From common pastures to global commons. An historical perspective on interdisciplinary approaches to commons.

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Abstract

Commons-research has over the past decennia gained considerable maturity, and the various disciplines that work on the subject have moved closer to each other. There is however still one essential and quite fundamental point of disagreement – although this is hardly ever made explicit – and that is about the use of the term “commons” – which is a term that has been used for literally centuries – for large-scale open access resources such as oceans, the air we are breathing etc., also referred to as “global commons”. Although it cannot be denied that the air, the seas etc. are in principle collective property to all creatures living on earth, these resources lack two characteristics that are typical for the historical commons, from which the initial use stems: institutionalisation and self-governance. In this article I try to explain the difference between historical commons and global commons and, in the second part, suggestions to overcome this problem and the methodological differences that still exist are suggested. This is done by redesigning the classic economics framework of subdividing goods according to their substractability and excludability. Overcoming these problems would improve the integration of the long-term historical approach into the analysis of present-day cases.

Key words
Interdisciplinarity, global commons, historiography

INTRODUCTION

In many parts of the historical sciences, interdisciplinary research remains a challenge, notwithstanding the long-standing intentions for more cooperation with especially sociological and economic sciences. And yet, opportunities abound. Commons are an excellent example of a topic that has been studied by historians and other social sciences alike though without much real interdisciplinary cooperation or transfer of knowledge. Although there is considerable scope for interdisciplinary cooperation in commons-studies, it seems that some barriers still refrain both historians and other social scientists to share their findings, or even to learn from eachothers research results. Why is the water between these disciplines that look essentially at the same phenomenon still so deep? There are two important reasons for this situation.

First of all, the terminological fuzziness. In this article it will be explained how the usage of the term 'commons' has over the years come to cover two essentially different and in some ways even opposite forms of collective goods. The term itself has nearly become too vague to serve as a sound starting point for cooperation and exchange between disciplines. Although this seems to be the problem with many popular terms (think of social capital for one), the

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differences in interpretation stem from a time long before commons became – and are in fact still in the process of becoming – a popular topic.[2]

A first step in the process towards interdisciplinary research on the commons is thus cleaning up that terminological fuzziness, or at least making the differences in application of the term more explicit. What does it really stand for, in carious circumstances. The term commons is now used for rather diverse types of resources, both tangible ones (land, pasture, rivers) and more intangible ones (the air, internet). Being aware of the background of these multiple contents as used by various disciplines helps us to understand the potential difficulties and also dangers of for example using each others models. And it identifies where common benefits can be found. I will show that the key-differences lay in the degree of institutionalisation that the resources have gone through: whereas commons for the historian stand for well-defined and circumscribed resources (usually land) with rules and sanctions attached to them, other disciplines tend to include resources (not only land, but also knowledge, information etc.) BEFORE the process of institutionalisation. When the term “commons” is used to refer to resources that are open access and in need of regulation of their use, it should be made clear that this is the case.

The first part will explain into debt where that terminological fuzziness has come from. A sort of genealogy of the term will make clear when paths between the disciplines started to diverge. In a second part we do not longer start from the term itself but from the characteristics the goods that are being described as commons have. If there is a variety of meaning behind one term, it might well be that the historian’s commons are too different from the sociologist’s or political scientist’s commons to make integration of each others ideas, models and theories worthwhile or even scientifically acceptable. To avoid scientifically unsound results it is key to know exactly what the different types of commons stand for. This will be done by analysing the types of commons on the basis of their characteristics starting from a classical economic way of distinguishing goods, which is also used frequently in commons-studies. Identifying the analytical characteristics of the different types of commons will help us to identify where historians and other scientists have a common interest in collaboration and it should give a clear understanding of the potential difficulties of using resources in common. The key issues that lay at the basis of scientific debates are highly dependent upon those characteristics.

1. ARE WE TALKING ABOUT THE SAME THINGS? THE CONFUSING USE OF THE "COMMONS-PARADIGM" BY VARIOUS DISCIPLINES

The meaning of the term "commons" seems to depend on when it has been used: one of the main differences between historians and other scientists when approaching a term as "commons" is that historians tend to stick to the original meaning of the word, whereas other social scientists, mainly due to their inclination to theorise and to model, analyse the characteristics of the original term and, on the basis of the similarities in characteristics, attribute other phenomena with the same or very similar terminology. And the term has been

[2] In fact, commons have only since Elinor Ostrom received the Nobel prize in 2009 really drawn the attention worldwide and are now, thanks to the prize, increasingly receiving the attention they deserve.

