatial commons) include public streets, infrastructure, and public parks.

2.3.1. Opportunistic uses of land

Opportunistic uses of land exercise the freedom of use in a spatial common. The users are free in determining the time, location, kind, and intensity of their uses (open access). Opportunistic uses follow from the individualist rationality. The free appropriation from the commons, as described by John Locke, is a good example of opportunistic uses of land, but also prone to the tragedy of the commons (Hardin 1968). The use value of opportunistic uses reflects the variety and number of happy users. Typical examples are car traffic, street vendors, shoppers (public streets), using a public toilet or drinking fountain (infrastructure), wandering around, meeting friends, or flying a kite on the municipal green (public parks). Congestion often results from unmanaged opportunistic uses, but urban dwellers expect a city to make shared spaces available that they are free to use without fees, prior booking, or complex social arrangements. Opportunistic uses require property rules which allow the flexible and possibly temporary appropriation and use of spatial commons. In order to prevent the tragedy of the commons, the property rules must limit excessive uses, exploitation and congestion.

2.3.2. Collaborative uses of land

Collaborative uses of land create or improve a spatial common through collective action. The members of the use community coordinate their efforts in an egalitarian fashion (e.g. consensus, shared identity). Collaborative uses are manifestations of the egalitarian rationality. Ostrom (1990) emphasizes that collaborative uses of common pool resources (CPR) can prevent the tragedy of the commons. The use value of collaborative uses includes a premium on the trust between the members of the use community, their success in excluding outsiders, and the accumulation of social capital. Typical examples are a neighborhood watch on traffic and strangers

(public streets), a communal irrigation scheme in a rural village (infrastructure), community gardens with active involvement of citizens in the cultivation and maintenance of plants (public parks). Collaborative uses require property rules which promote collective action and help the use community establish and operate a suitable resource management.

2.3.3. Structural uses of land

Structural uses of land establish hierarchies by distributing spatial common goods and services according to their centrality. Structural uses represent the hierarchical rationality. Most notably, a network of streets includes highways and motorways, major arteries and through roads, high streets and cul-de-sacs. Boundaries are structural uses of land that define the size and shape of cadastral parcels and building blocks, cities and districts, regions and countries. Many public services establish spatial hierarchies through the structural use of land (e.g. police headquarter, police stations, patrol cars, officers on the beat). The use value of structural uses indicates the successful implementation of the hierarchical purposes. Typical examples are a network of streets (public streets), a sewage system (infrastructure), a municipal department establishing and maintaining a variety of large and small parks throughout the city (public parks). Structural uses require property rules which let the supplier control whether shared uses conform with the purpose of the spatial common. Accordingly, property rules often establish a monopoly in favor of a supplier. In this case, the suppliers of structural uses have to offer their services regardless of personal preferences and must not discriminate against persons who meet the general criteria for service. In public transport, this duty is called common carrier principle; in other areas of infrastructure, the suppliers have a legal duty to make a contract with all willing customers.

2.3.4. Environmental uses of land

Environmental uses of land range from the uses of natural resources such as air, water, biodiversity, sunshine and nocturnal darkness, silence, or the climate, to the pollution of the environment. Environmental commons are indispensable. As users can hardly choose who breathes the same air or enjoys the same sunshine, however, they succumb to the fatalistic rationality. Users are exposed to effects they cannot influence. Environmental economists call such effects negative or positive externalities or social cost and social benefits. Environmental commons can be harmed, but not preserved, by single users. Moreover, everybody cherishes environmental commons beyond their mere existence. We prefer pristine air to breathable air or pure water to potable water. The use value of environmental uses reflects the degree of purity. Typical examples are ambient air polluted by car exhausts (public streets), the operation of a desalination plant (infrastructure), enjoying sunlight and fresh air while sitting on a park bench (public parks). Territorial airspace, in the absence of air, is a lethal void. Airspace can be, to some degree, privately owned, but not ambient air. Also, it would be rather grim to privatize ambient air. Environmental uses require property rules which

open up access to environmental commons as much as possible, yet prevent the annihilation and degradation of the environment.

