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ON THE CLASSIFICATIONS OF PROPERTY RIGHTS. A survey of literature.

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Introduction

A classification of property rights involves three classes of phenomena, the "thing" which is subject to being property, the actors "owning" these "things", and the interests of the rest of society in the ownership relation. Hence we may organise our investigation around three questions:

a) is there any regularity in the kinds of objects (i.e. rights or goods) that can be made into property?

b) is there any regularity in the types of subjects which may hold property (types of owners)?

c) is there any regularity in the rules delineating owners from non-owners?

The answer to the first question seems to be no. Historical and cross-cultural studies seem to show that while there within a society may be clear and coherent rules of what can be made into property, for the general case there are absolutely no consistent classification of what can be recognised as property and what cannot (Godelier 1984). The most one is able to say is that if something is abundant people will usually not bother to make it into property.

The second question leads us to the answer that three different types of entities are usually recognised as owners:

- a state may hold property,
- properly defined and legally recognised groups/ collectives (such as villages, tribes, other local communities, families, user associations, NGOs (non-governmental organisations), and business corporations) may hold property, and
- individuals may do so.

[1] This is a revised paper first written as a background for 2 other papers Berge and Aasen (2001) and Berge (2002). It was also delivered to COST Action E19 in 2001 (Glück et al. 2003).

Corresponding to these types of owners one speaks of state property, common property, and private or individual property since the rules delineating owners from non-owners often differ for the various types of owners.

The important distinction between them lies in the differences in how goals are decided on and action plans formulated and acted upon. For individual actors, goals emerge through a cultural process. These are acted upon within the constraints posited by established property rights and the incentives of relative prices. Relative price is here seen as a general concept summarising the relation between effort and benefit. People tend to choose within their information constraints the available action alternative promising the most benefit per unit of effort. In this sense choices are bounded rational (Simon 1957, 1986). Collective actors are comprised of individuals each with their own goals. The formulation of collective goals as well as action plans is therefore subject to the problems of collective action (Olson 1965). But also these actors are subject to the constraints of established property rights, the cost of getting appropriate information, and the incentives of relative prices. The state is a particularly important category because it has the power to redefine property rights and relative prices in a variety of ways. The state is often an owner with direct responsibility for large areas. It is always a stakeholder in the sense of representing the public interest in how the various resources are used. In rule-of-law states its position as resource owner is subject to established property rights and procedural rules of law making. In other states the two roles of law maker and resource owner tend to become confounded.

What are property rights?

At the outset it may be convenient to distinguish between three concepts of property:

- property as understood in the everyday world of common people,
- property as understood in the jurisprudence of property, and
- property as understood in the social sciences.

These different conceptions of property are successive generalizations of the former. They are nested in that the legal concept of property builds on and implies the everyday concept of property in the same way as the social science concept builds on and implies the legal concept of property.

The everyday conception of property rights

Our everyday conception of property is clear in its main implications. A hypothetical opinion poll about the differences between mine and "thine", or what I can do with mine, what you cannot do with mine, what you can do with yours and what I cannot do with yours, would reveal fairly unanimous opinions.

Snare (1972) has investigated the meaning inherent in the everyday concept of property. He found it could be described by six types of rules, three defining the rights of the owner and three types of rules regulating the relation between owner and non-owners. Snare (1972, 203-204) also discusses the meaning of "right to use". The conclusion is that an owner acting in a society is bound not only by ownership to any tools used in acting, but first by rules regulating activity within the society independent of ownership to any tools used in the action. Thus the everyday conception of ownership presupposes all other rules within the society: the extant institutional structure (North 1990, 3).

Table 1 The everyday conception of property (based on Snare (1972)).

Ownership rights:
1. The owner has a right to use his property, meaning,
• it is not wrong for the owner to use his property, and • it is wrong for all non-owners to interfere with the owner in his use of his property,
2. Non-owners may use the property of the owner if and only if the owner gives his permission, and
3. The owner may permanently or temporarily transfer his rights as defined by rules 1 and 2 to specific other persons by consent,
Relational regulation:
4. Punishment rules: regulating the cases where non-owners interfere with an owner's use of his property.
5. Damage rules: regulating the cases where non-owners cause damage to someone property, and
6. Liability rules: regulating the cases where someone's property through either improper use or neglect causes damage to the person or the property of some person.

Most people would no doubt recognise these propositions as a rather obvious description of their everyday world. If, however, one asked about the purposes of

property: why do we have such a thing as "property", most people would be at a loss for an immediate answer.

Prompting farmers and landowners to justify their possessions, Newby, Bell, Rose and Saunders (1978) found four types of justificatory ideologies called capitalistic, individualistic, collectivistic, and altruistic justifications. Those turning to capitalistic justifications emphasised that their property was reward for hard work and risky investments. Those using individualistic justifications compared the large estates to everyday possessions like clothes or cars. The collectivistic justifications argued that wise management of property created work and income for many people besides the owner. And the altruistic justifications saw the owner only as a steward for future generations. It is no coincidence that these are the main arguments used by philosophers to justify property (For reviews see Schlatter (1951), Reeve (1986)).