“stretched” to extend. This has happened in the case of global commons (and in extenso also “new commons” and “digital commons” are examples of this). Although the use of the same term for varying types can be useful and offer new insights, it also has its problems. Users of the common pastures in the past or the present and those of the global commons do not face exactly the same challenges, and thus research results for either one form of commons may not be simply transferable to the other form, which, in turn, may prevent cross-disciplinary cooperation.

The terminological fuzziness is a consequence of several factors, of which some have to do with the historical meaning of the term "commons". Previously, in the historical documents 'commons' referred to common land, often in the form of pastures, or meadowland. Definition-wise, commons in the historical sense refer to land that 'was used by several people or households during a certain period, in distinction to land that was used by only one person or household throughout the whole year'. The variety of alternative namings in English (open field, common meadow, common waste etc.) and in other languages (*markegenootschappen*, *meenten* (Dutch), *Genossenschaften* (German) to give just a few examples) has over time led to considerable confusion also among historians and has for a long time prevented scientific comparison of the emergence and functioning of commons. Even within the same language and country, “commons” comprised a number of different types of things, also in history. We do not refer her to the possible use of the term in "House of Commons" – that again is another story – but we refer to different types of commons. At the basis of this particular confusion lies the fact that some of the (land) commons were not necessarily managed by a limited group of people but that quite a lot were managed by the local village board.[3] In some commons all villagers were allowed to use the commons’ resources – although under strict use conditions – and in some commons it was the administrative board of the village that took care of the regulation of the common land. In the New Regime, the many legal changes would abolish and reform most of the commons. In Belgium for example the law of 1847, turned all common land that had not been sold into land of the local governments. Few commons could escape from this enforcement and had to continue their century-old practice with a very weak legal basis (due to earlier reforms in civil legislation that virtually erased the possibility to have land in commons). The main consequences of this evolution for the understanding of the term "commons" was that due to the fact that many commons had now become public property – property of the municipality – the term seemed to be applicable for any good in public property that was exhaustible. Thus, whereas a common was beforehand not necessarily accessible for everyone, it often became property of the whole village community, and in that sense legally seen also the property of all the members of that local community. Here lays the first reason for the confusion that the term common often entails. An important issue to remember about the European commons, including the English commons wherefrom the term was originally derived, is that they were regulated, that an institution was set up to organise access to the group of users and use of the resources. Already from

[3] See for example the difference in Dutch between *meenten*, which are commons usually governed by the local community, and *markegenootschappen*, commons managed by the group of users itself. See for a further explanation Hoppenbrouwers (2002).

the late Middle Ages onwards, this institutionalisation was taking place in most parts of Western Europe.[4] Commons in the historical – read: pre-1800 – sense of the term were never completely open access: there were always rules that limited the use, although this did not necessarily ensure that the rules were actually also obeyed.

The common use of land was put under severe stress from governments and political circles from the middle of the eighteenth century onwards. By the middle of the nineteenth century the larger part of the commons in Western Europe had already been privatised.[5]

The combination of writings by for example Malthus and Lloyd George should in such an era thus not come as a surprise.[6] In between Hardin and the nineteenth century writers others had been claiming the same threat to natural resources if used in common – or better: used collectively – and without limits to the access to these resources. It is thus the taking over of the nineteenth century arguments on risks of common land by the twentieth century debaters on public goods such as air and water that caused more confusion.

Over time, and in particular since the middle of the twentieth century, the term 'commons' has been used in many ways. In the middle of the twentieth century, the common as a physical phenomenon started to be used repeatedly by scientists from other disciplines to indicate collective property. Though he was not the first to 'conceptualise' the historical commons, the article by Garret Hardin, entitled 'The tragedy of the commons' (1968) can be considered as a bench mark in the evolution of the discourse on the commons. Hardin caused considerable confusion by describing a piece of land, which did not have the characteristics of a medieval common but was named like that anyhow. The "common" Hardin described was land whereupon no property rights rested, thus making it very easy for everyone to overuse it. In using the term 'commons' Hardin hence made a connection between the 'old', historical concept of commons and the contemporary discussion on common goods, in particular in relationship with population pressure. However, he went a bridge too far with his metaphor, as he presents the historical example of a common as an open-access good. He asks the reader to picture ‘a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons' (Hardin 1968, 1244) However, the historical common was not at all open to all. On the contrary, as local corporative structures, all the commons had clear rules on the conditions to become a legitimate user, and on the do's and don'ts if you had obtained membership. However unbelievable it may sound to our present-day society dominated by private-property-arrangements, the commoners designed systems to restrict each others behaviour and also their own behaviour in order to prevent overexploitation. In some cases each member had a right to pasture a certain number of cattle or collect a certain number of bushels of wood (and many other resources).[7] In other cases, the optimal exploitation level was obtained and controlled by a price mechanism.