3. After monorationality: the inevitable connection between restricted and shared land uses

Once the existence of many land uses has been ascertained, many questions arise. Do the eight monorational land uses exist in their pure form? My answer is: no. The description of eight types of land uses seeks to classify what otherwise would have to be called the “ubiquity of mixed systems . . . [p]roperty, as experienced on the ground, is never wholly individual nor wholly held in common, but instead always represents a mix of ownership types“ (Fennell 2011, 16). Yet, how can we analyze “mixed systems”? The theory of polyrational property (Davy 2012) introduces a balance between, on the one hand, a simple dichotomy of private and common property and, on the other hand, a multitude of singular arrangements no one can understand or map. Ostrom’s Law, as stated by Fennell (2011), connects practice to theory. So, my next step is a theoretical demonstration as to how that monorational property does not at all satisfy Ostrom’s Law. Two examples help. The example of isolated private land takes to the extreme “the ‘liberal’ concept of ‘full’ individual ownership” (Honoré 1961, 107). Isolated private land epitomizes land uses framed exclusively by the imagination of private property rights. The other example, the space in front of and between buildings, demonstrates how spatial commons contribute to, yet not exclusively exhaust, the polyrational quality of urban spaces.

3.1. Isolated private land

Isolated private land is emblematic for a weakness of conventional representations of property merely as private property. Isolated private property does not, and cannot, exist. Assume a cadastral parcel that is fully protected from trespassers, yet completely isolated. Complete isolation has little to do with a remote location. Complete isolation means that the use of a cadastral parcel is limited precisely to its owner’s private property rights. Neither has the land access to public services (e.g. water, sewage, electricity, fiber optic cable), nor is it connected to a public street and accessible to others. Moreover, the cadastral parcel is disconnected from environmental commons that are not subject to private property relations. Among such commons are, depending on the legal system, ambient air, the wind, sunlight, rainwater, surface water, groundwater, minerals, the view, the neighborhood. Finally, air pollution, waste, and sewage produced on this private land remains and has to be processed there because the isolation prevents anything – including harmful substances – from leaving the land in question.

The completely isolated plot has little or no economic value. In fact, no potential buyer could even inspect the completely isolated plot, but would only buy a piece of land that she will never set foot on. Private property in land only makes sense if private land is connected to the rest of the world. Private property may enable the landowner to exclude “any other individual in the universe” (Blackstone 1766, 2

[Book II, Chapter 1]). Private property grants no joy, however, if it also excludes its owner from the universe. A secure title or the protection of private property *do not connect* a landowner with the rest of the world. The features assigned to “the ‘liberal’ concept of ‘full’ individual ownership” (Honoré 1961, 107) do not comprise the right to use spatial commons in the proximity of private property. In a popular reaction to the need of access to spatial commons – in this context often called amenities – private landowners use political clout to make the local community render public services indispensable for the use of private land. Based on Tiebout (1956), the “homevoter hypothesis” examines how home values influence local government taxation, land policy, and zoning (Fischel 2001). As many factors determine the quality of location which are well beyond the reach and rights of individual landowners, homevoters demand the public production and private appropriation of spatial values outside their property line (Fennell 2009; Fischel 2010).

As a technical term, the word *commons* (or: common pool resource, communal property, open access, public domain) is used with various meanings. Commons are not merely village pastures or community forests (Ostrom 1990, 3). Commons occur frequently in land use situations and often they occur inevitably. A case in point is urban infrastructure (Frischmann 2005, 2012). Common property and shared land uses are particularly vulnerable in the absence of effective use rules, as occurs when peddlers and pawnbrokers occupy a public street and turn it into “contested space” (Brown 2006). Hardin (1968) calls the vulnerability the tragedy of the commons. Commons need management (Ostrom 2009), yet one size does not fit all. The four monorational types of shared land uses – opportunistic, collaborative, structural, environmental – require that common property relations with different use rules be established. If a park bench, a community garden, a highway, and the catchment area of a large river are used under the same set of rules by many, liminal dysfunctions are inevitable. Common property includes a number of use rights that legislators sometimes do not even call property. From the perspective of land policy and spatial planning, legal terminology is not always helpful, and common property and the right to shared land uses do not depend on the legal usage of the word “property.” What matters is whether land uses are (or are supposed to be) restricted to a few or shared by many users. Consider the site-street nexus, a typical example of the interdependency between insular and opportunistic land uses, set up by private and common property relations. It would be inefficient if every landowner bought her own street. Soon no space would be left for insular uses, residential or commercial. The problem of isolated private land cannot – and is not – resolved by *more* isolated private land. Rather, as the space in front of and between buildings illustrates, a combination of private and common property relations is unavoidable.