The jurisprudence of property rights[2]

Snare (1972) in his investigation of the everyday concept of property provides a bridge between this concept and the legal concept.

A right, as seen from the point of view of the right-holder, is an expectation about the behaviour of other actors affected by the exercise of the right[3]. A property right, then, is an expectation about the behaviour of all non-owners. It is different from other rights (non-property rights) in that the expectation is legitimate and relates to the appropriation of reality. The non-owners as well as the owners accept it as legitimate. A right recognised as a property right have in developed democratic societies been given special status, protecting the holder of the right both from non-holders and from the state. If a legal system recognises a right as a property right, special procedures are used and the holder of the right is given special remedies to help enforcing the right against contenders.

The process of how a right comes to be regarded as a property right is not well understood, but it would seem to be connected to a process of legitimisation of authority in relation to the development of a conception of justice. In other words it is tied to the development of legitimate and just use of power.

[2] Some legal scholars discussing rights in general make a point in distinguishing between rights in personam and rights in rem (Waldron 1988). I it is difficult to see how this might illuminate the discussion of property rights as outlined here.
[3] Coleman (1990, 45-64)’s discussion of rights to act is instructive.

Relations among people are dual in nature since they can be experienced from two perspectives. By the nature of the problem, to regulate the streams of benefits from human activities, a property relation has to be an asymmetrical relation. Hohfeld (1913, 1917) saw this and found that rights recognised by law had a dual asymmetrical nature. His project was to describe legal rights in general in as precise language as possible (see Munzer (1990, 17-22)), but applied to rules specifying the relations between one (or more) owner(s) and all non-owners in regard of some entity the owner(s) regard as their property his typology also presents a classification of the various legally recognised property relations. They to fall into four pairs:

Table 2 A classification of legally recognized property relations (from Hohfeld (1913, 1917)).

	IF OWNERS HAVE		**NON-OWNERS HAVE**
Use aspects	1.	claim-rights	duties
	2.	privileges	no rights
Exchange aspects	3.	powers	liabilities
	4.	immunities	no powers

The various types of rights and duties are all tied to actions and transactions: what owners are allowed to do or not do, what non-owners are allowed to do or not do, and how the power of the legal system may help the owners to protect and exercise their rights.

The expectations of the owners about the behaviour of the non-owners, appears to the non-owners as duties towards the owner. The privileges of the owner concern which behaviour the owner is allowed without having to consider the reactions of the non-owners. Correspondingly the non-owners have no rights (i.e. expectations about the behaviour of the owner) that can interfere with the behaviour of the owner.

The powers of the owner are the abilities to voluntarily create new legal relations with a non-owner. The powers of the owner are curtailed in the law of contract and include, of course, everything from the short time renting of a consumer durable to outright sale of, or giving away, an entire estate. If an owner wants to exercises his

power to create a new legal relation with a non-owner, the non-owners susceptibility to having his legal position altered is called liability (see also Munzer (1990, 18)). On the other hand, an owner has immunities against attempts from non-owners to create new legal relations or interfere with established relations. The non-owners have no powers to create new legal relations.

To this must be added that the focus of the property relation in any case is some particular benefit from some particular source. The expected and allowed behaviours concern this "something". The same does the possible new legal relations.

It is important to note that for a relation to be a property relation, it must be enforceable. The rights, privileges, powers and immunities of the owners are one way or another protected. Those violating them do so at a real risk of suffering sanctions.

Extending Hohfeld's paradigm of rights and duties

Hohfeld's (1913, 1917) conception of legal relations applied to the relation between owner and non-owner in relation to an object also contains the negation of this relation (for example what does absence of a claim rights /duties relation mean?) as seen from the owner's position:

	RELATION OWN	NON-OWNER	ITS NEGATION
Use aspects	claim-rights	duties	no-rights
	privilege	no rights	duties
Exchange aspects	powers	liabilities	no-powers
	immunity	no-powers	liabilities.

Commons (1924) takes the discussion further. He clarifies the meaning of the categories outside the strictly legal context as well as the distinction between the directly interested parties (owner/ non-owner) and the «uninterested» third party (such as the «public interest») to which Hohfelds «jural opposite» (negation) relation applies if interpreted in the meaning of a limit on the owner/ non-owner relation.

The social science concept of property rights

It is easily seen how the 6 rules described by Snare can fit into the more abstract scheme of Hohfeld. However, the legal concept of property seems to have lost touch with the everyday concept, which sees property as a "thing" even though it obviously implies this in its actual application. In its abstract focus on the relation between members of a society, the law has had to leave out the property seen as a “thing” in order to achieve its main task of bringing justice to the transactions among people.

