

The Ontology of Property and Stewardship

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Abstract: The paper explains the original establishment of property by the creationist account. Still, it shows that creationists cannot account for non-creatable things as property without collapsing into the labor-mixing account. Non-creatables, however, can be held in stewardship. The latter is a relation originally established and upheld by acts of care of something held in possession. Stewardship is conditioned and constrained by duties and it grounds stewardship rights to exclusion and control. Based on a hylomorphic account of what it means to create something so that a relation of property is established, the paper shows that an agent has ground to claim an exclusive right of control of a tangible or intangible object just in case (1) they are in a stewardship relation to the non-created parts, which they uphold by sustained acts of care, and (2) just in case they create the formal proper parts *simpliciter* of the whole. Stewardship supervenes on possession and property of material objects supervenes on stewardship. I mention some moral, positive legal, and ecological implications of this position, but they are not my focus.

Keywords: property, stewardship, metaphysics, hylomorphism, creationist account of property, original establishments accounts of property

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1. INTRODUCTION

The creationist account of property¹—defended by Reinach (1983) and Massin (2017)—holds that the relation of property to an object is established just in case the agent creates or produces it. In this paper, I defend this account but show that creationists cannot account for the property of non-creatables or non-created parts of the created thing without relapsing into the labor-mixing account of property.² This leads to a dilemma. Either, we hold that a person only owns the created parts of an object. In that case, the person has no coherent right to control an entire object even though she is the owner of some parts of it; or, we hold that by creating the whole the person becomes the owner of all the parts, which is what the labor-mixing account claims but the creationist account rejects. I consider the three relations of possession, stewardship, and property to solve this dilemma. I use a mereological account to explain creation as composition. Established by the creation of an artifact via the composition of non-created parts, the relation of property supervenes on the relation of stewardship. The latter supervenes on possession. Possession is distinct from property (Massin 2017, 581). It is based on mere physical power or mental capacity to occupy or hold on to a tangible or intangible object. Stewardship, which I will treat more extensively, is originally established by an agent's acts of care or conservation of an object. Non-creatables cannot be owned but they can be possessed and subsequently held in stewardship. Stewardship grounds a right to exclusively control and engage with an object (or person) for the sake of care and conservation. An agent has ground to coherently claim an exclusive control right *in rem* of a whole object *pro tanto*: (1) just in case they are in a stewardship relation to the non-created parts; (2) just in case they create the whole by creating its formal proper parts *simpliciter*.

The advantage of the theory presented in this paper is that it (1) preserves a coherent and precise concept of property and property rights as *pro tanto* unlimited agenda control rights *in rem*; (2) avoids the conflation of possession, stewardship, and ownership in the ontological account of original establishment and grounding of rights *in rem*³; (3) explains the Lockean 'do not waste'-proviso and other constraints *in rem* more adequately by explaining their attachment to stewardship rather than property; (4) solves the problem

1 I use ownership and property interchangeably.

2 For this account and its critique cf. Waldron (1983).

3 Such conflations or problems of distinction between property and stewardship are present in different manners in Lucy and Mitchell (1996); Lametti (2009); Peñalver (2009); Alexander and Peñalver (2009); Katz (2017, 317–8).

of grounding the integral *pro tanto* right of exclusive control of a thing and its non-created parts within the creationist account. Note that this is not a paper on the legal theory of property as enacted by positive law. Nor is it a paper on the social and moral considerations that should guide original or positive legal establishment of property and stewardship regimes. However, I will point to some important ecological and positive legal implications in the paper.

2. PROPERTY AND PROPERTY RIGHTS

A person is in a relation of property with a thing if and only if it belongs to her but is not part of her. The property relation must be distinguished from the property right. A person holds a property right to a thing by virtue of their property relation to a thing. It is in the nature of owning to ground a property right of owners, just like it is in the nature of promising to ground promissory claims, or in the nature of moral personhood to ground moral rights of the person, for instance not to be enslaved. Property is the relation in virtue of which an owner has the *pro tanto* right to exercise total control over a thing's agenda (Reinach, 1983; Massin, 2017; Penner, 1997; Smith, 2012; Katz, 2017). The property relation may conflict with, and potentially be overridden by, other types of obligations and rights grounded in other acts or statuses, such as moral rights of the person. Claims and obligations are relative if and only if they have an opposing party and if and only if they have correlative claims and obligations. Claims and obligations are correlative if they have the same content. Hence, not all rights and obligations are necessarily relative. The property right is not (Massin 2017, 588): *Pro tanto*, the right of the owner over the thing is an absolute right *in rem*: The right to do with my paper what I want as the owner of the paper: (1) has no opposing party in its content; (2) has no correlative obligation; (3) does not have to be realized; (4) can be exercised by the right holder.

To the extent that they are grounded in the relation of property, property rights are not part of the class of rights that are directly grounded in moral personhood, i.e. moral rights of the person (Reinach, 1983; Massin, 2017). Moral persons have moral rights in virtue of being moral persons. The right not to be enslaved is held by all moral persons in virtue of being moral persons. No act is required of them to acquire that right. In contrast, my paper is not my paper in virtue of me being a moral person but in virtue of my authoring and documenting it. I thereby give it an external existence. It belongs to me without being a part of me, contrary to my kidneys, ideas, states of mind, etc. Property rights as absolute rights are not absolute moral rights of the person,

nor are they powers to change the moral status of others, as many hold who defend or criticize accounts of unilateral appropriation (Waldron 1990; van der Vossen 2009, 2; 2015, 66). By misunderstanding property rights *ab initio* as relative rights and as moral rights of the person, property is ontologically misunderstood and morally misconstrued.

Once the property relation is established, which I will say more about, the owner can offer to transfer their property. Most property is owned due to acts of transfer, not due to original property-constitutive acts. Property transfers are social acts. Without uptake transfers are null. In case of refusal by the transferee, the owner is stuck with their property. The transfer is grounded in an agreement that depends on the owner's and recipient's consent as necessary conditions of a social act of exchange (Massin and Tieffenbach, 2017). It is an error to include the right to exchange and transfer in a bundle of property rights *in rem*. Gaus' qualification "by consent" speaks to this fact (Gaus 1994, 214).