3.2. The space in front of and between buildings

The space in front of and between buildings is emblematic for a misunderstanding of spatial commons. Spatial commons – often called public spaces or urban

commons – do not exist in isolation, but are shared land uses embedded in rich connections with adjoining restricted uses. The space in front of and between buildings is the result of the drawing of a building line in a zoning ordinance or binding land use plan: one of the most mundane activities of spatial planners. The space in front of and between buildings is the 3D manifestation of the impact that building lines have on urban design, land markets, and property developments. Building lines are boundaries that determine where the buildings sit on each plot. Such lines also designate the transition from private to semi-public and public spaces. Frequently underestimated even by planners, these boundaries manage private and common property relations. When planners draw a building line, they delimit the future building land and determine the shape and size of private properties. They create units that can be owned individually. The use of such units is restricted to individuals or small groups. By drawing a building line, planners also designate space for front gardens, backyards, pedestrian walkways, streets, squares, and parks. Planners also create a space that puts restricted and shared land uses into balance: the space in front of and between buildings. Once each plot has been developed and the grid of blocks has begun a life of its own, most people hardly ever remember the planners' effort. Without the effort, however, neither private nor common land would be available.

The space in front of and between buildings is neither a good in the economic sense nor a thing in the legal sense. It is difficult to capture the nature of this space. The difficulty is quite typical of spatial planning and land policy which constantly deal with combinations of restricted and shared uses of spatial resources. One of the key objectives of land policy is the establishing of private and common property relations suitable for a diversity of land uses. Land policy often pursues this objective through spatial planning, but planners are not always aware of how their work affects property relations. After all, the cartographic representation of the space in front of and between buildings is limited to land use plans which do not show property lines. If we superimpose a land use plan on a cadastral map, we see that the space in front of and between buildings is not an object owned by one proprietor only. The space in front of and between buildings assembles fractions of many properties. The cartographic overlay does not show the towering emptiness of the space in front of and between buildings, yet the emptiness is not void of property rights. Property in land often entails air rights (Gray 1991), not only surface rights. Each plot of private land contributes some airspace – above the yard, the garden, the roof, and between privately owned buildings. Confusingly, the private landowner has no better right to the air actually flowing through the airspace than everybody else. Ambient air, in most legal systems, does not belong to the landowner, but is an environmental common (Clarke and Kohler 2005, 371). Huge chunks of the space in front of and between buildings arise from the network of public streets and squares, the public parks, and other common land. Presumably, these chunks are subject to common property relations. But what about the *entirety* of the space in front of and between buildings – is it a private or common space? The space in front of and between buildings is a

remarkable resource: We all use it. Each of us can spoil it. None of us owns it exclusively. Shaping the physical pattern of the city, this space connects private properties with the rest of the world, but it also facilitates exchange, envelops neighborhoods, and takes the edge off density. All city dwellers enjoy this space, yet it does not even have a name (Gehl 2006). We refer to its components, for example, to a row of front gardens or the network of streets. In its entirety, the city space in front of and between buildings – created through regulatory planning and the establishing of building lines – is nameless. Without this space, cities would be rows of impenetrable building blocks stacked next to each other like tombs. The space in front of and between buildings makes cities tolerable, even desirable.

