2015

Further Towards a Theory of the Emergence of Property

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2 August 2013

Abstract: This article explores the emergence of property as a moral convention. To understand this process I make use of several laboratory experiments on property in its nascence. These experiments illustrate how a rule of property arises from our knowledge of what is morally right, and not vice versa. I also argue that while the ultimate end of property is our interest in using things, the proximate end of property is not losing them, i.e., the end of a rule of property is to secure from morally unfounded harm.

JEL Codes: B12, C90, K11

Keywords: property, property rights, rules, rule-following, experimental economics

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*Non ex regula ius sumatur**, sed ex iure quod est regula fiat.*

What is right is not derived from the rule, but the rule arises from our knowledge of what is right.

– Julius Paulus, third century Roman jurist

1. Introduction

Departing from modern economic parlance, I have intentionally omitted the word *rights* from the title and purposefully first deployed the adjectival form, *right*, in the epigraph. Following the seminal work of Alchian (1965), Demsetz (1967), and Alchian and Demsetz (1973)—the most prominent representatives of the neoclassical school of new institutional economics, no economist is unclear as to the meaning of the term *property rights*. But the distinction between property and property rights is less clear. Fisher (1906) defines a property right as "the right to the chance of obtaining some or all of the future services of one or more articles of wealth" and property as "the abstract right of ownership" (p. 22).[1] He then plainly differentiates these two definitions from the quotidian notion of a thing itself as "property": "a loaf of bread is concrete wealth, not a property right; the right to eat it is the property" (p. 23). Alchian (1965) is more succinct on the meaning of property rights: "the rights of individuals to the use of resources" (p. 53).

While economists broadly accept property rights as indispensable for understanding economics, we define the nominal phrase circularly in terms of "the right to do *X*".[2] To channel Blackstone, we seem to be afraid to put the question mark further down and ask what the right to do *X* means, as if fearful of opening a Pandora's box of morality; or at best we rest satisfied treating the noun *right* as a universal semantic prime, self-evident and incapable of being further decomposed, indefinable except of itself.

2. Property is moral

But being fearful is a mistake and resting satisfied we are mistaken. Barzel (1997) avoids the morality of rights by defining so-called economic property rights as "the individual's ability, in expected terms, to consume the good (or the services of an asset) directly or to consume it indirectly through exchange" (p. 3). The thug would agree as he whacks me on the head and

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[1] The earliest use of the term property right that I can find in Google Books is Lord Gardenston (1774: 14): "The great argument, or *ratio dubitandi*, which I own at first almost convinced me, is, that the author has undoubtedly a property-right in the original manuscript composed by himself; why should he lose it by publication, as he intends only to give the instruction or pleasure of reading, not the profit of publication or reprinting? I answer that, certainly the author has a real property in the manuscript of his own work; but, in the nature of the thing, by publication, gives his work to the public, and he gives the same species of property to every individual who buys the book, which he had in the original copy before publication."

[2] Anderson and Huggins (2003) is a rare exception: "Property rights are the rules of the game that determine who gets to do what and who must compensate whom if damages occur" (p. 2). I too will use the concept of rules and rule-following as the core of property emerging as a moral custom.

takes the messenger bag from my shoulder. Exactly how is *an ability to consume* a right, or property, or a property right?

The fear in broaching property as a moral concept is that when we look into the box of morality, we are privy only to our own moral values and so we must settle for plumping for what feels right to us. Moral reasoning, however, is as much objective as it is subjective. When we find ourselves in a new situation with strangers we can search our personal databank of experiences for common principles that might bring agreement. The twelve jurors who unanimously convict my thief can agree in and on principle because morality is not purely subjective.

On the mistaken second point, a right to do *X* is not a simple irreducible concept in English, nor is its cognates in French (*droit*), German (*Recht*), or Italian (*diritto*). Meaning 9d in the *Oxford English Dictionary*—the legal, equitable, or moral entitlement to do something, reveals two conceptual units of a right to do *X*, the first of which is morality. Presuming that the legal connotation historically follows and is derivative of the moral connotation (Salmond, 1907), it would be tempting and convenient in the modern era of legislature-instituted rights to subsume the moral sense within the legal sense. But as positively uncomfortable as it may be to economists, morality is a critical component of understanding the emergence of property.[3]

The other key concept is entitlement, the grounds for laying a claim, not any claim, but a moral claim to do *X*. This brings to the foreground the assertion of and an appeal to facts as part of a justification for doing something. Wierzbicka (2006) argues that the word *right* as an adjective has three senses (moral, intellectual, and conversational), which are all unique to English. One common thread to each sense is that "human conduct can be seen and assessed 'objectively,' 'rationally,' and in accordance with 'evidence.' There are 'rules', there are 'procedures,' and there are objective criteria that people can refer to" (p. 79). As an entitlement to do something, a subsidiary sense of empiricism similarly permeates the noun *right* with appeals to rules and evidence to support a moral claim to do something.

While appeals to empirics almost always have a positive connotation in English, *empirique* in French is rarely neutral and mostly negative (Wierzbicka 2010).[4] So, we should not be surprised that *droit*, the French word of import for the abstract noun *right*, does not evoke evidentiary appeal and is conceptually decomposed in French differently. The online

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[3] Merrill and Smith (2007) argue that for property to work it must be recognized as moral, but they do not theorize how property emerges.

[4] One example of the latter, of several, that Wierzbicka gives is "*l'astrologie est un rapport naïf et empirique au cosmos* (astrology is a naïve and empirical relationship with the cosmos)" (2010, p. 11). In contrast, in English an empirical relationship is desirable and sound, "Efforts are being made to research it scientifically on the basis of empirical evidence instead of philosophical logic and reasoning" (p. 12).