Property rights grounded in property established by agreement are derivative property rights, which ontologically depend on original property. Property can only be transferred if it has been established in the first place. Derivative property is ontologically secondary and different from original property. First, after a transfer, the new owner cannot claim to have performed the original property-constitutive act. The claim to having performed the property constituting act is not transferable. Second, since the derivative property relation depends on a social act of agreement, the nature of the right that is grounded can be charged with contractual conditions and fiduciary duties (Katz, 2020a,b). When such a process is often reiterated and generalized by the guarantee of a third instance, we end up with a legal property rights regime, in which the property of each thing can come attached to a bundle of conditionalities that can be described as a bundle of positive legal rights and duties. But this clashes with the core idea of property as a basis for the sovereign control right of a thing (Katz, 2017). By distinguishing and explaining the foundations of possession, property, and stewardship this paper will show how an absolute notion of property is related to and compatible with duties *in rem* independent of positive legal enactment.

What type of acts bring the relation of property into the world? This is neither a historical, nor a psychological, nor moral question. I am asking how the property relation between a person and a thing can be thought to be established ontologically, not how it happened in history. I am also not asking the psychological question of when somebody feels entitled to own, or how the state of mind to consider oneself as owner is explained. Furthermore, I am not

asking which property-constituting acts are morally permissible. Transfer can be excluded as an original property-constitutive act, it is question-begging. To consider positive legal enactment as the original property constituting act is also question-begging. Positive law certifies original property or establishes property as a legal fiction. The latter means that it can treat different types of relations as if they were property relations. Positive law does not give us an answer to the question of how property comes into being as non-fiction. Positive law can enact relations of taking possession as positive legal property. It has enacted relations of slavery and conquest as property relations and thereby conflated possession and property. The legal act that treats the possession of a thing as if it were property only tells us that possession is to be regarded as property in the law. Legal enactments are non-factual assertions, they are normative and fictional. Positive legal enactment cannot be unequivocally understood as the act that originally establishes the relation of property.⁴

Moral personhood will not give us the answer to what establishes the relation of property. Nobody is the owner of a thing that is not part of them simply by being a moral person. We are not asking what the morally permitted uses and consumptions of things are. If I eat your apple because I am about to starve, I exercise a moral right to subsistence. This does not give me an indication of how the apple can be mine independently of my needing to eat it to survive. Moral personhood can ground rights of use and consumption of things and it can override property rights, but it does not directly ground property rights to external things. If something is naturally a proper part of the person, the rights that are thereby grounded are the moral rights of the person. Transitivity is a formal property (*Eigenschaft*) of proper parthood. Ownership of external things does not have transitivity as formal property. If *x* is a proper part of a person and *y* is a proper part *x*, *y* is also a proper part of a person, for instance, my finger being part of my hand being part of me. My bike's wheel is a proper part of my bike but not a proper part of me because my bike is not a proper part of me, it is my property. We might say that a human person's proper parts are her "natural property." But we should use different words to mark the conceptual difference between proper parthood and property, and property rights need to be distinguished from the moral rights of the person because the former are not directly grounded in moral personhood, nor are they grounded in physical or psychological states. This brings us back to the question: What is

⁴ Some constitutive legal enactments might establish property in a creationist sense. It is beyond the remit of this paper to explore this. In case this holds true, it does not follow that property is originally established by legal enactment, just that some legal enactments fulfil the ontological conditions of property-constitutive acts.

the ontological origin of a property relation? (Thomson 2013, 324). Here are the usual answers:

P1: The relation of property between **A** and **x** exists just in case **A** was the first to take possession of **x**.

P2: The relation of property between **A** and **x** exists just in case **A** was the first to mix their labor with **x**.

P3: The relation of property between **A** and **x** exists just in case **A** created **x**.

Concerning P1 and P2 I will only discuss what is relevant for this paper's argument. The refutations of P1 (*prima occupatio*) are numerous (van der Vossen, 2009; Sage, 2018). According to van der Vossen, fundamental normative work is done by a natural moral right to individually appropriate things from the commons. In other words, the first occupation only individuates a previously common property relation (van der Vossen, 2009). But how does the common property of all external things come into the world in the first place? Lockians assume that the Earth is a gift of God to mankind (Locke 1689, V, §25). Kant replaced this theological premise with the philosophical idea of a noumenal contract of common ownership of all land and of all that is on it (Kant 1797, §6). But if individuals do not have a property right to the land, as Kant assumes, the noumenal contract among individuals to hold property in common fails to explain how the property relation to land is originally established.

What distinguishes P1 from P2 is the different types of action that are required concerning the thing. If this respective action is performed by **A** under the two conditions that "A is the first to act on **x**" and that "**x** is unowned" the relation of possession of **x** by **A** is assumed to become a property relation. Both P1 and P2 consider a competition of more than one actor to reach the unowned **x**. Only the winner can establish a property relation with **x**. In the case of *prima occupatio*, all they must do is occupy or grasp the thing first. This is possible only if **x** is already a thing and *ex ante* individuated conventionally as the prize of the competition, and only if we assume a winner-takes-all-of-it rule. Both conditions imply that this cannot be an original establishment account. The competitors could just as reasonably have an agreement that the property relations are established proportionally. For instance, the winner gets a third of the apple, the second a fourth, etc. to a cut-off point. Any other finite cardinal distribution according to place and time of arrival at **x** has the same plausibility,

provided the thing is not divided *ad infinitum*. Nevertheless, there is something right about *prima occupatio* as anybody can confirm who won a race, queued up for the bus, or took a free seat in the cinema. Firstness or arrival in ordinal order does some normative work, it just does not originally establish property. Firstness grounds a right, but what right that exactly is depends on a person's further acts and on previously set up rules. If the person's act is limited to occupation or taking in physical possession of x , the individuation of the space is determined by the mere extension or power of the occupier. This relation is then originally one of possession. The normative content of firstness might then refer to nothing more than a moral right of the person not to be removed from a place she has taken without removing someone else. But it would be groundless to claim that this person has gained property of a free space or a thing just because they have occupied it or held it for a while. A person's moral right to put her physical self somewhere without removing someone else gives her a claim while being there, but she has no basis for a further claim, certainly not a property claim, which would durably persist also after discontinuing occupation. The relation that is established in first occupation cases of a place cannot be a property relation because one cannot have an absolute *pro tanto* right to determine the agenda of a place one has taken first just for the reason of being first. Being first and having a claim as the first is necessarily relational. To move on from possession to an ontologically different relation, a person needs to do more with the unowned thing or place than merely holding on to it. This is important for stewardship, to which I will come later. P2, the labor mixing account defended by Locke according to some interpretations (Waldron 1990, ch. 6), is based on a general duty to preserve mankind via the creation of economic value by mixing labor with things. This account has been criticized as incoherent. The main point has been remarked by Kant and many others after him (Waldron, 1983): only the creation of additional use-value of x can be attributed to labor and hence propertized, not x as such with which it is mixed (Kant 1797, 265). This is the starting point of the argument in favor of the creationist account.