[4] See Slicher van Bath (1978) .
[5] See Vivier and Démelas (2003) ; Brakensiek (2000).
[6] Lloyd George
[7] For a good overview of the kinds of resources that could be found on the commons, see: Hoppenbrouwers (2002).

There are plenty of historical examples to be found that farmers were aware of the carrying capacity of their common and respected it.[8] Hardin (1968, 1244) did not reckon with this when he claimed 'such an arrangement may work reasonably satisfactorily for centuries because tribal wars, poaching, and disease keep the numbers of both man and beast well below the carrying capacity of the land. Finally, however, comes the day of reckoning, that is, the day when the long-desired goal of social stability becomes a reality. At this point, the inherent logic of the commons remorselessly generates tragedy'.

Hardin used the land as a metaphor for natural resources in general and later on this metaphor was extended by others to other natural resources, in particular those with clear open access characteristics. The term "common" hereafter became linked to resources without any form of governance, that were essentially open access. Unfortunately, very few historians have reacted against this "abuse" of the historical meaning of commons. Hardin's intentions had nothing to do with historiography, clearly, but they did lead to a misconception in virtually all of the domains in which his theory on the overuse of natural resources became influential of what a common really is and was. The discussion thereafter has followed two diverging paths: on the one hand social scientists such as Elinor Ostrom have wisely pointed out that collective resources do not necessarily need to be privatised or collectivized in order to limit overuse, but that adequate regulation and in particular institutionalisation can help to manage a collective resource sustainably.[9] Although this was not made always explicit, Ostrom's approach was as pertinent for the historical commons as the ones today that she describes. The commons she describes in her book *Governing the commons* (1996) are all resource systems that are limited in space, have a bottom-up formed institutional set-up, that are self-governed, that have well-defined access rules and other characteristics that can in fact also be found in historical commons, although the term commons as such might not have been used in that historical context (as for example in the case of irrigation systems). The other direction the debate on commons went into after Hardin's publication was that of the global commons, although this developed much later. Global commons include in fact a much wider array of natural resources than the ones originally described by Ostrom, or that would fall under the historical interpretation of commons.

Though the result was at times a confusing and a-historical use of the term commons and the conclusions drawn are historically incorrect, Hardin's article did put the use and potential abuse of common goods on the scientific and political agenda, we can't deny that. Criticism on his article did for a very long time not come out of the historical niche of science – with the exception of an article by Susan Cox entitled 'No Tragedy on the Commons' (published in *Environmental Ethics* in 1985) – but from in particular sociologist and anthropologists who showed with their intensive field studies in mainly third-world countries that the *homo economicus* could also be the unexpected *homo reciprocans*. As in the historical examples of medieval and early modern Europe, the twentieth century-users of commons in LDCs show as much

[8] See e.g. De Moor (2009)..
[9] Her best known work is *Governing the commons* (1990), but in her 2005 work on *Understanding Institutional Diversity* she brings together the many insights that she and her close colleagues had thereafter.

awareness that in each and everyone of us there is a free-rider as well. However, with the right incentives, translated in a comprehensive body of rules, reciprocity can be enhanced and freeriding prevented. Elinor Ostrom, as the most prominent of commons-researchers since the 1980s, devised on the basis of such field studies her notorious list of design principles, which has become the “cooking recipe” for the perfect common since. It includes the necessary ingredients for making an institution for collective action work. What differs is the local flavour, depending on the type of resources in combination with varying institutional tools to manage the use of the resources by the commoners. Here again, the rules included restriction of membership, thus no open access: Ostrom's design principles indicate that setting boundaries – to access and use – is important, also for CPRs. As the main points of critique on goods with multiple users/owners that followed after the Tragedy of the Commons-article focussed on the incapability of those users to achieve a sustainable way of resource usage, it cannot be a surprise that the counter-debate paid most attention to the internal functioning of the commons and individual responsibility of the commoners in achieving a sustainable use-system. Only later, by the beginning of the 1990s were the institutional findings on the functioning of present-day commons, adopted by the researchers of the so-called "global commons". Here, the debate that started as a reaction against the false image of the TOC joined in again with the main points of attention as set out by Hardin, namely the discordant situation between open access goods and for these goods potentially endangering factors such as population growth. Global commons can include the air we breathe or the oceans. The internet age added another dimension to the commons-debate. Internet is now considered as a 'knowledge common'. It has proven a true challenge to apply the institutional frameworks based and adjusted on the basis of repetitive case-studies en experiments on the global commons-idea.