Dictionnaire de l'Académie française defines *droit*, in the sense demanded, as *ce qui est juste; ce qui est conforme à une règle implicite ou édictée*, i.e., that which is right (*juste*); that which is consistent with an implicit or enacted rule. Again, *droit* carries both a moral and a legal sense, but for our purposes the important semantic work to note is in the explicit evocation of following a rule, an implicit rule, a moral rule. What is translated into English as the adjectival *right* is the French word *juste*, which when one realizes that Latin in classical Roman times had no letter *j* and instead used the letter *i*, indicates that we have made a full turn to the epigraph and its keystone of *ius*.

3. Theoretical aim

One of the three classical Roman uses of *ius* is "a right, moral or legal," as in the familiar Justinian phrase *ius suum cuique tribuere* (Salmond 1907: 467).[5] That is the meaning, albeit notably not as a substantive, that Hayek (1973) situates in his translation of the Julius Paulus maxim in the epigraph. In this article I will use that maxim to explicate a theory of the emergence of property as a moral convention, and to understand the maxim I will make use of several laboratory experiments on property. One element of my approach is Demsetzian. If "the emergence of property rights can be understood best by their association with the emergence of new or different beneficial and harmful effects" (Demsetz 1967: 350), such as a case study of the Native American trade of beaver pelts on the Labrador peninsula, then the novel circumstances of laboratory economies likewise present an opportunity to further that theory by observing property in its nascence, with the additional benefit that these virtual economic terraria are replicated several times over.

Given the unexamined use of the term *property rights* in economics, the tendency in economics is to think out the question of what property is in terms of how property is known, viz., the externally surmisable benefits and costs of using a resource. What Demsetz did not have access to were the moral debates concerning such benefits and costs that the Labrador Native Americans engaged in to establish new rules of property. In this article I mean to focus on the actual deliberations of strangers interfacing in an unfamiliar context, out of which emerges, or fails to emerge, a mutual delineation of Mine (*meum*) and Thine (*tuum*).

My theoretical framework is founded in rule-guided action and rule-guided perception, which will, in turn, rely on morality. Following Hayek (1973), a *rule* "means simply a propensity or disposition to act or not act in a certain manner, which will manifest itself in what we call a *practice* or custom" (original emphasis, p. 75), with the practice or custom in question for this article being what I will call *property*. Articulating the relationship between the rules of property and the manifest practice of them is a crucial step that this paper takes, and as we

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[5] The two other uses of *ius* are (1) justice, from which *iustitia* and *iustum* are derived and (2) law, in the juridical sense (p. 467).

shall see, one that is impossible for neoclassical economics to take. What a theory of the emergence of property needs is an approach that begins by treating property as a sphere of actions, perceptions, and things that appears regularly in human intercourse. Thus I endeavor to demarcate an uncontended core of the property of things (i.e., chattels) that gives the more complex and contentious cases, such as externalities and land, the classic Blackacre or riparian zones, whatever import they have.[6]

4. Rules, rule-following, and custom

Our sense of what is right consists in the capacity to follow rules, rules that we do not "know" in the sense that we can declare them all axiomatically, but "know" in the sense of being able to describe roughly what actions are consistent, or not, with this or that rule (Hayek 1963). If this is not self-evident, try listing all the rules of polite conversation. Have you included what "do not bore" or "do not dominate" or "be responsive" means? These may not even be first on your list of general rules of conversation, and yet when we are challenged with someone who imperviously breaks one out of the uncountable myriad of rules, we can call forth *ex tempore* the specific rule relevant for this encounter. We have a kind of a background sense which, although quite unarticulable, allows us to formulate in the foreground a reason as to why this person has attenuated the genial atmosphere.[7]

The first implication of not being able to explicitly know/specifically state the rules that govern how we act is that only *in their totality* does a whole system of rules, the practice or custom, form the sense of how to conduct ourselves rightly (Hayek 1952). To embed our understanding of property in practices is to consider it as implicit in our rule-guided actions, and hence we are going well beyond the brute economistic weighing of benefits and costs. In short, our actions are governed by abstract rules, not concrete algorithms of benefit-cost analysis. As sensitive as our actions are to the external benefits and costs of our circumstances, much of our intelligent action arises from knowledge that is largely inarticulate. Moreover, the assessments of benefits and costs that we do make are only intelligible against the background provided by this inarticulate understanding. The practice provides the context within which the assessment of benefits and costs makes the sense that it does. Benefits and costs are only islands in the sea of property. Strategically important islands they may be, but islands nonetheless.

The second implication is that the rules that govern our actions also govern our perceptions of actions (Hayek 1963), and it is rule-guided perception that poses the

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[6] One might also plausibly argue that property in chattels, which doesn't accidentally sound like cattle, historically well-preceded property in land. Thus, the transfer of the domain of property from chattels to land and externalities is a separate and open question.

[7] Cf. Wittgenstein (1953: §422): "[T]here is a picture in the foreground, but the sense lies far in the background; that is, the application of the picture is not easy to survey."

fundamental problem for the emergence of property as a moral convention. While different individuals will recognize a specific set of circumstances as one of the same kind involving property, we are unable to present the precise stimulus condition that will replicably produce the same perception in different people and hence the same action in different people. Rule-guided perceptions carry the understanding in patterns of appropriate action, which conform to a sense of what is right for this circumstance. But while agents can perceive when they or others have or have not done what is right, that others share that perception is not foregone. The perception of an action as one of kind that fits a pattern of what is right depends critically on the agency being shared.

Actions constituted as a practice are shared among those who practice the practice because the common perception of the action has integrated the individual agents into a shared regularized whole, a "we". Shared perceptions serve as the foundation for actions within a practice, actions which are, what Bakhtin (1982) calls, dialogic, in continual active dialogue and multilaterally extending to and from an agent. A rule doesn't apply itself. It must be followed in real time, under ever-fluxional circumstances, and against the unarticulated background of the entire practice. The interpretation of what a rule means is done on the fly and in dialogic concert with those around the agent.