3. THE CREATIONIST ACCOUNT OF PROPERTY

P3 holds that the relation of property between a person and a thing is originally established by the person's creation of the thing (Reinach, 1983; Massin, 2017). Creationists hold that mixing labor with something does not bring the property relation with the whole thing and its parts into the world (Reinach 1983, 73; 1913, 771). Locke's "labor" has also been interpreted as

making something in the first place, as creating a resource for others (Russell, 2004). The creationist account has a strong plausibility. The creator is in an absolute, primitive, immediate relation with the created being. “To make something is to bring into existence something that formerly did not exist” (Fine 1999, 62). The thing is brought into being, determined, shaped, changed, modeled, etc. by the creator in the very act of creation. Hence, the creator’s privileged relation of belonging with the thing call property. This does not imply a perfectionist felicity condition. If I create a watch that stops every two hours, I am the owner of that watch. Creation implies the choice of the creator not to create the thing, to erase parts of it or the whole thing, or to completely change its form, shape, structure, etc., for better or worse.

The idea of the creation of artifacts in terms of bringing them into existence, especially of abstract artifacts such as poems, musical pieces, etc., is not uncontested. In this paper, I hold that abstract artifacts can be created (Irmak 2021), but they need to be documented to be ownable. Contrary to Thomas Aquinas (Jacobs, 2019) and some interpretations of Aristotle himself (Corkum, 2023), I assume that artifacts are substances based on their unity intended by the artisan, albeit as artifactual compounds they are not *simpliciter* fundamental such as chemical elements, etc. (Koslicki, 2018).

To understand the creationist property claim to a thing, it must be clear what ontological and mereological commitments are implied. Given the formal ontological characteristics of things in combination with the nature of ownership, not all artifacts can be owned and not all authorship discussed in the literature on artifacts constitutes ownership. Some conditions must be fulfilled.⁵

1. If I snap my fingers, I create a sound. Such sounds are occur-rents (Smith, 2014). Continuants, however, e.g. statues, cars, etc., may also be temporally finite but their perdurance does not depend on the action that brings them into being. A person cannot terminate the action that creates the occurrent and sustain it in being. It is thus correct to say that actions (services) cannot be owned in the sense of property (Massin and Tieffenbach, 2017). Documented or recorded occur-rents and documented rights to services, however, can be owned. Occurrents and abstract artifacts can be saved as continu-ants in the form of documents (recordings, pictures, scores, motion pictures, non-fungible tokens, etc.), and rights to actions can be objectified as continu-

⁵ I use “creator,” “composer,” “author,” “producer” “inventor,” “designer,” “builder” (or teams thereof) interchangeably for the agent(s) who bring an artifact and/or artifact kind into existence.

ants by document-acts in written contracts, vouchers, etc. (Smith, 2014).⁶

2. Short of *creatio ex nihilo*, all acts of creation of continuants are acts of composition of tangible and/or intangible parts in different degrees of sophistication. The creation of designs, logos, poems, novels, musical pieces, algorithms, etc., is also compositional. To make something means to compose. Many compositions occur without being caused by intentional actions of persons. The dropping of water falling from a frozen surface creates an icicle. Such natural compositions are *res nullius* in the creationist account, they are authorless. Only artifacts but not all artifacts can be owned according to this account.

3. By Leibniz' Law, composed wholes are not numerically identical to their parts. Michelangelo's "David" is not numerically identical to the lump of marble that occupies the same space. This has been challenged by the grounding problem (Burke, 1992). Assuming that only "David" is Michelangelo's intentionally created artifact, creationists assume that David and the lump of marble do not have identical parts.⁷ The creationist account must assume the widely accepted but differently explained numerical distinctness of composed objects, e.g. Michelangelo's "David" and the "lump of marble" (Baker, 2000, 1999; Fine, 1999; Koslicki, 2008). It can commit to Fine's theory of embodiment, but in that case, is confronted with a superabundance of objects occupying the same space-time (Koslicki 2008, 83–4), and hence with no clear answer to the question of what claims the creator, e.g. Michelangelo, has to his "David." This has consequences for the understanding of the constitution of objects and the relations of creators to created objects and their parts. To avoid the defeating implication that no person can bring anything into existence due to a pre-existing fusion of all existing things, the creationist account must steer clear of the "general sum principle" or "unrestricted composition," i.e. the mereological axiom holding that "whenever there are some things then there exists a fusion of those things" (Simons, 2000; Lewis, 1991). It can do so on the grounds of Koslicki's critique of the circularity of Lewis' argument and by pointing to the fact that Sider misconceives the non-vagueness of the existence quantifier with the vagueness of range of existing objects due to disagreement of what

⁶ Further analysis would be needed to determine if and how things that are co-created involving different kinds of (social) acts are owned. For instance, promising cannot originally establish belonging because the promisee depends on the action of the promisor and vice-versa. See Reinach 1983, 10; explained p. 48, note 10.

⁷ That David and the lump of marble are composed of entirely indiscernible parts is assumed in Bader's stochastic solution to the grounding problem (Bader 2021, 249–50).

objects fall under its definition (Koslicki 2008, 34–44). The creationist account of property will have to deal with some degree of vagueness of things that cannot unequivocally be attributed to creators. Besides moral purposes, the elimination of this vagueness is one of the meaningful functions of the legal enactment of property in interpersonal relations.

4. To avoid unresolvable indeterminacy of property relations of non-collaborating persons to different things of the same kind, or to different things of different kinds, both made out of the same existing parts, the creationist account must steer clear of “uniqueness of composition,” i.e. Lewis’ axiom “it never happens that the same things have two different fusions” (Lewis, 1991). It may do so by considering wholes as temporalized and modalized sums (Thomson, 1983), but this will not replace uniqueness of composition because the existence and identity of sets, which underpins uniqueness of composition, depends on nothing more than the existence and identity of its members. The same is true in Thomson’s account. Her material objects are temporalized and modalized sums. Their existence and identity depend on nothing more than the existence and identity of their parts at a time in the world (Koslicki 2008, 28).