It might be considered an insignificant detail but over the past few decades the term 'commons' also made a linguistic turn which is also surprisingly revealing: whereas in the historical document 'commons' were always used as plural of 'a common', it became common practice to also use the term as 'a commons'. This new phrasing refers to the concept of collective usage clearly indicates the reconceptualisation of the term, though without a connection to the a-historical meaning by Hardin. In the meanwhile the commons have also been reformulated in other terms, the most prominent being "common pool resources" or ‘a natural or man-made resource from which it is difficult to exclude or limit users once the resource is provided by nature or produced by humans’ (Ostrom 1990). These resources could be ‘a lake, an ocean, an irrigation system, a fishing ground, the Internet, or the stratosphere’.

During this debate on the functioning of the commons that now reached maturity among sociologists and economists, the historians have to a great extent been absent. Instead they focussed on the disappearance of the commons. This has also to do with a difference in research tradition, which is largely determined by the Anglo-Saxon literature on the enclosures and their consequences: historians have for a long time primarily focussed on the dissolution of the commons, whereby external factors like industrialisation or population growth were considered as the motors of this process. The commoners themselves usually played a passive role and were solely

approached as a group, without much attention for the potential influence of the commoners as individuals or as members of individual households, each with their own specific needs and desires. Among the nineteenth century commons-historians we can also detect a clear interest in the origins of the commons, but here again the individual motivations to own and use land collectively were largely ignored. Who owned the commons was a more important question to be dealt with. And moreover, those motivations of commoners to act in one way or another, whether individual or group-directed, were in the historical debate not linked to the causes for the dissolution of the commons.

In other social sciences much more attention was paid to the (internal) functioning of commons and the role of the individual, also in relation with the group. Concepts as the prisoner's dilemma, freeriding, and reciprocity were used to identify problematic relationship between individual aspirations and group dynamics, in particular in relation to the negative effects on the sustainable use of the common pool resources this may have. External factors or more in general the "context" has often been left out of the picture as a potential causal factor for the malfunctioning or even dissolution of a common, in particular in experimental studies. On the basis of their research, one may conclude that due to this approach the main reasons for the dissolution of the commons are usually searched for with the individual user(s) of the common. To a large extent this focus on "the individual" can be explained by the methodological experiences of sociologists with experiments, of which a better understanding might also be beneficial for historians to broaden their view on the functioning of commoners as members of groups. Though the method itself might not be useful for historians – as active participation of long-deceased commoners in experiments is of course impossible –, the results might contribute to a better understanding of the (role of the individual in the) functioning of a common. Historical research has to a large extent remained rather descriptive when it comes to the period in between the origination of the commons (in Europe, mainly eleventh to thirteenth century) and their disappearance (in Europe, mainly eighteenth and nineteenth century). Introducing concepts and ideas derived from other social sciences could lead to a more analytical approach to long-term history of commons.

2. THE ANALYTIC CHARACTERISTICS OF THE COMMONS

The use of the term since the 1960s has added a dimension to the term "commons", as has been explained earlier. “Commons” now does not only refer to land, as pasture, arable, waste or woodland but also to the elusive/impalpable collective good the internet stands for. The difference in delimitation this has brought is but one aspect in which both types of commons differ fundamentally, as I will explain in this part of the article. Models and theories that go for one type of common may not fit another one. Awareness of the characteristics of both types is an essential element in the process to scientifically sound interdisciplinarity.

Now that the use of the term has been analysed, it is useful to make clear how all these interpretations of the term “commons” are in terms of characteristics related to each other and what they really stand for once explained in terms of

accessibility and vulnerability. The figure underneath shows in classic economic terms how types of goods are positioned on the scales from low to high substractability or rivalry, which can also be read as the possibility of being overexploited, and from low to high excludability. If we summarise the debate on commons than we can say that of all the goods that are being categorised in this figure only one type has not been soiled with confusing applications of its name: private goods, or goods that are highly substractable/rivalrous and highly excludable. All other goods, and in particular those in the upper half of the figure, are subject to confusion, and this in particular in relation to the use of the term “commons”.

In the case of public goods every body can enjoy the use of it without substracting other's use (it is thus non-rivalrous). Your consuming it does not prevent me or anyone else from consuming it. Basically, such public goods are also non-excludable although technically speaking it would be possible to limit the use of streetlight to those who belong to the state wherein the streetlamp stands. Public goods often are public property too, though that is definitely not the same. Not all public goods are owned by the government. For example sunlight, a pure public good, non-excludable and non-substractable, is not owned by any government at all. Among all those goods in the top part of the frame, sunlight is probably the only one that will never be attached to a particular regime (unless someone manages to conquer the sun or can prevent the falling of sunlight on the earth's surface). Nor is all public property of the public good type. Most governments also own property that is highly excludable and highly rivalrous, such as an interesting patch of land.