In contrast, framing property rights as the internalization of the benefits and costs of an individual's right to use a resource, *in response to others*, is monologic. Specifying a property right as "*W* has the right to do *X* with *Y*," doesn't allow for the difference between the formulation and its application in particular circumstances of time and place. It also doesn't take account of the bi-directional relationship between a rule and the entire custom of property. The custom is what keeps the rule *act*ive, and the application of the rule reaffirms the custom. But *the current application of the rule also modifies the custom by amalgamating into the background all of the unarticulable nuances of its application here and now*.   Stating that what is owned are rights to use resources is like Macbeth numbly concluding that life "is a tale / Told by an idiot, full of sound and fury, / Signifying nothing." Macbeth is engaging no one, and no one him. He is simply responding to the news of Lady Macbeth's death in a moment of epiphany. *Enter a Messenger*.

5. *Ex iure quod est regula fiat*

In the external relations of free Roman men Mackeldey (1883) explains one meaning of *ius* as *ius est norma agendi*, which he translates as *ius* "is a rule of conduct" (p. 1).[8] Literally translated, *ius* is the standard which is to be acted.[9] From everyday human intercourse we

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[8] Another is *ius est facultas agendi*, the license to act.
[9] Curiously, *agendi*, translated as the future passive participle of the verb *to act* (*agere*), is considered to be the marking of the <u>jus</u>sive mood.

have expectations of the regularity of each other's conduct. The moral *ius* is the background practice of what is right, out of (*ex*) which arises the rule (*regula*). When does a rule arise? When one needs to be formulated. When does a rule need to be formulated? When disagreement in the perceptions of what is right leads to an act contrary to the *ius*, an <u>*iniuria*</u>. Such an act challenges the existing multilateral dialogue of actions. It interrupts the regularity of everyone's conduct. The rule now in the foreground as remonstrance relies on the unarticulable background of the entire practice. Returning to the example of conversation, the rule "do not bore" is called to the foreground when we are confronted with a veritable bore in the room, and what it means to bore us to tears (say, with the semantics of Latin phrases) relies on all the unarticulable rules of polite conversation.

Finally, we consider the negative portion of Julius Paulus' maxim: *Non ex regula ius sumatur*. The reason then why the *ius*, literally translated, is not taken out of the rule, is because the unarticulable background cannot be taken out of an articulated foreground. The everyday practice of what is right is not derived from a rule, not only because the custom is unarticulable *in toto*, but also because a rule not summoned from custom cannot anticipate the unknowable local circumstances under which it might conflict with another rule subsumed within the practice of what is right.

We are now in the position to apply rather straightforwardly Julius Paulus' maxim to the case of property: *A rule of property regarding things arises from our background knowledge of what is right regarding things*. To explicate this proposition I will draw from the spontaneous conversations of participants in the laboratory experiments reported in Kimbrough, Smith, and Wilson (2010), Kimbrough (2011), Wilson et al. (2012), and Jaworski and Wilson (2013).

6. Platform 1: The homestead

Kimbrough, Smith, and Wilson (2010) is the first experiment to explore how property emerges as a convention in the laboratory. The basis for the heuristic experiment is a platform designed by Crockett, Smith, and Wilson (2009) who explore how a market might emerge endogenously when participants have to discover (a) that trade is possible and that once discovered, (b) specialization is then possible to exploit the wealth-creating benefits of trade. Crockett, Smith, and Wilson (2009) took the institution of property for granted and built the platform accordingly: What one could produce and what one could consume, no one could interrupt. The simple change that Kimbrough, Smith, and Wilson (2010) make to the platform is to relax that assumption built into the software.

Figure 1 displays a screenshot of the Kimbrough, Smith, and Wilson (2010) experiment. Every session consists of eight participants who each control the production of two types of fictitious goods, red and blue. In Figure 1, Person 2 controls the production displayed in the

rectangle numbered 2 (and in green only on Person 2's screen), which is called a field. All participants are informed in the instructions, deliberately in the passive voice, that:

> When the clock expires [at the end of the period], you earn cash based upon the number of red and blue items that have been moved to your house. To select items to be moved, *left* click on an item or click on the red or blue buttons at the top of the screen. The yellow highlighted items can be moved by dragging with the *right* mouse button.

Person 2's house is in green (on Person 2's screen). What the participants are not told is that they can move items to other people's houses and fields [as was only the case in Crockett, Smith, and Wilson (2009)] and that they can move items from other people's houses and fields. The participants must discover that such movements of items are possible.

The participants are also not informed, but can discover, that the odds (evens) are capable of increasing returns for producing red (blue):

> For the first 10 seconds of each period, you will produce items in your green field. Using the scroll bar in the upper middle portion of your screen, you can change the proportion of each second allocated to producing red and blue. Each person's production is displayed on their field.

An odd (even) can earn 30 (26) cents in autarky, but with specialization and exchange at the competitive price, an odd-even pair can earn 90 and 80 cents, respectively. Anytime an item is moved to another person, the movement is recorded in a chat room in the middle of the screen, and anytime an item is moved from another person, the movement is recorded in red. Key for this article, at any time during the session, the participants are free to chat with the other participants in one of the two publicly accessible chat rooms. The instructions for the chat room give the participants wide latitude within an explicit constraint of civility:

> Everyone in this experiment can send text messages. Everyone can read all posted messages. In the center of the screen, you can type a message in the line in either of two chat rooms and click on the Send button.

> Under your house you can also post a one-line message that will be visible at all times to the other players.

> You are free to discuss all aspects of the experiment, with the following exceptions: you may not reveal your name, discuss side payments [outside of the laboratory], make threats, or engage in inappropriate language (including such shorthand as 'WTF'). If you do, you will be excused and you will forfeit your earnings.

Unlike the well-circumscribed action spaces in traditional economic experiments, this one is as wide open as the Wild West. Participants interact in real time from the moment the experiment begins until it concludes 67 minutes later. The software imposes no order of moves, except that red and blue are produced during the first 10 seconds of a period and that consumption occurs at the moment the period concludes 90 seconds later. In Kimbrough, Smith, and Wilson (2010) and Jaworski and Wilson (2013) the participants start in pairs, and without hint or notice, two pairs appear as one group of four on the screen, and finally the two

groups of four become one group of eight, but in Kimbrough (2011) all eight people are together for the entire session (which actually makes things more unsettling). The participants inhabit a hurly-burly uncertain world. The experience is fast-paced, you might even say suspenseful, to such an extent that after a pilot session, we made every 7th period a day of rest in which nothing is produced but during which the participants can still converse with each other.

