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## Reciprocal contracts—not competitive acquisition—explain the moral psychology of ownership

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### Abstract

We applaud Boyer's attempt to ground the psychology of ownership partly in a cooperative logic. In this commentary, we propose to go further and ground the psychology of ownership solely in a cooperative logic. The predictions of bargaining theory, we argue, completely contradict the actual features of ownership intuitions. Ownership is only about the calculation of mutually beneficial, reciprocal contracts.

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We welcome Boyer's paper because, to our knowledge, it is the first to suggest that ownership derives not only from a competitive but also, in part, from a cooperative logic. In this commentary, however, we propose that it is possible to go even further and discard the competitive logic altogether to explain ownership. The perception of an individual's ability to monopolize a thing by force, we argue, is only at the origin of possession (P(.) in Boyer's framework), and it does not at all explain ownership (L(.) in Boyer's framework) as a moral right.

Alongside a critique of the competitive half of Boyer's theory, our commentary is thus above all an opportunity to emphasize, in agreement with Boyer, the extent to which the usual competitive theories fail to explain ownership.

Competitive theories of ownership are based on the Hawk-Dove-Bourgeois game (Maynard-Smith and Parker, 1976) or the Asymmetric War of Attrition (Hammerstein and

Parker, 1982), and more generally on the notion of correlated equilibria (Aumann, 1974). They interpret ownership as an evolutionarily stable outcome of a bargaining game in which individuals use a symmetry break to allocate resources while avoiding costly disputes. Many researchers have argued that this logic explains not only the resolution of resource conflicts in nonhuman animals, but also human intuitions about ownership (Gintis 2007; DeScioli and Wilson, 2011; Hoffman & Yoeli, 2022).

However, as Boyer also explains, the simplest form of this theory does not explain ownership *per se*. Rather, it explains the existence of any arbitrary convention for allocating resources. In particular, the conflict between an owner and an intruder can be resolved either by a convention that favors the owner (the private property strategy) or by a convention that favors the intruder (the anti-private property strategy), and nothing favors the private property equilibrium over the anti-private property one (Mesterton-Gibbons and Sherratt, 2014). For the private property strategy to prevail, the owner and the invader must be asymmetric in their bargaining power, for example because the owner has a greater resource holding potential or benefits more from the resource and is therefore more interested in defending it (Fayed et al., 2008; Kemp and Wiklund, 2004; Kokko, 2013). In this case, the anti-private property equilibrium sometimes disappears in favor of the private property equilibrium.

We agree that this set of theories explains how conflicts can be resolved in nonhuman animals. We also agree that it explains *possession* of resources in humans—that is, that people sometimes have exclusive access to resources in the sense that no one is *able* to take these resources from them. This set of theories, however, completely contradict human intuitions about *ownership*—that is, intuitions that people are the *legitimate* owners of some resources.

Most strikingly, bargaining theory explains ownership as a consequence of power asymmetries. Thus, it predicts that being stronger than someone else, or having more interests in defending a resource, should not only provide the *possibility* to access that resource, but should also always make that gain *morally legitimate*. Yet being stronger than someone else, or needing a resource more than they do, does not give you a legitimate right

to access that resource. It makes it possible to *steal* that resource by force, but people see this precisely as a *violation* of ownership, not as a consequence of it.

Sure, in some specific cases, power struggles and property rights coincide. Sometimes, the first person to arrive at a resource both (i) is the legitimate owner of that resource, and (ii) has a bargaining advantage due to a structural asymmetry. Similarly, sometimes the person who has invested in the processing of a resource both (i) is the rightful owner of that resource, and (ii) has a bargaining advantage because she has more to lose if she was deprived of that resource.

But these are only special cases. Most resources do not give rise to any significant bargaining asymmetry between the first and second discoverer. Yet people consider the first discoverer to have a right to the thing he found. Likewise, anterior investments into a resource are most often sunk costs that do not increase the marginal benefit of further fighting over this resource. Yet people view individuals who have invested in a resource as their legitimate owners even if their investments are sunk. People intuit that others remain the rightful owners of their property even when they temporarily leave it *physically*, that is, even when they entirely give up any bargaining advantage. By contrast, nonhuman animals, which have no *ownership rights* but only *possessions*, must permanently maintain a favorable bargaining position to defend their resources.

Rather than from an interplay between competition and cooperation, ownership intuitions emerge from computations of a full-fledged cooperative contract. Ownership is one of many manifestations of a more general psychological mechanism, namely moral cognition, whose evolved function is to maximize the mutual benefits of reciprocal interactions, independently and often in contradiction with immediate bargaining power (André et al., 2022).

When we intuit that some people have privileged rights of access to things, we do the same computations as when we calculate that people deserve to receive their fair share of a cake they contributed to produce. In the case of ownership, the mutually beneficial contract is the following (see André et al., 2022 for more details). Each individual prefers to refrain from exploiting things produced by others provided that others, in return, are willing to grant them

exclusive access to things they found or produced. This reciprocal contract is mutually beneficial in that each party prefers being guaranteed the fruits of his labor than not being guaranteed those fruits while being allowed to exploit others' resources.

This purely cooperative view of ownership intuitions explains their fine-grained design-features better than a partly competitive theory. In particular, it explains the fact that ownership is often tied to prior investments in things, since it is especially in the area of investment protection that private property is mutually beneficial (see André et al., 2022 for more details).

### **Conflict of interest**

None

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