Futures 152 (2023) 103209

Contents lists available at ScienceDirect

Futures

journal homepage: www.elsevier.com/locate/futures

A future with no individual ownership is not a happy one: Property theory shows why

Richard Stewart[a,*,1], Michael B. Charles[a,2], John Page[b,3]

[a] Faculty of Business, Law and Arts, Southern Cross University, Australia
[b] School of Private and Commercial Law, Faculty of Law & Justice, UNSW Sydney, Australia

ARTICLE INFO

Keywords:
Property
Ownership
Future
Personhood
Happiness
World Economic Forum

ABSTRACT

The World Economic Forum (WEF) predicted that, by 2030, individuals would own nothing and be happy. This article examines the prediction from a property perspective. We situate the prediction by considering the societal transformations that inform it and show how they concern property. We use property theory to advance property as a socio-legal construct that has formed around the human-thing relationships that are claimed to be deeply embedded in the human condition. By assuring access to the things to which humans relate, property ownership can support personhood, the realisation of which is, we contend, a threshold requirement for human happiness. Accordingly, any transformative agenda that promotes the abolition of individual ownership should be rejected on account of its failure to properly take account not only of human happiness, but of the human condition more generally. We argue that, contrary to the WEF prediction, an owner-less future would not be a happy one for individuals. Ownership should thus be preserved as a property concept and we offer an aspiration for it that better supports not just human happiness, but also a more socially just, sustainable, and emancipatory future.

1. Introduction: the prediction

> "You'll own nothing. And you'll be happy."

This prediction, based on just one of eight made by the World Economic Forum's (WEF) network of Global Future Councils (Parker, 2016), assumed this expression in a video produced by the WEF in November 2016. As a tool intended to disseminate its content, the video was published both to the WEF's own website[4] and its Facebook page,[5] and was then shared across other media platforms. A cursory review of the comments on Facebook concerning the video gives the impression that, quite immediately and uniformly, the prediction roused suspicion about the WEF's intentions and, for some at least, real concern: "…but I want to own things" one user wrote, with another asking, "who will own what I won't own anymore??" The prediction was variously described in the comments as "horrifying", "terrifying" and "madness" and there was an indication of both general disbelief and strong resistance; "try taking away

* Correspondence to: PO Box 7567, Melbourne, VIC 3004, Australia.
E-mail address: r.stewart.20@student.scu.edu.au (R. Stewart).
1 ORCID 0000–0002-8282–3945
2 ORCID 0000–0002-2621–2656
3 ORCID 0000–0001-7929–5208
4 https://www.weforum.org/agenda/2016/11/8-predictions-for-the-world-in-2030/
5 https://www.facebook.com/worldeconomicforum/videos/10154159674886479/?t=86.

https://doi.org/10.1016/j.futures.2023.103209
Received 24 November 2022; Received in revised form 13 June 2023; Accepted 23 June 2023
Available online 29 June 2023
0016-3287/

the property of a man holding a firearm" wrote one user, while another entered the fray with "come and get it, I dare you…" Very few of the comments[6] could be characterised as being in any sense positive toward the prediction.

After the WEF announced its 'Great Reset' agenda to the world in June 2020 (Schwab, 2020), reaction to the prediction became stronger and louder still. COVID-19 was identified as the principal reason for pursuing the agenda, but the WEF claimed that it also addressed the "…climate and social crises" emerging even before the pandemic's onset (Schwab, 2020). A diverse cross-section of concerned citizenry across the world was, however, having none of it. Indeed, the prediction was soon being characterised as an actual 'goal' of the WEF and, it seems, was widely understood as being a part of its 'Great Reset' agenda (Moss, 2021). Commentators broadcasting via both traditional (Sky News Australia,) and social media (Brand, 2021; Shelton, 2022) were among those agitating the discussion and, intentionally or otherwise, fuelling the discontent regarding the concept of 'owning nothing'. An Australian Senator directly referred to the prediction as a 'claim' of the WEF and declared it to be communist ideology (Antic, 2022). Yet the WEF made no such claim and there is little, if anything, to suggest that the WEF is itself committed to the idea of an owner-less future (Reuters, 2021). In its efforts to condense a broader idea of a possible future, the prediction aroused concerns that are not centrally about the WEF or its goals, but rather about the prospect of a deprivation of the rights to own property. The blog post upon which the prediction was based, written by Danish MP Ida Auken (Auken, 2016), does not conceive of any such future.