5. By depending on mereological composition and avoiding superabundance of objects occupying the same space-time, the creationist account is committed to a single notion of parthood implying asymmetry: the marble lump is a proper part of “David” but not vice versa; transitivity: if the marble lump is a proper part of “David” and a molecule is a proper part of the marble lump then the molecule is a proper part of “David”; and weak supplementation: every whole that is composed of parts necessarily has additional formal parts that dictate the eligibility and arrangement of things as parts. The creationist account is thus committed to considering all objects as structured wholes following a mereological analysis of restricted composition: “Some objects, m_1 – m_n , compose an object, O , of kind, K , just in case m_1 – m_n , satisfy the constraints dictated by some formal components, f_1 – f_n , associated with objects of the kind, K .” (Koslicki 2008, 173). Together the material and formal components of an object are proper parts of the whole they compose (Koslicki 2008, 181). Creationists, who commit to the numerical distinctness yet spatiotemporal coincidence of the lump of marble and “David,” can thus explain what grounds the difference, namely the necessary existence of additional formal parts of the whole, which distinguish the whole from its material components: i.e. “some objects (m_1 – m_n) constitute an object, O , just in case m_1 – m_n are O ’s material components, i.e. m_1 – m_n are those among O ’s proper parts which satisfy the constraints dictated by O ’s formal components” (Koslicki 2008, 185).

A whole has many formal parts that a creator has not created but used in composition. A composed object is ultimately what it is due to its formal parts *simpliciter*: “Some objects, m_1, \dots, m_n , compose an object, O , of kind, K , just in case m_1, \dots, m_n , satisfy the constraints dictated by some formal components *simpliciter*, f_1, \dots, f_n , associated with objects of kind, K ” (Koslicki 2008, 187–8). In shorthand, we can thus say that the creator of the whole is the creator of the formal components *simpliciter* of the whole. That is the core of what it means to create something. The creator of “David” is not the creator of the marble and not the creator of the molecules that constitute marble, etc. There are formal components of “David,” i.e. the formal components *simpliciter* that constitute “David.” The creator has brought the formal components *simpliciter* of “David” into existence. There are formal components of statues, i.e. the properties material components must have to be eligible to form a statue, e.g. they demand a certain consistency of the material and rule out gas or liquids, etc. The eligible materials themselves have formal components that the molecules need to have to form certain materials. But the latter are not formal components of “David” *simpliciter*. The formal components of marble are also components of other statues, houses built in marble, etc. They are not made by the creator of “David.” The creator of “David” is *only* the creator of the formal components *simpliciter* of “David.”

6. The creation of the whole implies the transformation of the parts into *proper parts*. By initially conceiving and composing the cheese sandwich out of bread and cheese, the creator adds a property p ‘being a proper part of x ’ to bread and cheese. The composition of x out of material parts implies the necessity of formal parts, i.e. necessary properties that determine the eligibility of parts and their position in the compositional structure of x . The intentional act of adding ‘proper parthood of x ’ to y and z consists of formulating and executing rules that determine the formal proper parts *simpliciter* of x . Prior to the creation of x , y and z exist but do not have the property p , they are just disjoint things with their own material and formal proper parts, *simpliciter* and derivative. The proper parts of y and z , e.g. those that compose bread and cheese as molecules, become proper parts of x in the act of composition only as *derivative* proper parts, as proper parts of a thing that can constitute other wholes and even other kinds of wholes and are not essentially parts of the specific whole created, such as a molecule that composes wood, which in turn can be used by the creator of a table or a house, etc. The creator of x is only the creator of the formal proper parts *simpliciter* of x , the giver of structure and unity, the *dator formarum* (Albertus Magnus’ latinized version of Avicenna’s *wahib as-suwar*; Hasse 2011).

7. The creationist account is thus not only immediately plausible but grounds a more complete claim of ownership of immaterial things that can also exist detached from material and derivative formal parts, such as designs, algorithms, blueprints, production processes, business models, songs, symphonies, organizational structures, etc. It is also immediately plausible for compositional acts of documentation of services, options, corporate stock options, etc. (Risser, 2010). The creationist can account for the entire property of the formal proper parts *simpliciter*. Property of tangible objects is established by the combination of the former with an act of composing parts that have proper parts not created by the composer.

8. The intentionalist account of authorship of artifacts holds that all artifacts have authors/creators with some intentional relation to them (Baker, 2007; Thomasson, 2003; Evnine, 2016). An object is only an artifact if it has been produced intentionally to belong to the *genus* artifact, but not all intentionally produced things are artifacts (e.g. seedless grapes, cf. Koslicki 2018, 218), and many intentional processes of creation have unintended byproducts. All artifacts share the property of having been intentionally produced by agents for a certain purpose. Under this understanding, my tailwind produced by me while running is an artifact. But the conditions of property-constitutive authorship are not fulfilled unless I control its production by prior intention and intention in action (Searle 1983, 79 ff.). In a causal understanding tailwind would also be an artifact. I, as a human person, cause a tailwind by an action of mine, hence it is a human artifact. But causality is a natural phenomenon I cannot control. Any kind of material thing moving through air-filled space causes a tailwind according to physical laws.⁸ Hence, I have no in-action control over the creation of a tailwind, even if I start running to create a tailwind. Apart from being an occurrent that cannot be owned, tailwind is not producible in a property-constitutive manner, its intentional production notwithstanding. The sportsperson profiting from someone's tailwind, whereby the person creating the tailwind is running to create a tailwind (e.g. a pacemaker in a race), is not using something to which any creator is in a relation of property. The pacemaker's tailwind is a generic artifact *per* some version of intentionalism, created to make the race faster. However, its creation does not fulfill the conditions of the creationist account of property for at least the following reasons: (1) the air, which is part of the compound tailwind, is not owned

⁸ Tailwind is not exactly a "naturefact" (Oswalt 1973, 14–7) either, i.e. a naturally occurring object used by a human. The runner modifies the wind.

by the runner; (2) the runner has no in-action control, they cannot run and not create the tailwind, it occurs naturally when running, i.e. as member of a natural kind, just like sweat occurs naturally when running, noise naturally when breathing, etc.; (3) the tailwind is an occurrent.