In the top right hand corner there are the goods that are very hard to exclude others from (low excludability) but that are also very rivalrous. Those goods are highly valuable, and can easily be overexploited. A classic example here are fisheries in the open seas: a resource like fish can be easily overexploited but how to exclude others from catching those fish? Goods in that top-right hand corner are those that have long been used in open access: basically everybody could use those goods. However, even fisheries are now no longer true open access goods since they have been divided among the countries in terms of fishing quota. Thus fisheries are de jure no longer open access. In practice however, a lot of illegal fishing or overfishing – disregarding the official quotas – is still widely practiced. Very few goods in that top right hand corner are still real open access goods, where access to the resources has no limits at all. Over the past few centuries they have been conquered, the rights have been appropriated and these goods were put under another form of resource management.

In the lower left-hand side corner, those goods that are easy to exclude others from but that are low in rivalry, the so-called “club goods”, or also toll goods. Among these we count goods such as toll roads, goods that are hard to overexploit but that do require the potential user to fulfil some conditions – usually payment – to belong to “the club”. As we will show the historical commons can be counted among these goods because often the commoners seemed to be part of a group of people that can be defined as a club, whereby their resources become low in rivalry when the boundaries have been well defined.

Figure 1: Classic Economic way of representing different types of goods.

		RIVALRY/SUBSTRACTABILITY	
		Low	*High*
EXCLUDABILITY	*Low*	*Public goods*	*Open access goods/Common pool goods*
	High-	*Club goods Toll goods*	*Private goods*

Although this classic categorisation of goods is very frequently used, there are two important criticism to be given on it.

First of all, the “filling” of the figure. By assigning a name to goods that is directly linked to forms of property rights it is suggested that goods and appropriation regimes are in a way “naturally linked”. Some goods are considered as “naturally” suited for open access and others for private property. However, goods of a similar nature were often managed in a different way, which indicates that there is no “natural” way of managing goods. The other problem with this figure is its static nature, which is closely related with the first problem. First of all the linkage of goods with regimes gives the impression that certain goods always have certain regimes attached to it. This is not correct and in order to explain or promote changes of property regimes – to improve resource management – it does not help.

Secondly, it does not take into account the changes resources and environments may go through, thus changing the goods and the possibilities of their governance regimes. The classic framework thus insufficiently acknowledges the possibility that first of all goods may change because of e.g. technological input, thus that the might become more or less substractable and/or excludable. Secondly, it ignores the existence of goods “on the edge” between two types of goods. In some presentations of this classification of goods there is even a more radical distinction in terms of susbtractability and excludability. The term High is then replaced by «Yes», and Low is replaced by «No». This radical classification clashes entirely with our more gradual typology of goods. It is important to note that the line between low and high is a sliding one, that in between a “full yes” and a “full no” there are many gradations. There are in principle no goods whereof people can entirely be excluded. The indications high and low refer to the degree of difficulty to reach complete exclusion or complete division. Such difficulty can entail physical difficulty (in mountainous areas it is difficult to divide land) but costs can also be considered as a difficulty. Just as the Kyoto-treaty has made it technically easier to exclude people from using air via tradable emission rights – in whatever quality – it can also become easier or more difficult over time to divide land. The resources may change, and the circumstances (e.g. the costs to do so) may change too.

Understanding the dynamism of goods within the confines of the discussed figure can help to enhance our understanding of the complexity of a term like “commons”. Some examples of the application of the term will show the difficulties this classification brings along more clearly. Although it is essentially open access, a good such as “air” is traditionally considered to belong to the realm of public goods. Other goods that can be considered as public are for example national defence. However, as pointed out earlier, air pollution has made the public – and the scientists alike – aware that the air itself might be more substractible than was usually thought of. In that sense “air” should be moving to the left-hand side, towards the side of high substractability. On top of that, new techniques – practical and legal – are being found to “enclose” air, for example in the form of tradable emission rights. In this sense air can as a good be moved towards the bottom of the figure where goods with high excludability can be found. Air, or the right to use (read: “pollute”) that air can more easily be captured, at least in theory. This makes it more susceptible to appropriation. The combination of high subtractability and high excludability thus makes of air increasingly a private good. A good like “air” that is in some works described as a common or also a “commons” can thus, with the necessary technical and practical appropriation tools and methods, be turned into a good subject to a private property arrangement.