The space in front of and between buildings and other “indistinct” or “vacant” spaces, which planners care about, epitomize polyrational land uses that emerge from a combination of some or all of the eight monorational types of land uses. Polyrational land uses comprise a diversity of monorational land uses. Polyrational land uses, however, do not merely add, accumulate, collect, or combine monorational land uses. We must conceive of polyrational land uses as something quite distinct from each monorational land use. The space in front of and between buildings contains ambient air and light, pollution from smokestacks and laughter from playgrounds, flower pots and car traffic, power lines and avenues, pedestrians and stunning views of the skyline. Provided that polyrational property relations are in place, the interaction of a variety of monorational land uses, and also their frequent disregard for each other, are unremarkable. A grid of building blocks and streets does not appear spontaneously, however, and neither do parks, gardens, market squares, or other spaces open to the public. Without planning and infrastructure, no viable relationship between private and common property and the diversity of land uses emerges. The myth of planning supposes that the space in front of and between buildings and other spatial resources are created by regulatory planning and public expenditure. Polyrational land uses do not emerge merely from regulatory planning, however. Without the comforts of property, planners and other policymakers could not regulate the polyrational land uses (like the space in front of and between buildings or landscapes) into existence. Polyrational land uses, in fact, require that spatial planning and land policy employ private and common property relations.

4. Forensic evidence: plural property relations in German case law

The discussion of isolated private land or the space in front of and between buildings are elements of a general theory of polyrational land policy (Davy 2012). The disadvantage of a general theory is, however, that it tends to neglect the expertise developed on the ground. Parliaments, courts, or planning departments are not places of theoretical deliberation, but of social practice. Policymakers, who are engaged in establishing effective, efficient, and fair land policies, do not care about the “theory” or a label; they care about results. From this perspective, the generality of property theories makes it difficult to prove these theories.

In my normative statement above, I claim that spatial planning and land policy employ private and common property relations. Moreover, I suggest that many property theories do not fully recognize that parliaments, courts, and planning departments rather cleverly combine private and common property relations. My suggestion implies a statement of fact: Practitioners in the field – intuitively – understand and apply polyrational property relations. As empirical evidence for this statement I am offering the property clauses of the German constitution and a number of property cases decided by the *Bundesverfassungsgericht*, the German constitutional court. Polyrational property relations are not a figment of theory. Property law often picks up different rationalities and different voices. The German constitution (1949; *Grundgesetz* – GG) clearly demonstrates that lawmakers are able to establish polyrational property relations. Articles 14 and 15 GG contain property clauses which accommodate plural rationalities:

Article 14 [Property – Inheritance – Expropriation]

- (1) Property and the right of inheritance are guaranteed. Their content and limits are defined by the laws.
- (2) Property entails obligations. Its use shall also serve the public good.
- (3) Expropriation shall only be permissible for the public good. It may only be ordered by or pursuant to a law that determines the nature and extent of compensation. Such compensation shall be determined by establishing an equitable balance between the public interest and the interests of those affected. In case of dispute concerning the amount of compensation, recourse may be had to the ordinary courts.

Article 15 [Socialization]

Land, natural resources and means of production may for the purpose of socialization be transferred to common property (*Gemeineigentum*) or other forms of public enterprise by a law that determines the nature and extent of compensation. With respect to such compensation the third and fourth sentences of Article 14, para. 3, shall apply *mutatis mutandis*.

Article 14 and 15 GG result from a debate about the economic system of post-war Germany. Communism or capitalism? Around 1949, lawmakers were uncertain which way Germany would go. Although the Federal Republic of Germany forged a bond with the West, it remained committed to a combination of the welfare state and the rule of law: *Sozialstaat* and *Rechtsstaat* (Alexander 2006, 104–113; Allen 2010, 1063). Articles 14 and 15 GG contain individualist, hierarchical, and egalitarian elements. Examples of the individualist rationality are the protection of property and, if property is taken from private persons, the

right to compensation. Examples of the hierarchical rationality are the power of the lawmakers to define the content and limits of property and the power of expropriation in Article 14, para. 3, GG. Examples of the egalitarian rationality are the inherent social obligation in Article 14, para. 2, GG (van der Walt 1999, 121–163; Alexander 2006, 97–147) and the common property clause in Article 15 GG. The *Bundesverfassungsgericht* has a decisive role in the social construction of property in Germany. The following three examples illustrate how the case law unfolds the meanings of polyrational property.

