

Noles, N. S., & Keil, F. C. (2011). Exploring ownership in a developmental context. In H. Ross & O. Friedman (Eds.), *Origins of ownership of property*. *New Directions for Child and Adolescent Development*, 132, 91–103.

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Exploring Ownership in a Developmental Context

Nicholaus S. Noles, Frank C. Keil

Abstract

Ownership and economic behaviors are highly salient elements of the human social landscape. Indeed, the human world is literally constructed of property. Individuals perceive and manipulate a complex web of people and property that is largely invisible and abstract. In this chapter, the authors focus on drawing together information from a variety of disciplines, including legal theory, philosophy, psychology, and economics, to begin creating a coherent picture of the cognitive architecture that underlies ownership concepts. In doing so, the authors review theories of ownership and discuss recent research that highlights the unique contributions garnered by studying ownership in a developmental context.

Humans inhabit a world densely populated with a massive variety of property. In addition to “real” property (i.e., land), objects, ideas, endeavors, songs, space, resources, stories, and symbols are all property. In addition, determinations of property ownership are essential to our ability to navigate and act effectively on our physical and social environment. Notions of ownership are therefore central to the everyday lives of virtually all individuals. Yet, calculations of ownership can be subtle and complex: ownership is both invisible and abstract. Ownership does not require a physical or visible link, and although ownership is buttressed by simple heuristics (e.g., the first person that we see in possession of an object is likely to be its owner; see Friedman, 2008), brute association between owner and property certainly does not comprehensively explain ownership concepts in adults (e.g., when someone sits in a chair, it does not necessarily mean that they own it), but the development of ownership concepts may begin with these simple associations (see Blake & Harris, this volume). Ownership is paradoxically both complex and simple. The links between people and property are simultaneously salient and invisible. Also, while the world is “rife with property disputes, at all levels of social organization . . . it is remarkable how very few disputes and disruptions there actually are relative to the ubiquitousness of property norms . . . everywhere we go, everything we do, entails at least a momentary calculation of possessory relationships and rights” (Rudmin, 1991, p. 85).

This chapter focuses on the relationships between people and property at the level of individuals and very small groups, not in terms of larger economic systems or models. Personal relationships between individuals and their property may have important consequences for each person’s self-image and self-esteem (see Belk, 1988). For example, owning a Viking range or Sub Zero refrigerator may yield changes in self-evaluations in upwardly mobile middle-class couples, at least on a temporary basis (although the lasting benefits of owning such possessions is less clear; see Frank, 2000). Possessions also provide both instrumental value (e.g., a hammer enables driving a nail) and symbolic value (e.g., a picture reminds the viewer of good memories or personal success; see Dittmar, 1991). In economic contexts, personal ownership can influence value judgments. Individuals attribute greater value to objects that they own, and relatively devalue identical objects owned by others (i.e., the Endowment Effect; see Kahneman, Knetsch, & Thaler, 1990, Thaler, 1980). In this respect, children are much like adults, demonstrating the same rational (Harbaugh, Krause, & Berry, 2001) and irrational biases (e.g., the Endowment Effect; see Harbaugh, Krause, & Vesterlund, 2001).

Owner–property relationships are perhaps most salient in small groups, involving two or more people and their property. If the property rights of only one person are considered, then there can be no donations, thefts, or exclusions of ownership rights to some individuals or groups. However, if more than one individual is present, property disputes are

likely to occur. For example, in childhood, if only one child is present, then there are few property disputes. However, if more than one child is present, conflicts over property are quite common (e.g., Hay & Ross, 1982). Ownership is also useful for purposes beyond determining who owns what. Links between people and property can be used to convey information, such as social and economic status, race (Dittmar, 1992, 1994), and gender (Dittmar, 1991). Thus, learning to navigate a social and physical environment constructed of links between people and property is an important task with huge dividends not just in terms of potential physical resources but also in terms of information about others.