9. An artifact's belonging to an artifactual kind is not in all cases determined by the intention of the producer (Koslicki and Massin, 2025): for instance, a cancer-healing teddy bear is an artifact *per* intentionalism. But, if it is not cancer-healing and the creators do not know this, it is not a cancer-healing teddy bear although the creators intend it to be. From this, it follows that only authors who knowingly create or invent certain essential capacities or objects with certain essential capacities and control their creation by intentions *ex ante* and during the action are in a relation of property to those capacities, but only to those capacities. The creator, who makes it the case that the object O belongs to kind K but also has the capacities of kind K*, unknown to that creator, has no control over the capacities of the created object that make it the case that it also belongs to kind K*. Hence, they have no ownership of O *qua* belonging to kind K*. An inventor and composer of a drug have dominion over the effects of the compound they have found, explained, and fabricated, let's say Gemcitabine against viral infection. If someone detects and explains further effects of the same substance, in this case against different types of cancer, that person or group is in a relation of ownership only with the capacities of the drug they have original dominion over. Each maker stands in a relation of ownership only to the proper parts created/invented/explained/fabricated by them knowingly. *Per* the creationist account as the original establishment account of ownership, the creator of Gemcitabine *qua* antiviral drug is in a relation of ownership with Gemcitabine *qua* antiviral drug, the inventor of Gemcitabine *qua* cancer drug only with the repurposing (with the formal proper parts *simpliciter* and unity) of Gemcitabine *qua* cancer drug, etc. I think this is meant with "directly responsible" by Mag Uidhir: "A is an author of w as an F if and only if A is directly responsible, at least in part, for w as an F (i.e., how w falls under sortal F) (Mag Uidhir 2011, 374).

Suppose the creator C intends to create specimen A₁ of kind K but is incapable of doing so and decides to create the individually different specimen A₂ of kind K. Implied in that assumption is that A₁ and A₂ have different individual forms and are different substantial units (i.e. A₂ is not a replication or accidental modification of A₁, etc.). Is C in a property relation to A₂? The answer is affirmative because of the conscious and consistently controlled way they have created A₂. If C would produce A₂ unconsciously and in an uncontrolled manner, C would not be in a relation of ownership to A₂. If one

creator knowingly and in a controlled way creates specimen A_1 and another creator specimen A_2 , both having different individual formal proper parts *simpliciter* and being different substances (having a different unity-constituting property), but are of the same artifactual kind, each creator is in a relation of property correspondingly to A_1 or A_2 .

10. If the author creates the prototype of the artifactual kind K , do they own kind K as such? I think not. It is plausible not to define natural kinds as kinds found in nature, but rather as allowing the grouping of particular items into categories or taxonomies in a non-arbitrary, not heterogeneous, or gerrymandered manner (Koslicki 2018, 217–8). If this makes artifactual and natural kinds indistinguishable, the affirmation that artifactual kinds cannot be created in a property-constituting manner is true. If they are distinguishable in a meaningful way, the following can be said regarding ownership. If we concede that artifactual kinds are essentially created by authors (Evnine, 2016), it does not follow that this authorship is property-constitutive in the sense that it creates a continuant that belongs to the creator but is not a part of them. Humans might be able to create concepts of artifactual kinds in their mind (Thomasson, 2007) and documented proofs of concept, but they cannot bring into existence the symphony, poem, song, etc. *as such* as an object external to them in a property constitutive manner. The closest they can come to generating a kind in a property-constitutive manner is by creating a prototype as the first instantiation of an artifactual kind.⁹ In the mind, one can define table as an artifactual kind. An idea in the mind is still a part of the person. But even in the mind one cannot imagine the table as kind, only a specific table, one cannot imagine what it would mean to create the artifactual kind poem as such, only what it means to write a specific poem as first of a kind (Irmak 2021). Consequently, the created prototype of a table or song will always have an individual, not a generic shape and form. An agent might thus establish a property relation to a created prototype, to a proof of concept of how a prototype could be explained and feasible, or to a created object as a member of kind K , but not to the kind as such. This means that the first composer of a symphony does not own the artifactual kind symphony. If I see a flat stone horizontally positioned on another stone in nature and I am the first ever to use such a constellation as a table, I do not thereby establish a relation of property to it, even if I grant that transformation is not a necessary condition of artifactual production, at least not of some works of art (Hilpinen, 1993).

⁹ For a functionalist and intentionalist theory on the possibility of creation of artifactual kinds see Vega-Encabo and Lawler (2014).

First, adding new formal proper parts *simpliciter* is a necessary condition of property constitution. In this example, I do not change the structure of the stones, I just occupy them. Second, also the underlying material is only in my possession. I have taken, it but not created it. But I could try to make the claim that I created the idea to use stones that are naturally in a certain constellation as tables. But the only way I give this idea existence outside my mind in this example is through use. Use creates a new artifactual kind in the case of art, but mere use is not property-constitutive according to the creationist account. Hence, I cannot claim that I own all uses of stones as tables just because I first came up with the idea to use certain constellations of stones as tables. The idea of using something in a certain function without transforming it does not imply ownership of all existing instantiations. Any realization of the idea of using a certain natural, unaltered constellation of stones as a table has conditions attached to it that make it the case that no direct property relation can be established.

4. STEWARDSHIP, STEWARDSHIP DUTY, AND STEWARDSHIP RIGHT

To solve the contradictory coexistence of property and possession regarding the created and the non-creatable parts of a whole, there must exist a relation that grounds the right to claim exclusive and sustained control of unmade things. It cannot depend on creation. It must be more durable and different from the moral right of the person to use and consume things to survive, and it must be grounded in something other than mere power to hold and occupy. Furthermore, the act that constitutes this other type of relation needs to be compatible with the non-creatable nature of certain properties of things used in composition. The relation that satisfies all these conditions is stewardship. Stewardship can be considered as a relation that exists between a steward *S* and an object *x*. The relation of stewardship of *S* with *x* is originally established by *S*'s performance of acts of conserving, rearing, stewarding, husbanding, restoring, caretaking, etc. vis-à-vis *x*, whereby *x* is in *S*' possession and not already in a relation of stewardship with someone else. For the sake of simplicity, I will call them acts of care and submit that such acts are constitutive of stewardship. Contrary to property, stewardship is possible as a relation between two persons, but here I will not discuss the person-to-person type of stewardship. Acts of care do not bring things into being but keep them in existence or preserve their essential functioning or flourishing. The set of objects that can be taken care of in stewardship is different from the set of objects that can be owned. Everything that can be owned can also be conserved,

but not everything that can be conserved can be owned. Objects that cannot be owned because they cannot be created can be objects of stewardship. Since the thing to be taken care of in this original establishment account already exists, the original care-taking act will be an act of first care, *prima cura*. S becomes the steward of x by taking care of x . The relation of stewardship of S with x grounds the stewardship right of S over x . The original steward holds an exclusive right over the service of care, and they can exclude others to ensure care. This does not change if one or several individuals hold stewardship, all that changes are the decision procedures and rules among the stewards in the stewardship body as a collective person. Stewardship supervenes on possession. The thing first grasped or occupied is taken care of. The relation of possession is thereby transformed into one of stewardship, but stewardship strongly depends on the object being held and controlled by the steward.