At this point the naysayer interjects to make the original observation that the participants live a physical world with secure property and that we gave the participants their own house and field in the virtual world. So what can this experiment help us understand about the emergence of property as a moral convention? My riposte is that obviously my co-authors and I are not claiming to have recreated the Big Bang of property. That would be cool but a little dangerous. Instead we are observing how real people making decisions of salient monetary consequence interface with each other on a frontier with no externally-enforced custom of property. Some groups will succeed and prosper, and some will fail and spectacularly so. The question is, can we identify why from a complete historical record of what happened, including their heat-of-the-moment conversations? New experiments can also be designed to test any *ex post* synthesis.[10] If a nagging intuition questions whether endowing the participants with their exclusive control over a field and house is important to these observations from the laboratory, then let's bring that to the foreground.

7. Platform 2: The open sea

Ellickson (1989) studies how North Atlantic whalers in the 18th and 19th centuries solved the problem of property for things that lie free for any taker (*res in medio quibusvis exposita*). Wilson et al. (2012) test Ellickson's admittedly ex post explanation with an ex ante experimental design.[11] Figure 2 displays the software interface for the experiment.

Each participant, first in pairs and then later without notice as a sextet, control a stick figure which can move around the white open area in the middle the screen. The range of vision for a stick figure is limited to the gray area displayed in Figure 2 for Orange. White circles move randomly around the wide Sargasso Sea until a stick figure right clicks on one within its range. Five seconds later the computer determines according to an unannounced probability whether the stick figure is successful in hauling in the circle. Within that five seconds, however, any other stick figure within range or capable of reaching the circle, can also "throw a line" and attach itself to the circle. Each whole circle is redeemable for v = 60 or 100¢, depending upon

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[10] Kimbrough, Smith, and Wilson (2010) do just that in three successive treatments.
[11] The resources in DeScioli and Wilson (2011) also lie free for any taker, but the participants are unable to discuss the situation. Their avatars can only inflict damage, benignly smile, or extricate themselves from the showdown in which two participants wish to consume the same resource.

treatment. However, if multiple people are probabilistically successful, each successful participant only receives a $1/n^2$-portion of the whole circle. Thus, $(1 – 1/n)v$ of value is wasted if multiple people lay claim to the same circle the lies free for any taker. After 90 seconds for "gathering"/"catching" circles, the stick figures figuratively return to port for 60 or 90 seconds, depending upon treatment, and are free to discuss anything in the experiment within the same guidelines reported above.

To test Ellickson's proposition that different circumstantial conditions lead to different rules of capture, the stick figures could use two different lines to gather circles, or as it is explained in the instructions:

> On the top right side, you will see the number of lines that you have left. There are two types of lines, *regular* and *colored* which can be selected by using the appropriate radio button next to them. Both lines work in the same way with one exception. If you hit a circle with a *colored* line, the circle will turn your color whether or not the computer determines you are successful in catching it.

Later, the instructions inform them that:

> You may also purchase additional lines by clicking on the BUY button next to the type of line you would like to purchase. The cost of the lines is taken out of your earnings. You will be given an initial allotment of lines. After that you will be able to purchase *colored* lines for 12¢ [or 20¢ depending on treatment] and *regular* lines for 6¢ [10¢].

With regular lines, the participants can implement the whaling rule which was called *fast-fish, loose-fish*. If a ship's harpoon was in the whale and held fast to the boat, no one else would attempt to catch that whale. However, if the harpoon was not attached to the boat, that is, the fish was loose, then the whale was fair game for any other ship to harpoon. Ellickson notes that whalers in the North Atlantic used this rule for preying upon right whales, a slow-moving baleen whale that doesn't dive when harpooned and isn't particularly feisty.

When whaling moved off the coast of the U.S., American whalers preyed upon sperm whales, which have teeth, will use them on a boat, and will dive pulling the boat down with them. With this change in conditions, Ellickson reports that American whalers switched from a *fast-fish, loose-fish rule* to what was called *iron holds the whale*. If a ship's harpoon is attached to whale and identifiable so, then no other ship would attempt to catch the whale. The colored lines allow the participants to identify the first striker. The reason why they are more expensive in the experiment is so that the participants can reveal-prefer a colored line to a regular line. Participants were randomly assigned to one of two treatments. In the first the circles move slowly are easy to catch on the first strike with $p = .75$. In the second, the whales move 50% faster and were three times more difficult to catch on the first strike ($q = .25$).   In a subsequent third treatment, the participants first experienced right-like whales for the first two-thirds of the session and then unannounced the same-looking circle began behaving like a sperm whale.

8. What is 'What is right'?

Despite the functional differences in the platforms, common themes run through the discussions of both types of experiments and the emergence of property follows the same process in both platforms. The undergraduate students only participated in one session within a platform and only a small number of the 480 participants would have been recruited to participate in both platforms. As the excerpts of the instructions above hint, the instructions are deliberately sparse. We beam the strangers onto an unfamiliar virtual world, like Jean-Luc Picard and the metaphor-phonic Dathon, and ask them to make sense of each other in whatever comes next. The question is whether and how they make it work.[12]

Not surprisingly, at the beginning of the session or when additional stick figures or houses and fields suddenly appear around them, the participants use the chat room to get their bearings. The screen is a picture in the foreground, but what is the sense that lies in the background? What subsidiary perception fits the application of the representation in focus? The chat transcripts provide a glimpse into the sense they are attempting to make.[13] Here are some examples of the first steps of that process (the dashed lines demarcate distinct sessions):

> *D*: should we be trying to help each other?
> *D*: or is selfishness the way to go?
> *H*: that's a super good plan …
> *H*: if everyone just agrees to not steal other peoples then we will get more
> *A*: that is very true
> *D*: I think so too
> *G*: true
> *D*: I'm down
> *H*: so just do that
> --
> *G*: so r we working together or against each other
> *H*: i think we are supposed to work together
> *G*: ok sounds fine
> --
> *B*: its a way to collaborate and help each other or steal from each other

Notice first that while the instructions on actions are amoral, and in the first platform presented in the passive voice, the participants readily imbue the observed actions with morality, calling certain movements of pixelated chits and certain clicks on a circle "stealing".