Although ownership has been explored across a variety of topics and populations, including children (e.g., Fasig, 2000; Furby, 1991; Ross, 1996), adults (e.g., Prentice, 1987), and elderly individuals (e.g., Cram & Paton, 1993; Kamptner, 1991), relatively few studies have explored how concepts of ownership develop. Developmental approaches are especially useful in addressing questions about concepts of ownership because they help uncover more foundational aspects of ownership from those that are gradually internalized from the culture at large. This chapter focuses on three questions: What is property? Who or what are owners? What are the rules that govern property transfers? These three questions have been largely ignored in studies of child development (with the exception of question three, which has begun to receive attention in recent publications), but these questions represent core elements of ownership. By exploring these questions, investigators can begin to characterize the development of the cognitive architecture that underlies ownership concepts.

Theories of Ownership

Although several studies have examined aspects of ownership, cognitive scientists have proposed relatively few overarching theories of ownership, including two theories presented in this volume (see Blake & Harris, this volume; Rochat, this volume). Even so, compared with theories of property, theories of ownership are relatively abundant. Associative or “single-link” theories of ownership are perhaps the oldest. Although not precisely referred to in associative terms, philosophers including Locke, Hume, Grotius, Pufendorf, and their intellectual progeny (for a review, see Buckle, 1991) use a rough analogue of associative theories of learning links between properties and kinds, describing ownership as a link between person and property that is strengthened by repeated observations of that person in some manner of proximity (e.g., spatial or temporal or both) to that property. Leon Litwinski’s theories (for a review, see Rudmin, 1990) supported a single-link framework, positing that ownership is an associative process, connecting owner and property through frequency-driven processes that allow individuals to efficiently keep track of who owns

what. Moreover, such a strategy has some utility as people often do own things that they are most frequently associated with (although certainly not always—few people think the supermarket clerk owns her cash register, the student owns his classroom desk, or the prisoner owns his jail). At first glance, some studies may seem to support a single-link framework. For example, Friedman (2008) found that both adults and children (Friedman & Neary, 2008) employ a “first possessor” heuristic in identifying property owners. However, this heuristic need not be associative and could, in fact, be counter associative if it were the case that first possessor links trumped more frequent later possession links. In real life, first possessor relations and frequency are often confounded, but when they are disentangled, frequency seems to be less central to ownership intuitions.

Because individuals do perceive strong associations between people and property, the single-link framework is appealing in its simplicity; however, legal experts and philosophers claim that, in practice, people in their daily lives do not usually treat ownership as a single link. In the early 1900s, Wesley Hohfeld (1913, 1917) noted that legal and practical definitions of ownership gradually shifted from a unitary, single link between person and property into a bundle of independent, separable property rights. This “rights bundle” framework is best described by the philosopher Frank Snare (1972). Snare posits that ownership is represented by a Hohfeldian rights bundle representing a host of legal rights and obligations. In psychological terms, these rights can be roughly reduced to three elements, including the right to use one’s property, the right to restrict others from accessing one’s property, and the right to transfer one’s property into the possession of other individuals (see Ross, Conant, & Vikar, this volume, for a discussion regarding how children might acquire these rights constructs). Critically, each property right does not have to belong to the same person. For example, many movie tickets are nontransferable; the owner of the ticket may not resell the ticket for use as a ticket or otherwise give it away for that purpose. However, the owner of the ticket may still use it and he or she has the right to keep others from using it. Most modern legal systems employ Hohfeldian rights bundles, but it is not clear whether modern concepts of ownership are influenced by legal definitions or if legal definitions are based on prior behavioral precedents. Thus, perhaps rights bundles are a relatively esoteric construction of complex societies and their attendant legal systems or alternatively, a folk interpretation of rights bundles is early emerging, universal, and a guiding influence on the legal rules.