In the social sciences concerned with societal development this is no longer possible. Property seen as a “thing" has to be brought back in. But the "thing" brought back in is even more abstract than the relational concept of property. Economists might say that the abstract "thing" is the “goods” and “bads” of everyday life, the utilities of social actors. Sociologists might say it simply is concrete and effective rights and duties – or maybe more familiar: conventions, rules, norms and values - as these are actually distributed in a society. In general, social science seems to lack a precise technical language for the discussion of property rights and institutions. Buck (1998, 2-5)demonstrates how technical terms in law and political science can convey different meanings.

However, social science is interested in the social power attached to property rights. The allocation of rights and duties in relation to particular resources determine whose goals will count by how much in the choice of management goals, in the timing and duration of extraction, in the application of technology, and in the intensity of effort expended to achieve the goals. But even more important: in any society those who have much property also will have much power in the sense that they will be able to affects the lives and destinies of other people – the non-owners.

The crucial distinction between the legal conception of property and the social science conception is best seen by focusing on property seen as concrete existing, effective rights used in the everyday appropriation of reality. The legal conception is concerned only with those rights recognised by the law as property rights. Rights given the status of property rights by the law are treated differently from other rights. The procedures in court are different. The remedies granted the rights holders are different. The restraint shown by the state in interfering with these rights are often remarkable.

In contrast to this the social science conception of property also includes rights not currently recognised as property rights by the law (except in the concept of common law), provided the rights actually exist and are used in the everyday

appropriation of the world. This opens the possibility for studying changes in property rights: the emergence of new rights, how people exercise their new rights, and finally the recognition of their new rights by the legal system as property rights. (For more on the nature of rights, see Coleman (1990)).

It is usually taken for granted in the study of property rights that property rights include all the claim-rights, privileges, powers and immunities recognised by (mature) legal systems (Honoré 1961). “Ownership” of something, or “property rights” to something is considered a “bundle” of rights. However, the discussion of private property rights is usually focusing on the right of exclusion from the good and the possibility of alienating the right to its utility. The central feature is the owner’s power to alienate his property either in bequeathing or in trade. Without the right of alienation and exclusion the rest of the bundle of rights seems to be theoretically uninteresting for the (private) property rights paradigm. However, a right, even if in itself inalienable or applying to a good only partly, may give rise to a valuable stream of benefits, some of which may be alienable. And in between the alienable and inalienable there are all possible variations of the conditionally alienable. These not completely alienable rights can be as private as any completely alienable and excludable good. The problem is not alienation or not, but monitoring and enforcement of whatever rights there are, on the one hand, and the dynamic consequences for transaction costs and distributional equity, on the other. This means that to study how property rights work we need to “unbundle” the bundle of rights assumed by the simple conception of “thing ownership”.

Property rights and stakeholders

The discussion of property rights so far has shown that “ownership rights” has as its complement the “no-ownership” duties on the one hand and on the other hand the role of the disinterested third part, the state. From this it is seen that in all situations effective property rights will be defined by three types of rules:

- Statutory rights and duties of owners,
- Customary rights and duties of non-owners,
- Statutory modifications of customary and statutory rights and duties
    - by limiting the options of land owners (zoning regulations or land use planning),
    - by regulating the behaviour of both owners and non-owners, and
    - by regulating the use of technology.

Property rights in this meaning do not only define owners (those with enforceable rights), but more generally “stakeholders” (anyone with a legitimate interest in a resource). Stakeholders are the owners and the non-owners with a legitimate interest in the resource.

Stakeholders without statutory property rights represent a difficulty for many legal systems. They usually do not have legal standing in court proceedings. During the last decades there has been a growing emphasis on citizen participation in the management of the environment (Appelstrand 2001). This has led to new approaches giving standing to stakeholders based on their representation of a general public interest. This process can be viewed as a step towards giving public goods legal protection.

In an empirical study of the rights and duties of stakeholders in some particular resource the separate contributions of several sources have to be considered:

- customary behaviour towards the resource as defined by the local culture,
- legislation defining the rights and duties of a holder of the particular resource,
- public legislation on environmental protection and resource management, and
- ideas of equity in dealing with competing interests in the resource.

The relative strength of the various sources can be expected to vary from society to society, from community to community, and, perhaps, also for various types of goods.

Rights of management

Rights seldom come one by one. Usually they are defined generally and will be thought of as bundles in the sense that the general description of them will allow for some kind of specification into «elementary» rights. The rules of specification, however, may vary. This leads to different bundles of rights. The key is the specification rule.

In a resource governance perspective the most important dimension of property rights is their role in the management of resources. The goals of the governor will then frame the specification. Based on the interests of the owner, the management problem may be specified

- according to decisions furthering productive and profitable activities,
- according to consumer interests of the beneficiary of the resource, and
- according to subsistence security of resource users.