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[12] "Like Darmok and Jalad at Tanagra".

[13] Because the participants are identified as Person *i* in the first platform and by a color name in the second, to standardize the presentation of the conversations, I will use letters to denote the different participants within a session. Sometimes the context will incidentally reveal which platform the session comes from, and other times not. The latter case is intentional. Each panel is from a distinct session. Several but not all of the conversations are presented in the original papers which also include many more details on the context of the specific session.

This isn't a rare occurrence. According to the 450 million word Corpus of Contemporary American English (COCA), the frequency of the word *steal* is 20,296 (#1,798 on the list and right below *politician*).[14] The four experiments discussed in this article include a total of 480 participants in 60 sessions who typed 175,143 words (space delimited units of text). The words *steal*, *stealing*, *steals*, *stole*, and *stolen* appear correctly spelled 397 times. That is 50.3 times the frequency in the COCA.[15] –But of course they call this "stealing". They come from a physical universe with formally and informally enforced property.– The question to ask, if you are not peering into the mists of time, is: Why is it that the perceptions of these participants lead them to apply that word with its full moral force to these particular circumstances?

Note also how *B*, *D*, and *G* perceptionally parse the context into one of two big bins. Either we help each other, work together, and collaborate <u>or</u> we selfishly work against each other and steal from one another. *D* and *G* are in part seeking clarification on what is right in this virtual world, but why pose the question? They are re-cognizing the background and have a subsidiary interest in the first perceptual bin, which is the first alternative in each of the three cases. Not once do I recall the question in the transcripts being posed in the form of, "Should we be trying to be selfish or is helping each other the way to go?" *D* and *G* are also raising the question as the foundation for seeking agreement on the former of the two possible answers. The problem then becomes one of integration into a "we":

> *E*: do you want to do this the right way?
> *F*: wht is the right way
> *E*: the right way is I produce red you make blue then we split it nobody gets 100 percent profit but we both win
> *F*: tht wat i been doing then u started stealing

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> *F*: [*E*] do u wanna start talkin about maximizing our production or keep fighting over it?

Integrating into a regularized whole involves changing the moral view of those that do not perceptually share the same background of what is right. Observed contradictions are one hurdle. *F* claims that *E*'s harmonizing plan is inconsistent with his or her prior actions. Another hurdle is virtual vertigo. The declaration of "im confused" is not uncommon in this type of

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[14] http://www.wordfrequency.info/

[15] In stark contrast, Buchanan and Wilson (2013) find only one instance of anyone objecting to the "re-selling" of a non-rivalrous good produced by another person, and the words *steal*, *stealing*, *steals*, *stole*, and *stolen* were never once used in 5,183 words of a treatment with no enforcement of property.

experiment following digitization into the e-world. In platform 1, the transition is achieved by clarifying, as *E* does, how to specialize and trade.[16] But there is also moral confusion:

> *D*: So it would benefit us all if no one was a thief. [A]!
> *A*: the point..is to make a big profit?
> *D*: yes but to make a long term profit teamwork helps a lot

Participants volunteer for these experiments to earn cold hard cash. Profit is the common goal. To achieve that goal as an integrated group, *D* reasons with *A* by liberating from moral disregard a principle which *A* cannot contest. Once teamwork is perceptually shared, the transition to a whole can follow quickly:

> *F*: lets agree to not hit once someone is on it alot of money is lost
> *D*: hahah
> *A*: true
> *F*: my partner and i did and it worked well
> *E*: yup
> *F*: agreed??
> *A*: agreed
> *F*: [D]??
> *F*: [C]??
> *A*: lol
> *E*: haha
> *A*: guess not
> *C*: yea that sounds like a plan

However, with the intransigent, integration is not inevitable:

> *D*: look, if we all stop stealing, we can all help each other maximize
> …
> *A*: yea [B] push it
> *D*: but... we can help you
> *B*: no
> *D*: what do you need?
> *D*: how many blue for red?
> *D*: we can give you what you need, without you hurting us
> *C*: [B] everyone else hit it were trying to help each other
> *A*: no one can get screwed if we don't steal
> *C*: you aren't making ANY money now
> …
> *D*: and we have all been helping each other the whole time

---

[16] Crockett, Smith, and Wilson (2009) observe that roughly half of the pairs never discover exchange (and hence specialization). Groups of four always discover exchange and early on.

B: Chill out.. itis just a game

…

D: so we are reputalbe

C: uh

C: for MONEYYYYYYYYYYYYYYYYYYYYYYY

C: real money

C: why are you even here

D: we can help you earn more

C: [B] is BALLIN

D: if you let us

D: and then, you would stop hurting us

…

C: we are working together

C: but [B] doesnt want to help

…

C: [B] why would you steal my red fopr someone else[17]

B: just because

…

B: Stop whining

D: gaah! when will it end!

C: your taking MY MONEY

C: real money

This is one of the rare cases of an obdurate "baller" chatting with, or better, antagonizing everyone else. Individuals who have not attuned themselves to the group are generally quiet to the point of ignoring pleas to engage in conversation.[18] *A*, *C*, and *D* have integrated into a regularized "we" who are "working together" and "helping each other" (these are common phrases across sessions), but *B* clearly has not. *B* is interrupting the dialogue of *A*, *C*, and *D* and challenging the integration of the We, which the We remonstrates as "hurting us".[19]

Up to until this point, I have described this situation somewhat disinterestedly as one of disagreement in the perceptions of what is right, out of which a rule of property arises. Can either *B*'s propensity to act in a certain manner or the We's disposition not to act manifest itself

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[17] Moving the items to an unsuspecting location is a commonly employed strategy when possession is particularly unstable.