The single-link and rights bundle frameworks both focus on the nature of the link between person and property and represent competing theories of how owners are related to their property. Thus, we explore ownership by investigating property, owners, and the rules that govern property transfers. By examining the boundaries of the owner–property relationship, it should be possible to shed light on concepts of property more generally. In addition, if certain components in a bundle have a

privileged status and are expected but not strictly necessary, they might constitute a kind of intermediate case between single links and an equally weighted set of components in a bundle. If a single link built up on associations were the only basis for determining owner–property relationships, it would suggest that all property could be conceived of as simply a matter of degree of association to various entities that count as owners. In reality, people’s intuitions seem much more structured and nuanced in ways that cannot be modeled by a single link.

What Is Property?

Property (i.e., what can be owned) is one of the most mysterious aspects of ownership. People can identify property when they see it, but they may not have explicit access to the criteria that they employ in identifying property. Economists suggest that property is “created” when a resource is both limited and in demand (Demsetz, 1967), but definitions of property can change over time (e.g., slavery was legal for the majority of human history, but not currently) and from place to place (e.g., it is illegal to own certain animals in Manhattan, but not elsewhere in the United States), which complicates any attempts to define property. Even lawyers, most of whom are required to enroll in a course entitled “Property” in their first year of law school, settle disputes over property without access to any coherent definition of property. Property rules are simply declared by legal systems with vague appeals to overarching principles. Some Property texts provide no definition of property (e.g., Burke, Burkhart, & Helmholz, 2004; Casner, Leach, French, Korngold, & VanderVelde, 2004), while others are surprisingly vague, such as “property consists of anything that can be used, physically or mentally, so as to provide value of some kind” (DeLong, 1997, p. 26), or provide vague references to John Locke (for a review of philosophical theories of ownership and property, see Buckle, 1991). Some legal theorists have acknowledged this shortcoming. One textbook author notes, “What is property? Nearly every first-year property course begins and ends with this query. The instructor never answers the question, but in the asking, and in the quest for meaning, every student gains some glimpse of the variety of possible answers. The question is unanswerable because the meaning of the chameleon-like word property constantly changes in time and space” (Cribbet, 1986, p. 1).

Any meaningful theory of property must account for changes in the definition of property over time and across cultures, creating a major challenge for theorists. Our approach, drawing on elements of both economics and law, focuses on scarcity and access. Property can be considered as created when an individual or group can demonstrate the ability to use and restrict access to a given physical or cognitive resource (Demsetz, 1967). This resource then remains property until an individual or group with practical or legal influence declares the resource to be nonproperty and

then acts to enforce this declaration. For example, people were property until governments were committed to the ideal of abolishing slavery. Conversely, powerful groups or individuals can create property by managing access to resources that need not be scarce, even if these manipulations are not undertaken through changes in custom or law. For example, public space like a playground might “belong” to a street gang if they thoroughly restrict the public’s use of the area.

To evaluate this view, we first need to determine what is and is not currently considered to be property. Because children are less indoctrinated with cultural and historical information, we chose to approach this task by examining children’s intuitions about property and by comparing those intuitions with those of adults. Our goal was to identify rough boundaries for defining property that might apply to a variety of culture and historical settings. We (Noles, Keil, & Bloom, 2009) presented five-, eight-, and ten-year-olds, and adults with items that represented two broad sets of features that might be diagnostic in identifying property. The first set concerned the kinds of things that could be owned. Children were presented with animals, inorganic natural kinds, artifacts, events (e.g., a party), and knowledge (e.g., an original story). The second set was pragmatic, consisting of items that were manipulated for amount, pitting an all-inclusive value (e.g., all the computers in the world) against a single unit (e.g., a single computer), and time (e.g., varying the persistence of objects, such as a cube of ice that will melt in five minutes or a beetle that lives for seventy-five years). Each participant also received three items focusing on humans as property. These target items were presented in owner–object pairs, including adult owners—work by Blake and Harris (2009) indicates that children may not extend full property rights to child owners—and a target item. All items were presented in the following manner: “Can [adult owner name] own a [target item]?”