To further productive and profitable use of a resource, several types of management decision rights are necessary:

- rights of access,
- rights of use or extraction,
- rights to make decisions about access and use or extraction,
- rights to exclude, and
- rights to alienate the resource.

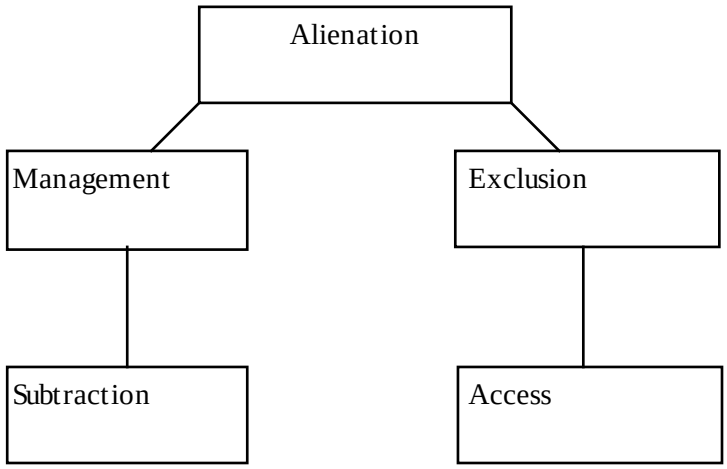
The various rights can be bundled in several ways. The full bundle defines the rights of the owner.

Bundles of hierarchical rights of a management

Rights are often defined in an inclusive hierarchy where each category implies the rights in lower level categories (Schlager and Ostrom 1992). Rights of alienation imply rights of management and exclusion. Rights of exclusion imply rights of access and management, and rights of management imply rights of subtraction (Figure 1). Theoretically the five rights can be combined into five packages containing more and more extensive rights. They are often seen to correspond to some particular role in the social system managing a resource (Table 3).

Figure 1 Hierarchy of rights

Collective choice rules



Operational choice rules

Source: Schlager and Ostrom (1992)

The definition of «owner» in table 1 corresponds to the view holding that only right of alienation and exclusion will constitute «real» private property.

The bundles of rights defined by table 3 can be said to represent an action or production oriented specification of rights. It emphasises what an appropriator may legitimately do with whatever is owned. It has for some time seemed almost like a cross-cultural standard of property rights in the social science studies of property rights systems.

Table 3 Bundles of rights associated with positions in the resource management system.

	Owner	Proprietor	Claimant	Authorised user	Authorised entrant
Alienation	X				
Exclusion	X	X			
Management	X	X	X		
Subtraction	X	X	X	X	
Access	X	X	X	X	X

Source: E. Ostrom and Schlager (1996, 133)

But this is not the only approach to specification of rights relevant for resource management. If we take the standard ownership position as given, one may further think of other ways of specification of rights to resources. One is the specification of rights developed in the trust institution. If the hierarchical specification in table 3 is called production oriented, the trust specification can be called utility oriented in the sense that its origin was the problem of securing the long term utility of some resource for a specified group of persons.

Management according to the interests of a beneficiary

In English and American jurisprudence the trust institution allows separation of legal, managerial and beneficial ownership rights in a way different from what is stipulated in table 3. In a trust the owner according to law and equity has a package of rights put together differently from the hierarchical system of table 3 (see table 4). For land trusts the owner, called trustee, will usually only have the power to alienate the land and enough of the other rights to exercise the right of alienation in conformity with the trust put in him or her. The beneficiary of the trust will retain the rest of the rights and duties. But rights of management may be delegated to some professional while the beneficiary has access and withdrawal rights to the net utility of the property: the net stream of income and other goods it generates. Then the rest of the rights of exclusion, management, subtraction and access are shared according to what needs the manager has and to the benefit of «cestui-que-trust»[4]. This approach to defining the central role of the beneficiary may be called consumer oriented. The other bundles of rights in the system are put together as complements to the rights of the beneficiary.

The flexibility of this system and its ability to address new concerns also in resource management is evident in the development of public trusts such as «The National Trust for Places of Historical Interest and National Beauty» in England.

[4] Meaning "the one who trusts": For technical terms it is referred to Black’s Law Dictionary (Black 1990)

Table 4 Ownership roles in trust ownership[5]

	Trustee	Cestui que trust (beneficial use)	Manager (managerial	Ordinary owner (Table 3)
Alienation	X_1			X_1
Exclusion	ΔX_{21}	ΔX_{22}	ΔX_{23}	$\Sigma\Delta X_{2j}=X_2$
Management	ΔX_{31}	ΔX_{32}	ΔX_{33}	$\Sigma\Delta X_{3j}=X_3$
Subtraction	ΔX_{41}	ΔX_{42}	ΔX_{43}	$\Sigma\Delta X_{4j}=X_4$
Access	ΔX_{51}	ΔX_{52}	ΔX_{53}	$\Sigma\Delta X_{5j}=X_5$

Resource bundling to create viable farms

The most extensive bundling of resource rights occurs when ownership of the ground implies ownership of everything attached to the ground or flowing over the ground (dominium plenum). The "high modernist" perspective guiding development strategies has taken for granted this assumption about property rights.