[18] They also tend to avert their eyes when they are privately paid their earnings at the conclusion of the session.

[19] See Kimbrough and Wilson (2013) for an experiment that uses geography as a treatment condition to induce the solidaristic tribal instinct of "us versus them." They then subject the world to an unforeseeable productivity shock to ask whether the rules of property can adapt to outsiders. Smith, Skarbek, and Wilson (2012) also find that such tribal sentiments feed wasteful investment in capabilities to plunder and to defend against predation.

in a custom? The reflexive answer is, well no, both are not possible if the telos of a rule is to regularize activity and create an order,[20] as the participants are well aware:

> *G*: teamwork evryone wins
> *H*: right right right
> …
> *G*: in this exp. the access to other peoples stuff really just causes problems
> …
> *H*: lets make some money
> *G*: muah ha ha ha. order fights chaos i love it!!!!
> *E*: hahahaha
> *G*: no taking. ask and you shall recieve
> …
> *G*: the only chaos is if the other half doesn't play nicely
>
> --
>
> *E*: seriously people your going to mess it up for everyone because this will turn
> into everyone messing eachothers up
> *E*: and noone winning

But why will this mess it up for everyone is a good question, and relevant to answering the bigger question of how do moral sentiments undergird the rule of property that emerges.

9. Harm, resentment, and property

Consider Baller *B* and the We of *A*, *C*, and *D*. The We perceive certain clicks of *B*'s mouse as stealing that screws them over and hurts them. If they leave the experimental session with zero earnings, they still receive $7 for showing up on time, which is more than they walked into the laboratory with. So what makes *B*'s clicks hurtful to the We? *A*, *C*, and *D* perceive themselves to be falling from a superior to an inferior position, the superior position being that each person is the only person who controls how much red and blue are produced in one specific field. For each person there is also only one house that will convert red and blue items at the end of the period into cash earnings, provided items have been moved to it. The inferior position obviously is no red and blue items in either a field or house following *B*'s clicks and hence no cash earnings. Adam Smith summarizes the situation to a tee when placed in the context of this session (1759: 82-3):

> To disturb [the We's] happiness merely because it stands in the way of [*B*'s] own, to take from [*A*, *C*, and *D*] what is of real use to [*A*, *C*, and *D*] merely because it may be equal or of more use to [*B*], or to indulge, in this manner, at the expence of other people, the natural preference which every man has for his own happiness above that of other people, is what no impartial spectator can go along with…

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[20] The Latin word *regula* is the common root for both *rule* and *regular*.

> Though it may be true, therefore, that every individual, in his own breast, naturally prefers himself to all mankind, yet he dares not look mankind in the face, and avow that he acts according to this principle, and that how natural soever it may be to him, it must always appear excessive and extravagant to them…
>
> [*B*] is to them, in every respect, as good as [*A*, *C*, and *D*]: they do not enter into that self-love by which [*B*] prefers himself so much to [the We], and cannot go along with the motive from which he hurt[s] [*A*, *C*, and *D*].

Part of the background of what is right, as Smith details above, is that "there can be no proper motive for hurting our neighbour" (Smith 1759: 82).[21] *B*'s clicking on the red and blue items in the fields and houses not under his control is an act contrary to the *ius*, an *iniuria*, not just in the secondary sense of harm in the modern use of the word *injury*, but also in the primary moral sense of an act contrary to what is right. With the hope of bringing him into the group, the We are showing up *B* in the dialogue to be callous and morally perverse so that a rule of property may emerge.   In Platform 1 (the homestead), the form of the rule seems rather straightforward. In one lone case, someone spells it out precisely as a rule:

> *E*: but let's start with the rule of: don't take stuff from other people's houses or fields

While this rule may appear obvious, it is not the only possible rule of property for Platform 1. When followed in real time and under fluctuating circumstances, a different rule may arise out of a minor change in the background. Recall that the design in Kimbrough (2011) slightly differs from the others in that all eight participants are together from the beginning of the session. Because the harmony of possession is more difficult to achieve from the outset in octets than in duets, every single one of Kimbrough (2011) sessions discusses a different rule never proposed elsewhere in Platform 1, namely:

> *E*: the fields are fairgame, lets decide on that from now on, nobody takes ANYTHING from a house, if you have stuff to share you can put it in your field

The same process is at work in Platform 2. When a stick figure is the first to click on freely roaming white circle, the first striker suffers harm (probabilistically) when anyone else subsequently clicks on the same circle. As "things", these pixels on a computer screen are within the virtual grasp of the whalers and homesteaders before a Baller *B* snatches them away. This perception of harm is the common thread across these two different platforms and why double clicking a circle is considered just as much to be stealing as moving red and blue items out of a creator-endowed field or house. In both platforms, the different participants perceive the actions of the Baller *B*-types as one of the same bad kind. Just as the We resent *B*, so

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[21] Notice also that part of the *ius* is that every person in every respect is as good as another in this experiment. The closer we look, the more rules we see come out of the background to support the ones we are focally attending to.

integrated groups of stick figures in Platform 2 also resent the *iniuria* of double clicking on circles, which can prompt them to retaliate:

> *B*: [D] you took mine! haha
> *F*: what ever happen to our deal??
> *D*: hhahah im the best
> *D*: im the master
> *C*: i know right
> *A*: [D] u suck\
> *D*: i leraned the best from [C]
> *F*: ok everybody only steal from [D]
> *C*: LOL
> *A*: k
> *B*: haha
> *D*: hahah hey no fair
> *E*: deal
> *F*: deal
> *C*: deal
> *E*: haha
> *F*: blue??
> *F*: dude come on
> *A*: sorry..
> *E*: hahahaha
> *F*: or dudet u in??
> *F*: steal from [D] no one else
> *F*: ??
> *A*: i will
> *E*: me 2
> *F*: sweet