The stewardship right is quite different from the property right. First, instead of the right to exercise total dominion over x , as in the relation of property, the stewardship right is the right to take care of x and control the agenda of x for that purpose. Second, unlike the act of creation of a continuant, which needs to be performed only once to establish property, the stewardship-constituting act needs to be sustained over time and/or constantly re-enacted. A person can claim the property of a painting once they painted it. One cannot claim to be the steward of x without constantly re-enacting stewardship vis-à-vis x . The stewardship right is grounded in a relation that is upheld by sustained services of care. To be held in existence, the relation of stewardship once established puts the steward under an obligation to constantly repeat acts of conservation. A situation might occur that triggers a moral right to perform or discontinue to perform acts of care toward x , this is beyond the remit of this paper. In any case, if a person discontinues to perform acts of caretaking of x , they will cease to be in a relation of stewardship with x . *Pro tanto*, the steward has an exclusive right over the duty of stewardship and the rights derived therefrom. The right over the duty of stewardship over a thing is not an absolute right *in rem* (Massin 2017, 588), because condition (3) changes from a right that must not be realized by the right holder to an obligation of care toward an object or person.

The transfer of stewardship is the transfer of the right over the duty of stewardship in its entirety by agreement and of the derived rights to stewardship actions. The steward's right over the duty of care means that they can leave their forest in someone else's care temporarily, but the temporary caretaker does not thereby acquire the right over the duty like someone who takes care of someone else's children does not thereby acquire the right over the duty of

care of the children. The lending of property does not transfer property, but it often implies conditional duties of stewardship. I lend you my bike and we can stipulate that you may use it under the duty to take care of it. Unless explicitly stipulated as a transfer of the right over the duty of stewardship, stewardship remains with the original steward because the lender has no right to transfer the right over the duty of stewardship.

The stewardship right over the duty to take care of x implies the right to exclude others from caring for x and from taking or using x as they please. This also solves Kant's problem that nothing can be owned if there is no land ownership (Bader, n.d.). Material things that are by necessity on or above land can be owned if there is land stewardship, i.e. the right to control what is on the land because of care. One does not need to invoke a property right to establish a right to determine the agenda of a thing and to exclude others from doing the same. It can be a stewardship right. The stewardship duty cannot be honored without the right to control and exclude, but the care duty is not thereby one that we should think of as being attached to property, it is attached to stewardship.

Property, stewardship, and possession are thus different types of relations of persons to things. Property is a relation to things that a person creates. Stewardship is a relation to things a person conserves. Possession is a relation to things a person occupies or holds on to. Based on this analysis of property and stewardship, we can say that it is a priori possible that a person is in a relation of stewardship to the thing they use to create something to which they thereby come in a relation of property, which supervenes on the relation of stewardship. To get and remain in such a relation of stewardship to those underlying things, they must durably perform acts of conservation of the things over which they have stewardship and which they use for their creative acts. How this combination of stewardship and property plays out in every concrete situation is thereby not determined. The account of the original constitution of property of a thing x , for which non-creatable y is used, symbolized as x_y is thus the following:

P4: **A** has a supervening relation of property to x_y , grounding an exclusive right *in rem*, just in case **A** creates x , and just in case **A** has a right over the duty to care for y in virtue of **A**'s stewardship of y .

P5: **A** constitutes a relation of property to an intangible x by creating x as a continuant out of intangible things.

P4 and P5 avoid the commitment to a natural right of possession that is identical in content with a property right over uncreated, and hence unowned, goods while at the same time grounding the original property right in a property-constitutive act of creation. The relapse into the labor-mixing account is avoided because the property relation is not extended to all parts of a composed object. The right to exclude is thereby not annulled, but regarding the non-created parts it is grounded in and circumscribed by stewardship and not property.

Assuming this is the right, it is not clear what Michelangelo is supposed to do regarding the marble when claiming property of “David.” But the answer to the question of what the necessary acts of care consist of to fulfill the stewardship condition regarding each object is empirical and beyond the remit of this paper. More needs to be said by focusing on an adequate notion of the natural (non-creatable) goods and natural public goods that are involved. It is quite plausible to see nature as a structure, i.e. as an ecosystem, and to consider individual natural goods and natural public goods as forming an ecosystem (Wulf, 2016). Imagine the burning of wood to produce energy. *Prima face*, the using and burning of unowned trees with an invented technology (an act of creation), complemented by the replanting of the trees would fulfill the conditions of P5. However, the process of burning wood creates emissions that potentially destroy other natural goods and natural public goods, such as climate stability. These emissions are only re-captured by the performance of acts of stewardship that do not only target the individual natural object but the ecosystem and its natural public good functions. The marble quarry might destroy forests and biodiversity. The conservation of the marble in the sculpture does not account for this destruction unless reforestation and land management that fosters biodiversity are undertaken to compensate for the destruction. These examples show that the stewardship duty might not only apply to an individual natural good (tree, stone, etc.), but to the conservation and restitution of a natural structure. The existence of the stewardship relation would then depend on (eco)systemic stewardship.

Locke thinks that wilderness left to itself is waste, has no value, and is simply there to be taken for productive purposes (Locke 1689, II, 42). Van der Vossen explicitly states that the Lockean theory needs to be adapted in this respect to protect environmental value against the reckless creation of economic exchange value (van der Vossen 2021, 12). Van der Vossen attributes ecological value to natural assets and thereby changes the understanding of what it means to waste something. The rainforest left “to waste,” for instance, contributes to ecological stability, that is to the production of a natural public

good with enormous economic value. The rejoinder with Locke is made via the formulation that prohibits ownership that does not serve “any advantage of life” (Locke 1689, II, 31; van der Vossen 2021, 13). Note that P4 is not reducible to the Lockean account. In P4, labor as the performative act constituting property is qualified as the creation of x and the conservation of y used to create x . Locke (and van der Vossen) presuppose a moral right to freely take from the commons based on the act of transfer of natural assets by God to mankind, whereby this right is constrained by the provisos. P4 can be defended independently of the assumption of God giving nature to mankind into common property. Furthermore, as van der Vossen states, on Lockean grounds “there is a good case against resources that could be advantageous being allocated in ways that serve no valuable ends whatsoever. Such a use of resources would indeed be wasteful” (van der Vossen 2021, 13). Van der Vossen shows that some modes of private appropriation can preserve what is environmentally available (to the ecosystem). He thereby makes the point that property is justified by performing a conservationist act rather than depletion. This relation is more adequately conceptualized as stewardship, which, as I have tried to show includes rights to exclusive use that are similar to property but that are grounded in and circumscribed by stewardship.