But rights to resources in an ecosystem are not inherently bundled. It is not uncommon for rights to be unbundled in resource specific ways and held by a variety of actors. Individuals or groups may hold rights to access an area (e.g., a wildlife area) and extract resources (e.g., hunt game), for example, but a government body often has the authority to make decisions about quantity regulations (e.g., the maximum number of animals killed by hunters each year). Other actors may hold rights to pasture, or to timber, and the role of the government will vary across resource types. The individual, group, or association that holds rights to any given resource (e.g., game) need not have rights to other resources in that ecological system.

In history many systems of rights of common, such as in England and Scandinavia, can be seen as efforts to bundle resource rights with the goal of making farms viable economic enterprises (Berge 2002).

The "thing" brought back into the theory of property rights

The values and goals seen in the objects of ownership can be interpreted in terms of the kinds of goods perceived to inhere in various types of commodities and services. These goods are of four types: private goods, common pool goods, club goods, and public goods.

[5] See also table 3 in Berge (2002)

Table 5 Typology of goods

Resource is	Appropriators are: excludable	non-excludable
subtractable	PRIVATE	COMMON POOL
non-subtractable	CLUB	PUBLIC

Source: adapted from V. Ostrom and Ostrom (1977)

Cornes and Sandler (1986) provide an interesting discussion of public and club goods in the context of externalities. I have argued elsewhere that this typology of goods gives us analytical categories, which may describe aspects of the *utility* of real world products, not necessarily the physical goods themselves. Thus, there is considerable room for political choice about the degree to which some real world product shall be treated as private, common pool, club or public, or as a mixture (Berge 1994). Thus I disagree with McKean's (2000) position that the nature of a good in general is a physical fact, given the technology. This is only part of the story. The nature of the good is also open to political choice and symbolic manipulation, sometimes with a vengeance if the physical characteristics of the good are disregarded.

In the act of specifying property rights, the question faced by a governor is not just the technical feasibility of exclusion, or the economic return from subtraction, but also their moral desirability and political feasibility. Several recent studies of property rights emphasise their embeddedness in a political system and emergence from a political process (Brouwer 1995; Sened 1997; Hann 1998). Thus the definition of property rights as being one or another type is an interesting fact in itself, and should be expected to vary among societies.

An example: rights to go for a walk in the wood

Walking in the wood can be seen as a good. You appropriate it by actually walking in the wood. But what kind of good is it? It is technically excludable, but it may in many cases be very costly to exclude, like it is for many common pool resources. It is in general non-subtractable, but will be affected by crowding. Thus it may be either a club good or a public good with utility modified by crowding.

Who holds the rights to walking in a particular wood? In Norway the right belongs to any person who legitimately stays in Norway. In England it belongs to the owner of the land except where custom or contract allocates it otherwise.

Crowding/thinning and management of externalities

There is nothing inherent in the nature of "walking in the wood" which might be used to "solve" the problem of assigning the right to any particular person. But with increasing crowding there will be an increasing number of externalities affecting other goods in the wood. At some point the cost of these externalities may be high enough to make the cost of exclusion reasonable. Assuming the crowding is real and not just theoretically possible, at what degree of crowding does this happen? Real evidence seems to be missing. All arguments end up with a political "choice" at some point in history.

But for the present discussion there is one interesting aspect to the different choices in Norway and England. In Norway the right of access to woodland is conceived as separate from the land. In England it is bundled with the land.

Subtractable used about a resource means that harvesting or appropriating from the resource by one user diminishes the amount available for another user. The use of "private" and "public" as labels of goods should not be confounded with the same labels used about types of owners. Here they are labels used to denote analytical characteristics of a good important for the collective action problems experienced by actors wanting to coordinate their goals. The most important difference is the type of externality generated by the appropriators of the good.

Externalities

An activity generates an externality if there is an unwanted material consequence for actors not taking part in the activities generating the consequence. In common pool resources the externality is of the queuing type causing competition among appropriators and distribution problems between those first in the queue and those last, but without affecting the utility of the good appropriated. In club goods the externality is of the crowding (or thinning) type. This type of externality produces distribution problems in relation to non-members and causes threshold effects in the utility of the good. By setting the number of club members to something under or over the threshold, the utility of the good can be preserved. But equity problems between members and non-members have to be addressed.