Adults and children employed similar heuristics when identifying property. Participants endorsed discrete items and rejected items that crossed pragmatic boundaries (e.g., rejecting all-inclusive values), while differences that did not ostensibly restrict ownership (i.e., time) were ignored. A similar boundary was apparent across kinds of potential property. Participants determined that natural kinds, artifacts, and privileged information (e.g., original stories and ideas) were property, but events, common knowledge (e.g., knowing a building’s location), and other humans were not identified as property. Friedman, Neary, Defeyter, and Malcolm (this volume) reported similar findings but found that children’s conclusions were influenced by historical attributes of objects (e.g., some natural kinds are not assumed to be owned unless an individual previously possessed it). These data suggest that concepts of property emerge early and remain largely consistent throughout development. Further investigation is necessary to determine how these basic boundaries interact with the actions and intentions of individuals and social groups to

influence definitions of property; however, it does seem that the scarcity-access approach (Demsetz, 1967) is supported.

Who or What Are Owners?

Having explored concepts of property, another way of understanding how owners relate to their property is to investigate concepts of “owners.” In *The Wealth of Nations*, Adam Smith (1776/1977) said, “Nobody ever saw a dog make a fair and deliberate exchange of one bone for another with another dog. Nobody ever saw one animal by its gestures and natural cries signify to another, this is mine, that is yours; I am willing to give this for that.” To examine this claim empirically, we presented children, including six-, eight-, and ten-year-olds, and adults with a wide range of entities, such as humans across a developmental continuum (e.g., babies, teens, adults, etc.), “atypical” humans (e.g., individuals who were asleep, unable to move, etc.), a variety of nonhuman animals (e.g., insects, dogs, monkeys, etc.), and artifacts. As in our investigation of property, participants were presented with owner–object pairs (e.g., “Can a dog own a fax?”). The experiments in this investigation differed in that the qualities of the owners were manipulated, rather than the property. Our results indicate that both children and adults employ a “humans only” criterion for identifying owners. However, children eight and under were more restrictive than adults, systematically rejecting that atypical humans can be owners. Examining the atypical human items more closely revealed that young children endorsed low IQ individuals as owners, but they determined that individuals who were paralyzed, insensitive to their surroundings (i.e., they cannot see, hear, or speak), comatose, or asleep could not own property (Noles, Keil, & Bloom, under review).

It was particularly surprising that individuals who were simply asleep were not identified as owners. Research on children’s understanding of agency (e.g., Barrett & Behne, 2005) indicates that even our youngest participants should understand states such as sleep, wakefulness, and even death quite well. It therefore seems that one or two conceptual changes may be at work. First, adults and young children may differ in the way that they conceptualize ownership links. Returning for a moment to the two theories of ownership discussed, it is possible that children may view ownership as a strict single link between owner and property, in contrast to adults who may employ a rights bundle formulation. If children do view ownership as a single link, then the inability to exercise any single property right (e.g., if an owner cannot use their property) may indicate a lack of ownership, whereas adults, employing rights bundle representations, continue to entertain the possibility that the entity could be an owner. Therefore, Hohfeld (1913) may have been accurate in positing that ownership historically shifted from a single-link representation to a rights bundle representation, and it is possible that children experience a

developmental version of this evolution over the course of childhood. A second, and not necessarily exclusive, possibility is that adults and children conceptualize the owner–property relationship in different ways. Specifically, adults may construe ownership as a passive and persistent social process involving both owners (who protect their privileged access to property) and nonowners (who observe and maintain owner–property links), whereas children may infer that ownership is an active *psychological* endeavor. For example, if children construe ownership as a solitary, active process (i.e., something that an owner *does*), then they may infer that owner–property links may not be formed or maintained by someone who cannot act intentionally, as is the case with individuals who are asleep or otherwise restricted in their actions. Similarly, children may underrepresent the contributions of the social network around them, failing to understand that both owners and the surrounding social context maintain property rights through various social institutions and practices. For adults, ownership seems to be a passive process because, except in certain specific legal situations (e.g., taxation), nothing short of an intentional transfer or destruction can break the connection between owner and property. Furthermore, for adults, ownership seems to be social because it confers a privileged status between an owner and their property that is observed and maintained by both owners and nonowners according to local legal and moral precedents. A failure to represent either of these elements may cause children to represent both owners and ownership differently than adults in certain situations. In contrast to concepts of property, concepts of owners may show some differences between children and adults. The pattern of responses exhibited by young children indicates that, unlike concepts of property, owner concepts may take time and experience to fully develop. The status of ownership as a social construct is discussed in detail by Kalish and Anderson (this volume).