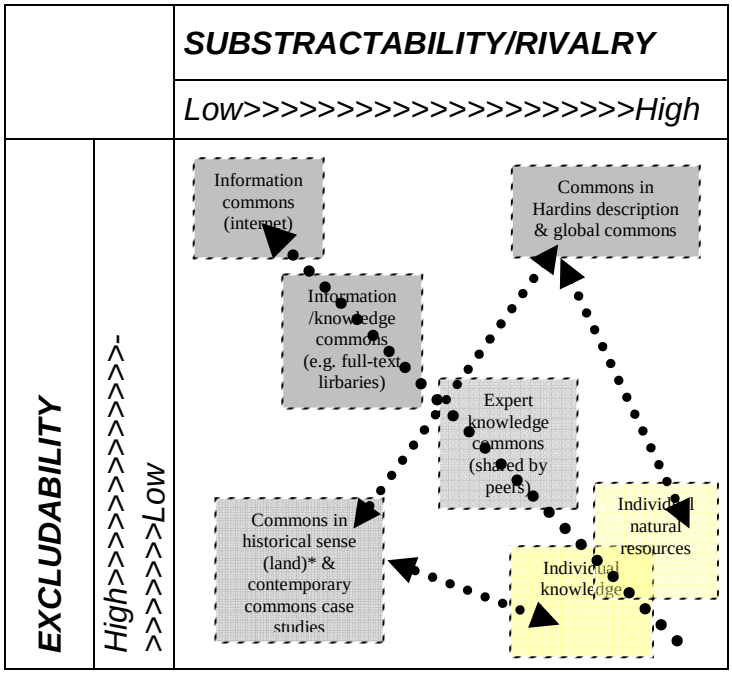
Notwithstanding the difficulties the framework creates for understanding the true nature of commons – in all its varieties – it has been used by many researchers as a way to categorise goods, and to position commons in relationship to other forms of property. Essentially the frame that has traditionally been used remains useful for categorising goods but with the necessary conditions. Underneath I am using it to explain the position of the types of commons that can be found in the literature. If we now project the “historical commons” and the “global commons” onto the traditional representation of goods, we can position them in the following way. The historical commons are plots of land which offer a number of natural resources. Access to these resources can usually be restricted although this often proved to be difficult (hence the middle position between high and low excludability) and the use of the resources can be rivalrous. We have elsewhere already stressed the need for these historical commons within the agricultural system but we have at the same time stressed the relativity of the “value” of these goods. Hereby we have implicitly pointed to the possibility of a historical common moving from the middle of the spectrum towards the upper part – in case the value of the common land decreases – or towards the lower side – in case the common land as a good becomes more valuable. In the latter case, it can not be excluded that the good will move into a private property situation, under the force of either the commoners themselves or external forces (including force exercised by the state). This first characteristic, “medium excludability” does not correspond with Hardin’s metaphor, as he pictured the medieval village common there as open access. As has been explained already, this was not the case at all, not in practice nor in legal terms. The second characteristic of high excludability does correspond with Hardin’s picturing: the common could easily be overexploited by the villagers.

On the basis of the characteristics that were attributed to commons as they were metaphorically pictured and on the basis of the characteristics Hardin attributed them, we should place Hardin's commons – and many interpretations later on – in the top-right hand corner, where we can find goods that are highly substractible and hard to exclude others from. In the same place we can also put the so-called global commons, comprising for example the atmosphere, although this kind of good may over time become more excludable and thus shift its position towards the lower half of the frame. In the left-hand side of the frame we can find the goods that have to do with information and knowledge, which is a terrain wherein recently the "commons" is used very frequently. Although usually in literature knowledge is considered as one single type of good, we here do want to make clear that there are different types of knowledge, by using some familiar examples. The "traditional" example of information or knowledge common – both terms are used – is the internet. The internet might be one of the purest forms of publicly accessible knowledge there is: if one has a computer and a connection to the web, one can use a virtually endless source of information. But in this sentence there are already two restrictions hidden: one needs some technical tools to access this commons and secondly one cannot access all forms of information. Some sources of information require passwords – though the able users among us might be able to avoid that restriction. In this sense, the internet as a source of information is less accessible (and thus more excludable) than for example the fish in the see or the air we breath. Underneath the internet as a commons is the type of knowledge commons that will sound very familiar in academic circles: expert knowledge. Knowledge can – however ungraspable it is – become highly excludable when it is stored in the minds of only a few people. This limitation can be the consequence of a lack of exchange – it might be so uninteresting that not many people find it worthwhile to pass on – but it might also be the object of an appropriation process. One example is the knowledge that is being kept by for example the co-authors of an article: as long as the article has not been published they want to share their knowledge among their peers only, themselves and for example the reviewers of a journal. As soon as the knowledge is published it moves upwards in the frame, sometimes first via other forms of semi-restricted information distribution as for example full-text libraries. Not everyone can than access the article, one needs to be part of a "club" such as a university. The knowledge commons are also an excellent example of how technology influences property arrangements: before the wide availability of the internet, access to knowledge – even in its post-publication stage – was limited to those with physical access to expert journals. Although much knowledge still has restricted access via the net, it is now again a step closer to availability for all.