It should be kept in mind that these are analytical categories. Real world goods such as pasture, wildlife, timber, or biodiversity will usually be a mixture of the

various types of analytical goods, and thus the property rights to the resource need to solve the particular mix of externality problems found in each case. We must also see that the problems of exclusion and subtractability as well as the characteristics of the externalities are shaped in profound ways by the technology used in the appropriation of the good. What actually happens in forest activities depends not only on the institutions but also on the available technology, including knowledge about how to transform resources into something more desirable.

Types of resources and types of owners

It is interesting to note that the various types of resources thus identified have a certain correspondence to the types of owners discussed above. In particular it would seem that a pure club resource might be suitable for common ownership. A pure public resource would need no ownership, and a pure common pool resource would, perhaps, require state ownership.

Transaction costs

Most real resources will contain aspects of more than one of the types identified. The distinctions are, however, important for the design of property rights in that rules of transfer must depend on the possibility and cost of excluding some non-owner from the resource (the transaction costs and possibilities for generating externalities from enforcing a contract of transfer of rights). And it must take into consideration to what degree the resource (or more precisely the value of the resource) is divisible. If the value is indivisible it is most probably inalienable as well (like knowledge or skill once acquired). Conversely considerations of entitlements and equity may lead to considerations of inalienable rights. The rules defining and protecting such rights then has to conform to the rules governing club resources and public resources.

Property Rights Regimes

Individual Private Property Rights

This is the ordinary everyday concept of property applied to private citizens. There is a single decision maker known as the owner exercising all rights, privileges, powers and immunities of an owner.

State Property Rights

In discussing state property rights it is focused on their public character. They are by some seen as being held in trust for the people and should be managed by the

wise and well-intentioned state bureaucrats for the greatest good of the greatest number of people. Others have focused on the inherent difficulties in designing rules to do this even in the best of circumstances. The many examples of states with corrupt servants making state property into something best described as open access or even their own private property, should warn against too much faith in the state in general (V. Ostrom 1993).

Common Property Rights

In the discussions of private and public property, the common property rights are by some seen as the ideal combination of private and state aspects of property, and by others as getting the worst combination of the two. It is well within the probable that all arguments about the virtues and shortcomings of common property may be true in some specific context and with some specific combination of rights and duties as defined by some specific political system. It is impossible that all arguments can be true in general (See e.g. (E. Ostrom 1990)).

Open Access Regimes

For a resource with open access, nobody is vested with the rights, privileges, powers and immunities of an owner. This means that all benefits from the resource are open for appropriation by anyone willing and able to do so.

The distinction between no ownership/ open access[6] and common ownership is important. The logic of the utilisation of a "common property resource" (Warming 1911; Gordon 1954; Scott 1955; G. Hardin 1968) applies in reality to the resource with no ownership, the open access resource. For a true common property resource the logic will apply only under particularly specified circumstances. Needless to say, the open access resource is a vanishing specie.

Types of actors, types of goods and types of regimes

The first approximation to the question of who the owners are, introduced the distinction between individuals, various types of collectives, and the state. This distinction was behind the classification of property rights into private, common, and state property rights regimes. Above we discussed the various types of goods one might find in the “things” owned: private goods, common pool goods and public goods.

[6] Eggertsson (1990, 36) uses the label "communal property" for what here is called common property and "common property" for what here is called no property/ open access.

Putting the concepts besides each other like below might suggest there is a one-to-one correspondence of type of actor, type of good and property rights regime. But that is misleading. McKean (2000) points out that a lot of conceptual confusion can be traced to the use of ”public” and ”private” to distinguish types of actors, types of goods, and types of property rights regimes.

Type of Actor	Type of Good	Property Rights Regime
Private (Individual)	Private	Private
Public (Collective)	Common Pool	Common (public)
State (public)	Public	State (public)

Perspectives on systems of property rights

A property rights system can, short and imprecise, be defined as an institution determining: “Who will benefit how much for how long and in what ways from which resource(s)?” Answering the “who” question will identify who will legitimately be able to withdraw resource units and make decisions about resource management. That is: it determines who holds property rights over the resources.

According to (Godelier [1984] 1986) "the concept of property may be applied to any tangible or intangible reality", and rules of property rights will "always assume the form of normative rules, prescribing certain forms of conduct and proscribing others under pain of repression and sanctions" (p. 76). But he also warns "Property only really exists when it is rendered effective in and through a process of concrete appropriation." (p. 81).

Property rights in the means of production are usually recognized as one of the major institutions of a society. In Marxian social science the relations of production (i.e. the distribution of property rights) is seen as one of the major institution of society defining among other things the class divisions of society (see

Elster (1985)). However, property rights as such seem to have been taken as rather unproblematic[7]. Anthropological and historical research, however, have demonstrated that property rights systems are not immutable structures. They change and transform in response to more pressures than the forces of production. Sometimes it may be appropriate to speak of a de facto development of property rights even though the particular rights as yet are unrecognised by the law as property rights[8].