What Are the Rules That Govern Property Transfer?

In addition to notions of owners and property, another critical component of understanding ownership concerns an understanding of principles governing property transfer. Recent studies indicate that adults (Friedman, 2008) and children (Friedman & Neary, 2008) use the same heuristic, first possession, to identify the owners of objects in ambiguous situations. However, although children appear to grasp this principle at an early age, they do not appear to master the rules that govern property transfers until much later in development. Anecdotal evidence suggests that many parents leave a store only to discover on the ride home that their young child has mysteriously acquired candy or a new toy that no one actually purchased. In very young children, this sort of behavior can only be categorized as a mistake, and yet older children also exhibit behaviors that baffle parents and teachers. For example, a child might trade a portable video game system for a

particularly attractive sticker. Although this behavior may result from difficulties calculating value, some of these occurrences may also be attributable to children's incomplete understanding of property transfers. This hypothesis is supported by several empirical investigations. For example, both Blake and Harris (2009) and Friedman and Neary (2008) found that children under the age of four exhibited a "first possessor" bias when presented with a very familiar property transfer (i.e., gift-giving at a birthday party), but that young children inferred that ownership was conserved by gift-givers, even when the property transfer was explicit in less familiar scenarios (e.g., see Friedman & Neary, 2008). These findings mirror previous findings with older children obtained by Hook (1993), who found a similar bias in children eight and younger, and concluded that children treated giving as lending, rather than as a permanent property transfer. In contrast, Kim and Kalish (2009) found that young children often correctly attribute property rights to owners following a property transfer when resolving conflicts between owners and nonowners.

There are some inconsistencies between these studies. For example, Hook posits that this biased behavior extends to eight-year-olds, while Blake and Harris (2009) indicate that these biases are attenuated at age five. The most obvious difference between the two studies is that Blake and Harris employed a birthday party vignette, while the property transfers employed by Hook (1993) were neutral. It seems possible that the familiar gift-giving script employed by Blake and Harris (2009), a birthday party, may have conferred some advantage on their participants. However, when Kim and Kalish (2009) queried four- and five-year-old participants about property rights employing a more neutral scenario, they reported that children reliably identified owners both before and after property transfers, despite using perhaps the most complex procedure of these three studies (i.e., presenting more queries about more topics per scenario than previous investigations).

Property transfers represent an emerging area in the study of ownership. In some investigations, children exhibit difficulties attributing ownership following transfers, suggesting that examining the contrasts between transfers and nontransfers might help us to understand how adults and children differ in their ownership attributions. To expand upon previous findings and explore these inconsistencies, we (Noles & Keil, under review) presented children ages eight and ten, and adults with vignettes depicting a wide variety of property transfers, including nontransfers (e.g., borrowing), transfers (e.g., selling), and losses (e.g., theft). These property transfers were also presented in two contexts, including a narrative context (e.g., "Tom let Alex borrow his skateboard for a week.") and a first-person context (e.g., "I [the experimenter] let you borrow this [a low-value object] for a week."). Participants were asked to indicate the owner of the object at the end of each trial and their responses were collapsed across transfer type.

When presented with the narrative context items, both age groups of children provided response patterns similar to adults with respect to non-transfers and losses.¹ However, eight-year-olds demonstrated a strong first-possessor bias, indicating that the initial owner of an object continued to own the property even after explicitly giving or selling the object to someone else, when presented with transfers. Although these data align with Hook's (1993) early findings, the behavior of eight-year-olds in this study does not align with the commonplace intuition that children *do* understand property transfers. When someone hands her child a toy or some food, the child does not act as if they are confused, and certainly children celebrating their birthday understand that they have acquired new possessions. Our first-person context study was designed to address this apparent disconnect between children's responses in ownership studies and common intuitions about children's behavior. The first-person context only differed from that narrative context in that the transfers, nontransfers, and losses were directed from the experimenter to the child, as opposed to occurring between two story characters, and the items from the narrative were replaced with a variety of low-value actual items (e.g., wooden dowels, wall anchors, etc.).