The first example pertains to the physical scope of private property in land. According to the orthodox concept of private property, the landowner owns the surface land, the subterranean land, and the airspace, according to the doctrine *cuius est solum est usque ad coelum et ad inferos* (whoever owns the land, owns it to the heavens above and down to the underworld). In the 1970s, the incipient German environmental law attempted to redefine the proprietary nature of spatial commons such as air or groundwater. A new water management law prohibited all activities affecting the quality of groundwater without a special permit. The owner of a gravel pit complained that he could not continue the exploitation of his land because the water management agency had rejected his permit application. The *Bundesverfassungsgericht* emphasizes the parliamentary power contained in Article 14, para. 1, 2nd sentence, GG: Legislation has the discretion to decide whether groundwater belongs to the landowner as part of the cadastral parcel. Since water management law has removed groundwater from each landowner's property, a denial to issue a permit for the use of groundwater does not concern constitutional property (BVerfGE 58 [1981] 300 – *Naßauskiesung*). What does the ruling say about the physical space of property? The court establishes property rules that consider insular uses (the use of land by its owners), corporate and structural uses (the permitted use of groundwater by municipal waterworks), and environmental uses (the preservation of the groundwater body). Effectively, the court subscribes to a layered mesh of private and common property rules which envelop the identical physical space.

The second example illustrates how the spaces of restricted and shared land uses can be overlapping and have multiple, intersecting boundaries. Based on an orthodox concept of private property, private property encompasses all use rights, for example the right to hunt. In Germany and other European countries, hunting rights are associated with feudal privileges. Abandoning the feudal state also implies the termination of such privileges. Frequently, however, landowners are unable or unwilling to check the wildlife populations through sustainable hunting practices. The German legislation transfers the right to hunt to a local hunting society if private properties in a continuous area of agricultural or forest land comprise less than 75 hectares each, provided that the area of land transferred to the association exceeds 150 hectares within the same municipality. As soon as the right to hunt is allocated to the hunting society, the owners of the land become members of this society and may lease back the right to hunt within the consolidated hunting area ("*gemeinschaftlicher Jagdbezirk*"). A landowner objecting to

hunting on moral principles complained to the *Bundesverfassungsgericht*. His private property rights (Article 14, para. 1, GG) would be violated by forcing upon him membership in a hunting society or allowing others to hunt on his land. The court's decision finds the hunting law constitutional because only a very specific use right would be transferred to the hunting society. The transfer is necessary, the court asserts, to guarantee the existence of uninterrupted areas large enough for sustainable hunting practices (*Bundesverfassungsgericht*, 13 December 2006, 1 BvR 2085/05 – *Jagdbezirk*). The court's decision recognizes plural rationalities in using land. The law establishes two tiers of property. On the first tier, the use of the land – apart from hunting – is restricted to each landowner (private property); on the second tier, German hunting law establishes the shared use of the land (by hunting) through common property relations. The use community administers the right to hunt within its consolidated hunting area, each single landowner exercises her or his right to all other permitted uses on their land. Thus, the court approved of property rules which combine insular land uses (agricultural or silvicultural activities by the owner) with a collaborative land use (hunting by the local hunting society).

The third example examines property relations with respect to privately owned public spaces (see, in general, Kayden 2000). Based on an orthodox concept of private property, anybody who wants to use land that does not belong to them needs the landowner's permission. Courts have invented the "implied invitation" to deal with the social practice of land uses shared by the customers of restaurants or shops or mail delivery persons. Paying customers or DHL personnel, even if they use land they do not own, are no trespassers. The "implied invitation" guarantees the absolute right of the landowner, however, to throw out unwanted users: "A private person's ability to eject people from his land is generally unfettered and he does not have to justify his conduct or comply with any test of reasonableness" (ECtHR, 6 May 2003, *Appleby v. United Kingdom*, para. 22). The European Court of Human Rights rules that the freedom of expression (Article 10 ECHR) does not imply the right of protesters to enter a shopping mall and distribute leaflets (*idem*, para. 47 and 48). The human rights court, in other words, treats the shopping mall as it would treat a person's home: like a castle. The German Federal Constitutional Court, on the other hand, finds that the establishing of a market place at Frankfurt International Airport changes the nature of the land use and puts an obligation on the airport's owner. If a company creates a public space, it must not limit its use to potential customers or passengers, but has to allow free speech or the distribution of leaflets (BVerfGE 128 [2011] 226, 252–254 – *Fraport*). The German court finds that the shopping area of an international airport is a spatial common, at least if it is owned by the government. The *Fraport* ruling demands that corporate land uses (the operation of the airport) be combined with collaborative land uses (the assembly of protesters).