Property rights concerns the practices, rules and beliefs which determine who will get which benefits from which resources. Property rights "help man form those expectations which he can reasonably hold in his dealings with others" (Demsetz 1967, 347). This means that property rights are a central part of human interaction. Even in situations where the actual on-going interactions have nothing to do with the distribution of benefits, one can see that the prevailing property rights affect the framework of interaction at least by defining and infusing the space-time setting of the interaction with particular meanings. This view of property rights means that

[7] Giddens (1981, 113)for example writes: "The concept of "property" was never analyzed by Marx, and it would be necessary to discuss it at some length were one to attempt a satisfactory elucidation of the notion. For my purposes here it is enough to specify a minimal categorization of how "property" might be analyzed. First of all, property has a content, property is something. The chief form of private property in the means of production in class-divided societies is land, even if the formation of money capital through commerce and agriculture may be a far from negligible phenomenon. In capitalism the main forms of private property are factories, offices, machinery, etc., however much land (itself capitalized) might remain a necessary productive resource. It is difficult to underestimate the sociological significance of this difference, and Marx provides us with a framework for analyzing it - again, especially in sections of the Grundrisse. "Property", of course, also implies normative rights of control of material resources. Here we can usefully recognize variations in the level and types of alienability of resources."
I think Giddens' critique of historical materialism might have profited from a more thorough understanding of the concept of property.

[8] This might be the case for some developments in organized labour-capital relations, social security (compare e.g. Reich (1964)), or the rights, privileges, powers and immunities of the members of the more successful professions (see e.g. Perkin (1981)).

they are a central part of all social institutions and that institutional change means changes in property rights[9].

Theoretical studies of property rights

The academic study of property rights[10] has concentrated on resolving the relative merits of simple systems of private individual rights compared to systems of

[9] Eisenstadt (1968) defines social institutions as "regulative principles which organize most of the activities of individuals in a society into definitive organizational patterns from the point of view of some of the perennial, basic problems of any society or ordered social life" (p.410).

Bromley (1989, 77-78) thinking of economic institutions, finds that they may be defined as the sum of "consensual arrangements or agreed upon patterns of behavior that comprise conventions", and the "rules and entitlements that define - with both clarity and obvious sanction - individual and group choice sets".

Stinchcombe (1997) reminds us that for a rule system to become an institutions it needs guardians charged with the interest and authority to monitor and enforce the rule system. At the most elementary level the people who devise the rules may do so themselves. In modern states we in most cases expect to find a bureaucracy.

Bromley arrives at the institutional structure of society as the fundamental variable to study in order to understand the dynamic of the economic system. The study of social institutions seems to be the meeting ground of sociologists and economists (Swedberg 1987). But compared to e.g. Schotter (1981) and O. Williamson (1975), Bromley has come much closer to the sociological concerns with distributions and social justice as fundamental aspects of social institutions.

According to Lewis (1986, 58): "A regularity R in the behavior of a population P when they are agents in a recurrent situation S is a **convention** if and only if it is true that, and it is common knowledge in P that, in any instance of S among members of P: (1) everyone conforms to R; (2) everyone expects everyone else to conform to R; (3) everyone prefers to conform to R on condition that others do, since S is a coordination problem and uniform conformity to R is a coordination equilibrium in S."

[10] The works, particularly those by (Coase 1937, 1960), (Demsetz 1967), (Alchian 1965; Alchian and Demsetz 1973), (O. Williamson 1975, 1981), (Posner 1972), (North and Thomas 1973, 1977), and (North 1990) have been associated with the emergence of a property rights perspective on institutional development (see Bromley (1989, 12), Bardhan (1989, 3-17), Eggertsson (1990, 33)). It should be added that also Bromley, Bardhan, and Eggertsson (strongly influenced by North) are contributors to this tradition. While Bromley (1989) and Eggertsson (1990) mainly present their own approach to institutional economics, Bardhan (1989) distinguishes three approaches to the role of institutions in economic development: 1) the Marxian approach, 2) the CDAWN approach (after Coase, Demsetz, Alechian, Williamson and North) focusing on the role of transaction costs, and 3) the imperfect information approach referring to Ackerlof and Stiglitz: see e.g. Ackerlof (1970) and Stiglitz (1985).

common property. The first important result was to see the distinction between the open access resource and the resource managed as common property (Ciriacy-Wantrup and Bishop 1975). While open access resources are without any management regime and tend to become destroyed as predicted by Garret Hardin's (1968) metaphor of "The tragedy of the commons", resources owned in common or as private individual property are indistinguishable in the theoretically simple situation of (1) perfect information, and (2) no transaction costs (Baland and Platteau 1996). However, it is recognised that in the real world available information is far from perfect and transaction costs are considerable. Particularly information about the status of resources tends to be skewed towards the short term and directly observable. Slow and not so easily observed changes often come as surprises. This is as much a problem for local community management as it is for private individual and even state management. In addition, the larger the ecosystem to be managed is, the more complex is the information. And if it is available at all, the cost of implementing it in a management system is considerable.