Regardless of the form of the rule that arises out of the background to fit the local circumstances, there is a compelling emotion, which Adam Smith astutely identifies, that buttresses the sentiments regarding a rule of property as moral: "Resentment seems to have been given us by nature for defence, and for defence only...It prompts us to beat of mischief which is attempted to be done to us, and to retaliate that which is already done" (Smith 1759: 79). In a two-page long footnote, Smith anticipates and refutes a reluctance to accept resentment as part of a sense of moral demerit (p. 76):

> Resentment is commonly regarded as so odious a passion, that they will be apt to think it is impossible that so laudable a principle, as the sense of the ill desert of vice, should in any respect be found upon it. They will be more willing, perhaps, to admit that our sense of the merit of good actions is founded upon a sympathy with the gratitude of the persons who receive the benefit of them; because gratitude...is regarded as an amiable principle, which can take nothing from the worth of whatever is founded upon it. Gratitude and resentment, however, are in every respect,

it is evident, counterparts to one another; and if our sense of merit arises from a sympathy with the one, our sense of demerit can scarce miss to proceed from a fellow-feeling with the other.[22]

 Within the integrated community, everyone empathizes with everyone else in their resentment of the harm inflicted by people like *D*, the self-proclaimed master. This empathy is a necessary component for supporting a rule of property, and what makes this empathy palpable is that the individuals have harmonized into a We. Resentment is the emotion, the predisposition, that makes the rule of property a moral goal. The rule of property is moral, not merely because the community is in fact committed to the rule, *but because the community feels compelled through resentment to commit to the rule*. When *E* says above that "seriously people your going to mess it up for everyone because this will turn into everyone messing eachothers up," *E* is concerned that the commitment to the rule might erode.   That it often doesn't in the presence of an incorrigible is a testament to the work that morality does.[23] Resentment of harm, the mutual empathy of desiring to avoid harm, and the compelling moral commitment to a rule to avoid harm are what give meaning to property as a practice.

10. HAVE versus POSSESS

Rose (1985) argues that possession is the origin of property. Unlike the concept of a RIGHT or POSSESS, HAVE is a universal semantic prime, an innate concept; it is not further decomposable into simpler semantic units and every language appears to have a word for HAVE (Goddard and Wierzbicka 2002).[24] As we easily intuit, to possess is to have, but to have is not to possess. Smith (1894) discriminates the two words in English, and so strikingly so for my purposes that I beg pardon for the extended quotation (p. 622; font effects modified to conform with this article):

> *Have* is a simpler and wider term than *possess*, possession being a mode of having. Generally it may be said that one has what is part of or closely connected with one's self. One possesses what is external to one's self, but underlined appropriated for certain purposes. I have or I possess an estate; but I have, not I possess, a bad cold. When *possess* is used of what is internal to one's self the thing is regarded externally; that is, in reference to its use and purpose, rather than the subject in which it resides. Thus a man has legs by virtue of his human organization. He possesses legs, as being an animal gifted with that particular means of locomotion. So, in reference, not to what a man is, but what he does, or is capable of doing, we say, that he possesses reason and certain mental faculties or powers. To have generally expresses a transitory, or to possess a more permanent, power or control…A man is said to have money, which is, however, always changing and circulating, and to possess a house, lands, and the like. We are masters of what we possess, not always so of what we have.

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[22] Samuel Johnson's dictionary (http://johnsonsdictionaryonline.com/) from 1755 defines *sympathy* as fellow-feeling; mutual sensibility; and the quality of being affected by the affection of another. Our word *empathy*, which wasn't available to Smith, fits better than *sympathy* for the modern reader not familiar with 18th century diction.

[23] *F*'s plan to only "steal" from the master of mischief *D* and no one else actually worked. Why? Because everyone else held to their moral convictions.

[24] Concepts are denoted by small caps, words by italics.

While the universality of H<small>AVE</small> makes *have* a more appealing cornerstone than *possess* for a theory of the emergence of property, the distinction of the two more importantly situates Rose's project within mine. As Smith (1894) articulates, *possess* connotes an external orientation that *have* does not, and the discussion in Rose (1985) exudes that external orientation to the world. Acts of possession serve as a "statement", and in an illuminating analogy, "texts" are to be "'read' by the relevant audience at the appropriate time" (pp. 77 and 82-83). Why must the act to possess be taken? To express a more permanent power or control to the external world, because simply having can be transitory. It is curious that *possess* nominalizes more flexibly than *have*. To possess *Y* can lead to a condition of *Y* being a possession, but to have *Y* is more mutable and is only nominalizable by the gerund. It makes sense to say that *Until there is an act to possess* Y*, there is no possession of Y*. But compare that with **Until there is an act to have* Y*, there is no having of* Y. Neither clause sounds right, and at best it's a tautology. What this means is that acts to possess are rules of property that have come to the foreground for particular circumstances. What Rose (1985) considers to be the origination of property is the formalization of these rules in common law.

This article drills down to the universal and simpler bedrock level of H<small>AVE</small>. At any moment in time, my participants have red and blue items, but when the items are continually circulating, they do not possess them. Once they have established a rule, say that "the fields are fairgame [and] nobody takes ANYTHING from a house", then moving items from someone else's field into your own house becomes an act to possess. According to the *Oxford English Dictionary*, *have* is descended "from a primitive sense to hold (in hand)". Because we resent the harm when things are ripped from our hands, when we are not masters of what we have, we seek to become masters of what we possess through a rule of property. Mutual empathy towards harm converts islands of individuals who have into individual members of a We who possess. Once we have a rule, the moral commitment to the rule sustains the rule as part of the manifest practice or tradition of property.