We cannot construe the court's ruling in each of the three cases as condoning a "restriction" of previously unrestricted private property rights. The hunting case reminds us most of the orthodox view of planning as a restriction of property.

The German hunting law does not merely restrict the rights of the individual landowner, however, it creates a new property in the consolidated hunting area. In the *Fraport* case, the court does not restrict the airport owner's property, but underlines the consequences of the owner's activities. Most notably, however, in the *Naßauskiesung* case, the court asserts that no property rights exist before and outside of the creation of such rights by the legislation. The water management legislation does not restrict property, it defines property. The three cases are forensic evidence of a court's recognition of plural property relations, even if the *Bundesverfassungsgericht* does not use this phrase. It is quite clear that the German cases do not consider property as a single, homogenous, absolute, natural right. Rather, the German constitutional court constantly unpacks and repacks the sticks in the bundle of constitutional property to accommodate the many needs to restricted and shared uses of land.

5. Polyrational property and the management of spatial commons

This article starts with recognizing the invaluable contributions of commons researchers such as Schlager and Ostrom (1992) or Bromley and Cernea (1989). As commons research moves on, however, other ideas will be added to the discourse on common poor resources. What does the theory of polyrational property (Davy 2012) add to understanding spatial, and in particular urban commons better?

5.1. Monorational property theories fail to recognize the many uses of land

Monorational representations of either private or common property relations fail to capture the full range of rules developed for the many uses of land. No single kind of property rules fits the purposes of all types of land uses. A detached single family house is not like a community garden, nor a highway like a retail chain. Each land use needs its own property "fingerprint." The concept of Western ownership, often traced back to Blackstone (1766, 2 [Book II, Chapter 1]) and his idea of property as that "sole and despotic dominion" (if at all) works with home ownership, but fails with community gardens, highways, or retail chains. In everyday practice, private and common property relations often accommodate a wide variety of demands made by the owners and users of land. Property theories do not always acknowledge this polyrationality of property relations.

Consider in which way property theories guide a planner who wants to establish a land policy for farms and highways, homes and parks. The planner wishes to satisfy the needs of farmers, car drivers, homeowners, the general public. What guidance can the planner expect from property theories? Many theories emphasize only certain aspects. Think about the following three examples. Hardin (1968, 1244–1245) claims that "freedom in a commons brings ruin to all," and that the environment and other natural resources be protected "by coercive laws or taxing devices." Demsetz (1967, 355) praises private property because if "a single person owns land, he will attempt to maximize its present value by taking into account alternative future streams of benefits and costs". In the "competition

between private and collective ownership” (Demsetz 2002), private property clearly would be the champion of all flourishing economies. Barnes (2006, 65–78) dismisses both the regulation and privatization of rights in land and other natural resources and demands that common property relations be established more often. Each of the three authors presents a monorational theory of property. Hardin (1968) favors the rationality of hierarchy and control, Demsetz (1967, 2002) promotes the rationality of individualism and liberty, and Barnes (2006) prefers the rationality of egalitarian resource use and community. None of them considers other rationalities, other perceptions of property relations. Without doubt, however, Hardin (1968), Demsetz (1967, 2002), or Barnes (2006) make entirely different suggestions as to how planners address property issues through their plans.