5. CONCLUDING REMARKS

The ontology of possession, stewardship, and property here presented exposes the following errors. The first error is to identify the positive legal enactment of property as the original establishment of property. The second consists of a conceptual contraction of possession, stewardship, and property into one broad and fuzzy concept of property. This is quite understandable from a practical point of view. But it conceals and distorts the absolute nature of property, risks being blind to stewardship, and at the same time overstretches the concept of property to a point that might lead to ontologically false and falsely moralized property claims over natural things by individuals and groups.

One further implication of this paper is that there can be no property claim by mankind or by human individuals to the natural public goods of nature as an ecosystem, or to the planet as such. There is a possible stewardship claim only if adequate stewardship acts of conservation are performed over time. The simple declaration of the planet as common or collective property without property or stewardship conditions being fulfilled merely amounts to an agreement between takers to distribute their possessions equally. The left-libertarian idea of an equal distribution of a natural resource rent without

the performance of creative and conservationist acts amounts to the equal distribution of possessions, not property (Steiner, 1994; Parijs, 1995). There is no common ownership of the earth (Risse, 2012), only a yet-to-be-established stewardship. The advantage of the creationist account combined with a concept of stewardship is that property remains conceptually coherent and precise. Provisos need thereby not be refuted. As has been shown, they are better understood either as felicity conditions of stewardship or as moral constraints and guidance for the design and enactment of positive legal regimes.

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REFERENCES

- Alexander, G. S., and E. M. Peñalver. 2009. “Properties of Community.” *Theoretical Inquiries in Law* 10 (1): 127–160, URL <https://doi.org/10.2202/1565-3404.1211>.
- Bader, R. 2021. “X—Coincidence and Supervenience.” *Proceedings of the Aristotelian Society* 121 (3): 249–273, URL <https://doi.org/10.1093/arisoc/aoab007>.
- Bader, R. n.d.. “Kicking Things to Infinity Kant on the Priority of Land Ownership.” .
- Baker, L. R. 1999. “Unity without Identity: A New Look at Material Constitution.” *Midwest Studies In Philosophy* 23 (1): 144–165, URL <https://doi.org/10.1111/1475-4975.00008>.
- Baker, L. R. 2000. *Persons and Bodies: A Constitution View*. Cambridge University Press, URL <https://doi.org/10.1017/CBO9781139173124>.
- Baker, L. R. 2007. *The Metaphysics of Everyday Life: An Essay in Practical Realism*. Cambridge University Press, URL <https://doi.org/10.1017/CBO9780511487545>.
- Burke, M. 1992. “Copper Statues and Pieces of Copper: A Challenge to the Standard Account.” *Analysis* 52 (1): 12–17, URL <https://doi.org/10.1093/analys/52.1.12>.

- Corkum, P. 2023. "Aristotle on Artifactual Substances." *Metaphysics* 6 (1): 24–36, URL <https://doi.org/10.5334/met.123>.
- Evnine, S. J. 2016. *Making Objects and Events: A Hylomorphic Theory of Artifacts, Actions, and Organisms*. Oxford: Oxford University Press, URL <https://doi.org/10.1093/acprof:oso/9780198779674.001.0001>.
- Fine, K. 1999. "Things and Their Parts." *Midwest Studies In Philosophy* 23 (1): 61–74, URL <https://doi.org/10.1111/1475-4975.00004>.
- Gaus, G. F. 1994. "Property, Rights, and Freedom." *Social Philosophy and Policy* 11 (2): 209–240, URL <https://doi.org/10.1017/S0265052500004490>.
- Hasse, D. N. 2011. "Avicenna's 'Giver of Forms' in Latin Philosophy, Especially in the Works of Albertus Magnus." *The Arabic, Hebrew and Latin Reception of Avicenna's Metaphysics*, edited by D. N. Hasse, and A. B. Bertolacci, Berlin: De Gruyter, 225–250, URL <https://doi.org/10.1515/9783110215762.225>.
- Hilpinen, R. 1993. "Authors and Artifacts." *Proceedings of the Aristotelian Society* 93 (1): 155–178, URL <https://doi.org/10.1093/aristotelian/93.1.155>.
- Irmak, N. 2021. "The Problem of Creation and Abstract Artifacts." *Synthese* 198 (10): 9695–9708, URL <https://doi.org/10.1007/s11229-020-02672-6>.
- Jacobs, J. 2019. "The Ontological Status of Artifacts." *The Discovery of Being and Thomas Aquinas: Philosophical and Theological Perspectives*, edited by C. Cullen, and F. D. Harkins, Washington: The Catholic University Press of America, 145–160, URL <https://doi.org/10.2307/j.ctvqmp2p4>.
- Kant, I. 1797. *Metaphysik der Sitten Teil 1. Metaphysische Anfangsgründe der Rechtslehre*. Hamburg: Felix Meiner, 2009.
- Katz, L. 2017. "Property's Sovereignty." *Theoretical Inquiries in Law* 18 (2): 299–328, URL <https://doi.org/10.1515/til-2017-0015>.
- Katz, L. 2020a. "It's Not Personal: Social Obligations in the Office of Ownership." *SSRN Electronic Journal* URL <https://doi.org/10.2139/ssrn.3521388>.
- Katz, L. 2020b. "Ownership and Offices: The Building Blocks of the Legal Order." *SSRN Electronic Journal* 70, URL <https://doi.org/10.2139/ssrn.4126543>.
- Koslicki, K. 2008. *The Structure of Objects*. Oxford: Oxford University Press.
- Koslicki, K. 2018. *Form, Matter, Substance*. Oxford: Oxford University Press.
- Koslicki, K., and O. Massin. 2025. "Artifact-Functions: A Capacity-Based Approach." *Special Objects: Social, Fictional, Modal, and Non-Existent*, edited by M. J. García-Encinas, and F. Martínez-Manrique, Cham:

- Springer, 31–51, URL https://doi.org/10.1007/978-3-031-82221-6_3.
- Lametti, D. 2009. “The Objects of Virtue.” *Property and Community*, edited by G. S. Alexander, and E. M. Peñalver, Oxford: Oxford University Press, 1–38, URL <https://doi.org/10.1093/acprof:oso/9780195391572.003.001>.
- Lewis, D. K. 1991. *Parts of Classes*. Oxford: Blackwell.
- Locke, J. 1689. *The Second Treatise of Government*. Indianapolis: Hackett Publishing, 1980.
- Lucy, W. N. R., and C. Mitchell. 1996. “Replacing Private Property: The Case for Stewardship.” *The Cambridge Law Journal* 55 (3): 566–600, URL <https://doi.org/10.1017/S0008197300100510>.
- Mag Uidhir, C. 2011. “Minimal Authorship (of sorts).” *Philosophical Studies* 154: 373–387, URL <https://doi.org/10.1007/s11098-010-9525-0>.
- Massin, O. 2017. “The Metaphysics of Ownership: A Reinachian Account.” *Axiomathes* 27 (5): 577–600, URL <https://doi.org/10.1007/s10516-017-9351-5>.
- Massin, O., and E. Tieffenbach. 2017. “The Metaphysics of Economic Exchanges.” *Journal of Social Ontology* 3 (2): 167–205, URL <https://doi.org/10.1515/jso-2015-0057>.
- Oswalt, W. H. 1973. *Habitat and Technology : the Evolution of Hunting*. New York: Holt, Rinehart and Winston.
- Parijs, P. v. 1995. *Real Freedom for All What (If Anything) Can Justify Capitalism?* Oxford: Oxford University Press, URL <https://doi.org/10.1093/0198293577.001.0001>.
- Peñalver, E. M. 2009. “Land Virtues.” *Cornell Law Review* 94 (4): 822–888.
- Penner, J. E. 1997. *The Idea of Property in Law*. Oxford University Press, URL <https://doi.org/10.1093/acprof:oso/9780198299264.001.0001>.
- Reinach, A. 1913. “Die Apriorischen Grundlagen des Bürgerlichen Rechts.” *Adolf Reinach. Sämtliche Werke I*, edited by K. Schumann, and B. Smith, München: Philosophia Verlag, 685–847, URL <https://doi.org/10.2307/j.ctv2x8v8xh>, 1989.
- Reinach, A. 1983. “The A Priori Foundations of the Civil Law.” *Aletheia* 3: 1–142.
- Risse, M. 2012. *On Global Justice*. Princeton: Princeton University Press, URL <https://doi.org/10.2307/j.ctt7snd9>.
- Risser, R. 2010. “Creative Determinism and the Claim to Intellectual Property.” *Monist* 93 (3): 353–367, URL <https://doi.org/10.5840/monist201093320>.
- Russell, D. 2004. “Locke on Land and Labor.” *Philosophical Studies* 117 (1–2): 303–325, URL <https://link.springer.com/article/10.1023/B:PHIL>.

- 0000014529.01097.20.
- Sage, N. 2018. "Is Original Acquisition Problematic?" *Property Theory. Legal and Political Perspectives*, edited by J. Penner, and M. Otsuka, Cambridge University Press, 99–120, URL <https://doi.org/10.1017/9781108500043.006>.
- Searle, J. R. 1983. *Intentionality. An Essay in the Philosophy of Mind*. Cambridge University Press, URL <https://doi.org/10.1017/CBO9781139173452>.
- Simons, P. M. 2000. *Parts: A Study in Ontology*. Oxford University Press, URL <https://doi.org/10.1093/acprof:oso/9780199241460.001.0001>.
- Smith, B. 2014. "Document Acts." *Institutions, Emotions, and Group Agents Contributions to Social Ontology*, edited by A. Konzelmann, and H. B. Schmid, Dordrecht: Springer, 19–31, URL <https://doi.org/10.1007/978-94-007-6934-2>.
- Smith, H. E. 2012. "Property as the Law of Things." *Harvard Law Review* 125 (7): 1691–1726.
- Steiner, H. 1994. *An Essay on Rights*. Oxford: Blackwell.
- Thomasson, A. L. 2003. "Realism and Human Kinds." *Philosophy and Phenomenological Research* 67 (3): 580–609, URL <https://doi.org/10.1111/j.1933-1592.2003.tb00309.x>.
- Thomasson, A. L. 2007. "Artifacts and Human Concepts." *Creations of the Mind*, edited by E. Margolis, and S. Laurence, Oxford: University Press Oxford, 52–73, URL <https://doi.org/10.1093/oso/9780199250981.003.0004>.
- Thomson, J. J. 1983. "Parthood and Identity Across Time." *The Journal of Philosophy* 80 (4): 201–220, URL <https://doi.org/10.2307/2026004>.
- Thomson, J. J. 2013. *The Realm of Rights*. Cambridge: Harvard University Press.
- van der Vossen, B. 2009. "What Counts as Original Appropriation?" *Politics, Philosophy & Economics* 8 (4): 355–373, URL <https://doi.org/10.1177/1470594X09343074>.
- van der Vossen, B. 2015. "Imposing Duties and Original Appropriation." *Journal of Political Philosophy* 23 (1): 64–85, URL <https://doi.org/10.1111/jopp.12029>.
- van der Vossen, B. 2021. "Property, the Environment, and the Lockean Proviso." *Economics and Philosophy* 37 (3): 395–412, URL <https://doi.org/10.1017/S0266267120000401>.
- Vega-Encabo, J., and D. Lawler. 2014. "Creating Artifactual Kinds." *Artifact Kinds*, edited by M. Franssen, P. Kroes, T. Reydon, and P. E. Vermaas, Cham: Springer International Publishing, 105–124, URL https://doi.org/10.1007/978-3-319-07881-2_5.

org/10.1007/978-3-319-00801-1_7.

Waldron, J. 1983. "Two Worries About Mixing One's Labour." *The Philosophical Quarterly* 33 (130): 37–44, URL <https://doi.org/10.2307/2219202>.

Waldron, J. 1990. *The Right to Private Property*. Oxford University Press, URL <https://doi.org/10.1093/acprof:oso/9780198239376.001.0001>.

Wulf, A. 2016. *The Invention of Nature*. London: John Murray.