11. *Pierson v. Post*

Sometime between 1800 and 1803, there was an incident on a Long Island beach between Lodowick Post and Jesse Pierson regarding a fox (Berger 2006). Two hundred years later, two undergraduates uncannily recreated the scene in a laboratory experiment involving a circle. Their verbal exchange went like this:

> *Post*: omg [Pierson]
> *Post*: u saw i had that one
> …
> *Post*: [Pierson]
> …
> *Post*: that was mine
> …

Pierson: u lost it so i have to get it

Post was pursuing a fox just like his 21st century counterpart was pursuing his green circle (though without the support of any digital hounds) when Pierson, knowing that Post was in pursuit but without a shot, interloped and killed the fox/captured the circle. Post resented the outcome and sued Pierson. The justice of the peace ruled for Post, but Pierson so resented losing the case that he appealed to the New York Supreme Court. Their decision is one that every first year law student of property learns.[25]

The court had to decide what the rule of property is for *ferae naturae* that lie free for any taker with a good line of sight. Post considered the rule to be identifiable hot pursuit and Pierson the first to have the varmint in hand.[26] The participants in Platform 2 similarly have to settle on a rule of capture. They, however, had no recourse to courts to decide for them following a dispute. Wilson et al. (2012) find that if civil-minded participants settle on a rule, they readily adopt *fast-fish, loose-fish rule* with slow, easy-to-catch right whales (so-named because they are the right whale to hunt). We, however, do not replicably observe *iron holds the whale*, even when the prey switched from right to sperm whales within a session. Mixing one's labor with pursuit, plus, in the case of the experiment, sinking the cost of a colored line do not have the same regularizing effect. Why might that be? Adam Smith explains that "[t]o be deprived of that which we are possessed of, is a greater evil than to be disappointed of what we have only the expectation" (1759: 84). The difference is that having a circle in hand creates positive harm when it is ripped from the hand, and the disappointment of expectations is just that, a disappointment. The former is emotionally hotter and hence easier to mutually empathize with when agreeing to a rule.

That's not to say that Post cannot get emotionally hot with disappointed expectations. The rumor is that the parties each spent £1,000 in 1805 on lawyer fees (Fernandez, 2006).[27] When the new circumstances of time and place bring to the foreground a conflict in expectations, "[t]he task of rules of [property] can only thus be to tell people which expectations they can count on and which not" going forward (Hayek 1973: 102). The court decided that having the fox in hand is an act to possess and prevents more confusion. I would add that the clarity of the rule coincides with and is supported by a stronger emotional response, for once the prey is in hand it becomes more closely connected with one's self.

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[25] *Pierson v. Post*. 3 Cai. R. 175 (N.Y. Sup. Ct. 1805).
[26] Foxes were pests in the early 19th century and not the graceful creatures they are today.
[27] I thank Ron Rotunda for the reference.

12. A negative theory of property: *Ius*, not use

A distinguishing feature of this step further towards a theory of the emergence of property is its negative character. Nominalizing the problem of property as a right to do *X* with *Y* diverts our attention from the rule-guided actions and perceptions of people involving things. As Wittgenstein (1958) recognized, "a substantive makes us look for a thing that corresponds to it" (p. 1). Rather than focusing on what people *do* and *feel* for property to emerge as a custom, we look for the distinguishing features that define this noun, but a right does not have well-defined boundaries like a chair does. So to aid us with the conceptualization, in the late 19th century British lawyers began employing a metaphor, property as a bundle of rights, which still persists, though not without its vocal critics.[28] Treating rights bundleable like sticks only more deeply reinforces the notion that rights are things, but because rights aren't things, equally amorphous substantives, such as duties, privileges, powers, and immunities, are called upon to explicate the intricacies of property (see, e.g., Hohfeld 1919). With all this focus on things, the purpose for property becomes the use of the things (Penner 1997).[29]

As difficult as it may be for economists to read without falling out of their chairs, the purpose of property, the custom, is not the use of things. The end of a rule of property is to secure from *iniuria*. That is the sense in which property is negative. The use of things is the ultimate purpose of having things, but a rule of property to possess things does not arise from the use of things.[30] If things were not scarce and people not mischievous, selfish, and limited in generosity, we would not need rules of property regarding things (Hume 1740). Rather, a rule of property arises out of our background knowledge of what is right, which includes protecting from real and positive hurt. As Hume (1740) observed, a rule property "acquires force by a slow progression, and by our repeated experience of the inconveniences of transgressing it" (3.2.2.10). We have rules of property, not because we have an ultimate interest in using things

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[28] Banner (2011) traces its first uses to George Sweet in 1873, with respect to proprietorship, and to Robert Campbell in 1881, with respect to property. See Symposium (2011) for a debate on the merits of the metaphor.

[29] Smith (2012) lays bare the bundle-of-rights metaphor as a tenable theory of property. See also references therein for more of his articles on this topic. He, like Schmidtz (2012), takes the right to exclude as a core principle of property. To it, Smith (2012) adds the information costs of governing that right to complete his modular theory of property. While the right to exclude is indeed a core principle of the practice of property, it is not the right place to look to understand the emergence of property, for it is difficult to see how the right to exclude becomes moral. What is the emotion, the passion, that compels commitment to a right to exclude that is distinct from and prior to resentment as a defense against loss? A right to exclude is part of the practice of property but not proximate to the emergence of property. When unaligned expectations lead to a conflict, the open question is whether the conflict should be settled with a positive statement of a right to exclude or a negative statement of either (a) what harm did not occur or (b) what should not have been done to cause harm.

[30] Smith (2012) similarly concludes that "[r]ights to exclude are a means to an end, and the ends in property relate to people's interest in using things" (p. 1704). Claeys (2012) credits Smith (2012) for that conclusion but critiques his theory for failing to explain "*how*, *why*, or *to what extent* exclusion and governance each institute or embody the moral norms internal to property in practice" (p. 143). This article takes the step of incorporating the morality of harm into the emergence of property regarding things.

within our grasp, but because, proximately, someone with an equal or stronger hand may challenge our grasp.

Acknowledgments

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Figure 1. Screenshot of the homestead platform

Figure 2. Screenshot of open sea platform