The problems encountered in the management of the forest lands can be said to have its origin in co-ordination problems constrained on the one hand by ecosystem dynamics and on the other hand by considerations of equity among owners. Due to the multiplicity of activities and the diversity of actors, their activities need co-ordination.

Collective action refers to activities that require the co-ordination of efforts by two or more individuals (Olson 1965; R. Hardin 1982). Collective action becomes problematic for a group of people when their actions are interdependent: when one person's reward is dependent on the actions of others (Axelrod 1984, 1997). Independent choice in an interdependent situation is called a social dilemma. Social dilemmas are situations where what seems to be the best course of action from one point of view will, if pursued by all actors, lead to results considered worse than feasible alternatives. The exact character of a social dilemma is thus shaped by value systems, technology and resource characteristics (North 1990, Ch2).

Collective action problems appear at two levels: First in recognising the necessity of coordination and regulation of behaviour. Second, the problem appears in making the rules of regulation, and of monitoring and sanctioning behaviour governed by the rules. Designing a system of property rights to some particular resource (e.g. fish) has been studied as a problem in collective action, particularly in connection with the management of open access resources (Taylor 1987; E.

Ostrom 1990; Sandler 1992; E. Ostrom, Gardner, and Walker 1994). The general problem consists in supplying public goods in “optimal” quantities.

Rules and their systems of monitoring are called institutions. Institutions are public goods. Public goods, club goods and common pool goods are in simple models of collective action prone to under-supply due to incentives of free-riding. The problem of supplying such goods at socially optimal levels has been extensively studied with formal models, experimental studies, and field studies. There is a discrepancy between theoretical predictions of standard models and observations from field studies. The levels of cooperation are higher than expected even though less than optimal. Experimental studies confirm this and suggest that the formal models could be improved by including concepts such as “trust”, “reputation”, and “reciprocity” (Fehr and Gächter 2000; Berg, Dickhaut, and McCabe 1995). A group with a higher level of trust, stronger norms about reciprocity, and members with better reputations for being trustworthy will more easily overcome social dilemmas and take collective action.

In economics there is an implicit focus on exclusion and alienation in the emphasis on efficiency in the allocation of productive resources. Tietenberg (2000) describes the structure of property rights necessary to produce efficient allocations in a well-functioning market economy. Well defined property rights have the following characteristics:

- exclusivity – all benefits and costs accrue to the owner,
- transferability – all property rights should be transferable through a voluntary exchange, and
- enforcability – property rights should be secure from seizure or encroachments by non-owners.

The importance of the allocation of property rights has not always been acknowledged. Coase (1960) argue that in a neo-classical economy (with zero transaction costs) «free» trade in assets will always lead to an optimal resource utilisation. Hence, allocation of property rights does not matter for efficient outcomes, while any restriction on trade will be detrimental to it. Stiegler (1989) labelled this result the «Coase Theorem», and many economists seem to stop reading at that point. However, Coase recognised the limitations of the “theorem”. The assumptions require that all actors are rational and possess complete information about all other actor’s preferences and strategies, and that transaction costs and wealth effects are zero. Recognising this, the conclusion by Coase (1991) and neo-institutional economists (North 1990; Eggertsson 1990) is that politics,

institutions and distribution of rights do matter. The impact of restrictions on alienation is far from obvious, not even for the efficiency of the economy.

Social science outside economics has used a more empirical approach. Studies of so-called "primitive" societies show elaborate social structures regulating decision making and utilisation of common property resources (Berkes 1989). The development of legal systems of complex societies also show that the first problems they set out to regulate among owners of common property are decision making on utilisation and exchange of rights to the resources. The law gives the owners the necessary rights and powers to set up a "government" at the same time as it protects the individual owner against misuse of the power vested in such governments.

The actual problems of government of common property, and the need for the legal backing, will depend on the number of co-owners. Where the number of owners is small, it seldom is a problem (Ellickson 1991). But in many countries, all or a large part of the land is in principle a "common" or in state ownership. The larger the number of "owners" the more the utilisation process will resemble the utilisation problems of the open access resource or the higher the policing costs will be. For once a government is installed; its costs have to be covered. The problems of taxation appear.

The institutional perspective on property rights

Starting out with a review of different definitions of property rights we are arriving at an institutional perspective on property rights and economic organisation. The theoretically interesting studies of institutions published during the last decade are many more than can be discussed here. But for the record: Some of the studies not mentioned so far that may inspire are March and Olsen (1989), E. Ostrom (1998), E. Ostrom (1999), E. Ostrom (2000), O.E. Williamson (1996), Knight and Sened (1995), North (1999), Denzau and North (1994).

These have to be returned to in future studies.

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