A less modern, but nevertheless highly relevant, example of a knowledge common that is in essence a club good are the guilds: one of their main purposes was to keep the knowledge about a certain production process within the group of guild members. Guilds shared their knowledge among the members of their occupation, within the same town; their knowledge was not as exclusive and excludable as private knowledge but still not freely accessible. Because their knowledge had been shared by others its value drops and thus becomes less rivalrous. One could indeed argue that the sharing of the knowledge makes it precisely more valuable since an individual possessor

might not have been able to achieve the same results in production on his own. This can be true – and in the case of the guilds it might even have been a reason to stick together – however, this is an advantage induced by collective action and not an added value because of the particular state of the resource. The historical commons are on the same level of excludability as the guilds but this does not affect their level of substractability: they remain as vulnerable as before because they are natural resources. Some guilds put heavy fines on disclosing their secret knowledge (example the Venetian Murano glass guilds).

Figure 2: Typological positioning of historical commons and other uses of the term "commons" in the substractability-excludability framework



**Commons in historical sense refer to common land before the 19th century legal changes.*

In the bottom right hand side of the framework the individual/private forms of both knowledge and natural resources have been added. In the case of the natural resources this indicates the possibility that these are managed as private goods, by individuals. In the case of knowledge this indicates the (potentially) individual origins of ideas. Ideas are usually generated by single persons on an individual basis and can thereafter be shared with others. The arrow in the figure shows the evolution that ideas/knowledge from one single idea to information shared by many others can go through. Because the substractability of the knowledge depends upon the objectives of that knowledge (publication, application, production, patenting…) knowledge itself can move from the right hand side to the left hand side, from high substractability to low substractability. Because of its changing value to the possessors of the knowledge it also moves from the bottom to the top of the figure. It is unlikely that knowledge follows the opposite direction since once the knowledge is spread it can not be taken away anymore, although there is the

possibility that over time the knowledge is “lost” because it is not passed on from one generation to another and there is of course also the possibility that an extreme form of censorship literally suppresses knowledge formation and distribution. In principle it can also move back to “inner circles” of interested people because the knowledge itself is no longer applied. However, this doesn’t make the knowledge itself less accessible since anyone could probably still find the information in print or via other means of knowledge transfer. Thus, usually knowledge “travels” in the indicated direction. This is however not the case for the natural resource commons: depending on their value (and external factors such as technology) it becomes less or more costly and thus possible to exclude others from using the resources. Natural resource can thus move up and down within the framework. In principle natural resources remain however highly extractable, and thus the natural resource commons do not travel from the left to the right hand-side of this frame, although some might regenerate faster (e.g. grass) than others (e.g. wood) and thus become temporarily a bit less extractable.

The natural resource commons do however not travel in a single direction: depending on their value (and external factors such as technology) it becomes less or more costly and thus possible to exclude others from using the resources. Certain factors might make a natural resource during a certain period more expensive (e.g. when there is a scarcity of wood), but this can change if new solutions are found (e.g. introduction of other forms of fuel). In principle the natural resources themselves remain however highly extractable, and thus the natural resource commons do not travel from the left to the right hand-side of this frame, although some might regenerate faster than others.

The fundamental similarities in the type of good "commons" suggest that there are reasons to work interdisciplinary, to search for similarities between present day commons and commoners and to learn from history. The analytical difference between the "new" types of commons, in particular the knowledge commons, and the historical commons is however rather large. The ‘global’ commons literature is to a large extent prescriptive, as it is dealing with societal issues that have only been identified as problematic over the past half a century. Interdisciplinary research should hence focus primarily on the "tangible" commons, those that are moderately excludable but highly substractable.

The essence of the above explanation is that institutionalisation in combination with self-governance makes all the difference when we’re trying to study different types of commons. Here we are moving back to the original message that can be found in Lin Ostroms work. This message is most useful for the future of most of the collective resources we have on this earth. At the same time we should remember another message that underlies Ostrom’s work and that of others: institutionalisation does not mean necessarily privatisation or collectivisation. Historical and present-day examples show that in between these two forms of resource government there is a whole spectrum of institutional arrangements that can lead to efficient resource management. Applying the term commons to forms of resources that are not institutionalised and not-self-governing entails risks but can probably not be stopped anymore. One way of avoiding further confusion is to institutions for collective action, as

has in fact already been done by Ostrom, when we're talking about self-governed bottom-up formed institutions, in contrast to large scale common pool resources that do not have a clear governance structure. The term institution for collective action has not been picked up by historians so far.