Monorationality does not imply blindness to a variety of instruments, and Hardin, Demsetz, or Barnes do not rely on merely one instrument. In fact, amalgamating instruments (or institutions) into a policy mix is commonplace in policymaking. No one expects that one size fits all. Polyrationality reaches beyond a (monorational) combination of instruments or policies. A way of testing a policy for its polyrationality is to examine each of its components for its underlying rationality. A monorational policy most likely considers basic concepts of land policy – such as land, land value, costs and benefits, inclusion and exclusion, allocation and distribution, efficiency and justice – in the same fashion. An egalitarian land policy presumably emphasizes spaces of identity, use values, capabilities, common property, and social justice. In quite a different fashion, an individualist land policy focuses on land as commodity, exchange values, private property, market efficiency, and libertarian justice. A policy would be less monorational if it combines, let us say, use values with the land market or social justice with market efficiency. The “blind spot” test delivers even more convincing results. The test looks for the blind spots in a policy. A blind spot can be anything that features prominently in other land policies, but remains completely neglected in the policy under examination. An egalitarian policy most likely will have a blind spot for market efficiency (it is not interested in a land use that harms community values, even if it is good for market competition). A hierarchical land policy also will have a blind spot for market efficiency (it is not interested in markets unless this means better control). Polyrational policies often comprise as core elements the blind spots of monorational policies. If some components of a policy do not fit with other components or even seem to be very unfitting, yet work together smoothly, the policy is polyrational.

5.2. Cities are a spatial consequence of polyrationality

Regulatory control of land uses – often called spatial planning – cannot be construed as mere limitation of private property. Rather, the value of private property rights is greatly increased by the planning of spatial commons. Spatial planning frequently is presented, however, as a restriction on the use of private property. Two leading cases on planning and property – one from the United

States, the other from Europe – confirm the myth of planning restrictions. Justice Sutherland, writing the US Supreme Court’s leading case on land use control, declared “zoning” a string of restrictions on private property:

Building zone laws are of modern origin. Until recent years, urban life was comparatively simple; but with the great increase and concentration of population, problems have developed, and constantly are developing, which require, and will continue to require, *additional restrictions* in respect of the use and occupation of private lands in urban communities. (*Village of Euclid v. Ambler Realty Co.*, 272 U.S. 365 [1926] 386–387; emphasis added)

The European Court of Human Rights, in its first case on town planning, also found that legally binding plans encroach on landowners’ rights and must achieve a fair balance between the demands of the interest of the community and the requirements of the protection of the individual’s property rights (ECtHR, 23 September 1982, *Sporrong and Lönnroth v. Sweden*). Both decisions have started a long series of case law that nurtures a misconception: Planners and landowners are adversaries with inevitably antagonistic interests. In fact, planners influence, and sometimes produce, location (Bökemann 1982). The use value of private property is greatly enhanced by tax-financed investments, infrastructure, and other public services. Moreover, whenever planners designate spaces for public use, they shape the use rights of the general public.

Consider, once more, the case of isolated private land. If we conceive of a tract of private land as an isolated object that its owner has the right to use exclusively, yet only as far as her private property rights are reaching, we must imagine an utterly miserable situation. The owner, blind to the world which she has no right to look at or have any exchange with, would be imprisoned on her land while no fresh air is coming in and no wastewater is going out. Such property is reminiscent of Mary Douglas’ (1966, 163) description of the men of the Chagga tribe, who “used to pretend at initiation their anus was blocked for life.” Landowners and property theorists who believe Blackstone (1766) or Honoré (1961) are in for a surprise not dissimilar to the discomfort of Chagga men. In fact, private property must be embedded in an environment of mutual accessibility and exchange. Private property does not by itself create such an environment, it needs to be supplemented by common property and shared uses of land (Rose 1986).

Yet, also consider, once more, the space in front of and between buildings which is emblematic of the fact that cities comprise public and private spaces, governed by common and private property relations. Cities are a spatial consequence of polyrationality. The oversimplification of property discourses, emphasizing either private *or* common property, does not help to examine polyrational spaces. With respect to commons studies, more attention to the diversity of urban commons and to the link between restricted and shared uses would be desirable. Collaborative land uses – the egalitarian version of a shared use – are just one type of spatial commons (e.g. a community garden). Yet, spatial commons are not a cocoon

where egalitarians can huddle and fortify themselves against the cruel world of private property. Opportunistic land uses (e.g. riding a bicycle on a public street) are also important to create livable cities. But so are structural uses (e.g. the sewage system) or environmental uses (e.g. ambient air). In combination with restricted uses, these shared land uses contribute to polyrational spaces. From the perspective of the theory of polyrational property (Davy 2012), the management of spatial commons needs to account for such plural rationalities.

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