Presenting the items in a first-person context greatly attenuated the first-possessor bias (Noles & Keil, under review), an effect that we attribute to the action of an age-neutral self-serving bias whose presence is implicated by a significant change in responses to theft items. Specifically, in the narrative context, all age groups almost unanimously indicate that the owner, and not the thief, continues to own stolen property, while in the first-person context, approximately 30 percent of participants—distributed equally across age groups—indicate that the thief owns the property after a theft (i.e., when the subject is described as the thief, the theft is much more likely to be identified as a property transfer).

Young children exhibit a strong first-possessor bias, perhaps stemming from early ownership heuristics (see Friedman & Neary, 2008). When presented with even the most explicit of property transfers, children often conserve ownership, and perhaps property rights, with an object's first owner. This finding has been discovered and reliably replicated across several age groups. However, the first-possessor bias may be attenuated or eliminated in at least two ways. First, the findings of Blake and Harris (2009), Kim and Kalish (2009), and Neary and Friedman (2008) suggest that activating well-learned social scripts (e.g., a birthday party) or querying children on property rights, rather than ownership,

¹There was one exception, which was the "discard" item in the loss category. Adults interpreted discarding (i.e., intentionally throwing an item into the garbage) as a property transfer; eight-year-olds and, to a lesser degree, ten-year-olds interpreted this behavior as a nontransfer, conserving ownership with the first possessor.

may attenuate the first-possessor bias in young children. Second, situational factors may also contribute to the attenuation of this bias, as in the first-person context discussed previously (Noles & Keil, under review). Although children's insistence on conserving ownership may appear to be a simple mistake, we hypothesize that this behavior is both complex and adaptive. Specifically, a first-possessor bias may lead children to assume a conservative stance when *observing* property transfers among other people, while assuming a very liberal stance when *receiving* property transfers. This cross-context balancing act may allow children to be conservative in a manner that reduces accidental violations of property rights, while allowing the child to be maximally receptive to property transfers in their direction. Further studies are needed to fully understand children's concepts of property transfers and the role of first-possessor biases.

Conclusions

Understanding the development of ownership behaviors is a critical component of understanding the cognitions that underlie ownership and economic behaviors. Although some aspects of ownership are early emerging, other aspects take time and experience to fully develop. Furthermore, the patterns of development vary considerably. Concepts of property appear early and do not change drastically over the course of development, whereas concepts of owners and property rights appear to grow and change until early adolescence and perhaps beyond.

Humans in all societies live and develop in a complex and multilayered web of relationships among people and property. Ownership plays an important role in individuals' lives regardless of age or culture. Indeed, concepts of property and possession are even salient to nonhumans (see Brosnan, this volume). The cognitive operations that drive human ownership inferences and behaviors, however, remain an important, understudied research topic. New studies are rapidly appearing examining social, cognitive, and developmental aspects of ownership, but additional interdisciplinary studies are especially needed to explore ownership within the contexts of conceptual development, social cognition, and culture. Ownership is not a concept reserved for those in positions of power, privilege, or wealth. It is a wonderfully democratic concept even as the kinds of things owned may vary radically across various groups. All of us somehow come to master the complex web of ownership relations that saturate all cultures. The challenge lies in understanding how this comes about through the course of development in an apparently effortless manner.

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NICHOLAUS S. NOLES is a postdoctoral fellow in the Psychology Department at The University of Michigan. E-mail: nsnoles@umich.edu; webpage: sitemaker.umich.edu/noles.

FRANK C. KEIL is a professor of psychology and linguistics at Yale University, New Haven, Connecticut. E-mail: frank.keil@yale.edu; webpage: www.yale.edu/cogdevlab.

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