CONCLUDING REMARKS: THE WAY FORWARD

In this debating article I have tried to explain the diverging paths historians and other social scientists have followed in their quest for understanding the commons. Some of those paths have led to places where our a historical approach is not very helpful, as the problems for example global commons are facing are fairly new. However, long-term analysis remains a condition sine qua non to understand what on a local and national and scale might happen with our precious resources if they are not governed appropriately. In our post-Napoleonic world where private and public are the "normal" ways to subdivide the goods in our societies, we have forgotten that in between lays an abundance of potentially useful institutional arrangements that can be used for forming self-governing – not private, nor public – institutions that are formed by the stakeholders themselves. In many cases such institutions are more cost-effective and efficient than the private or public solution. Analysing the long-term evolution of commons, and any other form of institutions for collective action, can help us to enrich our knowledge about those institutional "tools" to manage resources collectively. What we need as commons-researchers is not only models to study and checklists to evaluate the basic characteristics of such institutions. If our knowledge about the past and the present can be brought closer together we can come to a collection of institutional arrangements, call it "an institutional toolbox" that work for certain resources, and under certain conditions, whether these were taking place in seventeenth century Europe or present-day India. Lin Ostrom – again – has made, amongst others with Sue Crawford, a major step forward by identifying a "grammar" of institutions.[10] Their analysis of regulation helps us forward to understand what rules really mean and how they affect each other within one and the same institution. Historians now have the "duty" to use this grammar to link long-term change within the institutional grammar to change in exogenous factors. If we repeat this exercise for a large number of case-studies that managed to survive for centuries long, we can find out the conditions for successful regulation of common pool resources.

Besides the horizontal, long-term analysis we also need to broaden our view in terms of institutional types. This goes both for the historians and any other social science. Lin Ostrom has already in her "Governing the commons"-work shown us another route towards understanding commons better, which is via institutional comparison. Although the inclusion of global commons does broaden the scope of types of resources that can be studied within the same framework, there are many more other forms of institutions for collective action, that govern entirely different resources than natural ones, that might be studied within the same framework. If we move away from the term commons, and focus on what an institution for collective action really is, without regard for the type of resource such institutions try to manage, our view on the world of institutions will change. In essence, the historical commons can be compared to

[10] See Ostrom (2005)..

many other collectivities, such as the guilds or the old waterboards, as we have already indicated in the article;[11] and today, most co-operatives would fit into the picture of institutions for collective action, with strong stake-holder participation, self-governance, clear incentive structures etc. Including such institutions in our analysis and theoretical models will also help to fill that "institutional toolbox" that can be used to solve commons-like problems in the future.

REFERENCES

Brakensiek, Stefan. 2000. Gemeinheitsteilungen in Europa: Die Privatisierung der kollektiven Nutzung des Bodens im 18. und 19. Jahrhundert. *Jahrbuch Für Wirtschaftgeschichte* (2): 9-15. Also to be found online at: http://www.digitalis.uni-koeln.de/JWG/jwg_index.html.

Cox, S. J. B. 1985. No tragedy on the commons. *Environmental Ethics* 7:49-61.

Crawford, Sue E.S. and Elinor Ostrom,. 1995. A Grammar of Institutions. *The American Political Science Review* 89 (3):582-600. Also to be found online at: http://www.jstor.org/stable/2082975.

De Moor, Tine. 2009. Avoiding tragedies. A Flemish common and its commoners under the pressure of social and economic change during the eighteenth century. *Economic History Review* 62 (1):1-22. Also to be found online at: http://onlinelibrary.wiley.com/doi/10.1111/j.1468-0289.2008.00426.x/full..

Hardin, Garrett. 1968. The Tragedy of the Commons. Science 162 (3859):1243-1248. Also to be found online at: http://www.sciencemag.org/content/162/3859/1243.full

Hoppenbrouwers, P. 2002. The use and management of commons in the Netherlands. An overview. In *The management of common land in north west europe, c. 1500-1850.*, eds. M. De Moor, L. Shaw-Taylor and P. Warde, 88-112. Turnhout: Brepols.

Ostrom, Elinor. 2005. *Understanding institutional diversity*. Princeton, N.J. Woodstock: Princeton University Press.

———. 1996. *Governing the commons. The evolution of institutions for collective action*. *Political economy of institutions and decisions*. Cambridge: Cambridge university press.

Slicher van Bath, B. H. 1978. Feodaliteit in de middeleeuwse agrarische maatschappij. In *Geschiedenis van maatschappij en cultuur.*, eds. B. H. Slicher van Bath, A. C. Van Oss, 57-70. Baarn, s.n. .

[11] On the website www.collective-action.info we explain in what sense these institutions are alike.

Vivier, Nadine, and Marie-Danielle Demélas. 2003. *Les propriétés collectives face aux attaques libérales (1750-1914). europe occidentale et amérique latine*. Rennes: Presses Universitaires de Rennes.