In her original post, Auken predicted a time, viz. 2030, wherein she would not 'own anything', not a car, a house, nor even any clothes. This was because, she explained, all things previously regarded as a 'product' would be supplied and available in the future as a 'service'. As a result, everything that one might need could be rented, thereby eliminating the need, although not necessarily the right, to 'own anything'. This was "a good life", Auken concluded. It is apposite to note, however, that not once in her post did Auken use the word 'happy'. Auken's vision of the future was, for her, simply better than the one she perceived absent the types of societal transformations to which she alluded. These transformations involve changes to existing social systems and, as we demonstrate in this article, all of them concern property.

Property is the bedrock of all human societies (Buckle, 1991; Cao et al., 2022). Taking form as law, property is a coercive order (Kelsen, 1941) within which relations between people can be effectively mediated (Smith, 2012; Dant, 2006; Babie, 2017). The particular form that property takes is determined at the societal level, and it can be changed (Page, 2017; Burdon, 2010). A change in property rights can be an effective method of initiating individual behavioural change and, as a consequence, broader societal transformation (Cao et al., 2022). But the use of property for this purpose requires a clear understanding of what property is, what it means to people, and why. As a vision of the future, the WEF prediction lacks such understanding. It assumes a disconnect between ownership and happiness that, we posit, has no proper basis in the reality of the human condition. At its core and at least in respect of some elements of it, this condition has a universality that is itself reflected in the fact that the basic concept of property is a feature of all human societies (Nancekivell et al., 2019; Khan and Turri, 2022). The personhood theory of property is cognisant of this reality and its application leads to the conclusion that a future with no individual ownership would not be a happy one.

By using theory to understand the human experience (Fuller, 2000) with property, societal transformations can be better conceived and guided toward their intended beneficial outcomes (Bell, 2001). Property theory suggests that such outcomes are not likely to be the product of a transformative agenda that relies on the abolition of individual ownership, certainly not without compromising personhood and the human happiness it supports. In our view, therefore, the WEF prediction has more to offer if it is understood not as envisioning any such end, but rather as an exercise of foresight.

Foresight is within the ambit of prediction (Bell, 2001). Predictions are inherently futuristic and futurists know that making them successfully is difficult (van der Duin, 2012). Predictions are nevertheless a valid device within futures studies (van der Duin, 2012; Bell, 2001) because they enable us to think about and explore how we might live and behave in (Fuller, 2000), and indeed guide the transformation of, the future. By making the prediction the WEF has itself engaged in futures discourse (Bell, 2001). Despite the disconnect it erroneously presupposes, the WEF prediction and the broader discourse of which it now forms a part can still be useful. It will be if it impacts the course of societal transformations in a way that helps to realise their intended beneficial outcomes without unnecessarily compromising human happiness. By having such an impact, futures studies makes an important contribution to human wellbeing (Cole and Masini, 2001; Bell, 2001). With this article, we support that contribution by (a) demonstrating the relevance of property to futures discourse, (b) establishing property and the concomitant of ownership as part of the transformative agenda, and (c) advancing the agenda from a property perspective.

2. Societal transformations

Implicit in the WEF's prediction is that future society will have undergone transformations resulting in no individual ownership of things. To situate the prediction, and before moving to examine it from a property perspective, we consider two prognosticated transformations identified in Auken's original post. We introduce each transformative concept, identify the outcome to which it is mostly directed, and demonstrate how it concerns property. We then engage with aspects of the discourse as it concerns the drivers and realities of these transformations and their capacity to facilitate the sustainability outcomes to which they are directed.

[6] 1283 as of 27 July 2022

2.1. Access-based consumption

The societal transformation upon which the WEF prediction is most firmly premised was identified over half a century ago (Fundin et al., 2012) and is sometimes called 'access-based consumption' (ABC) (Lawson et al., 2016). It involves the sale and supply of a 'service' in the form of the right to use a thing, rather than of a 'product' in the form of the thing itself (Lawson et al., 2016). Ownership of the thing is never conveyed as part of the transaction between supplier and consumer (Bardhi & Eckhardt, 2012). Auken described the performance of the transformed transaction; rather than owning kitchen equipment, say a pasta-maker, it would be delivered to the user upon request, whereupon it would be temporarily possessed, used, and then return to the supplier. The user would thus be able to achieve the same result, in this case to make pasta, otherwise than through owning the thing with which she did so.

ABC is promoted as part of the movement toward a more sustainable future (Bardhi and Eckhardt, 2012). Where a thing is consumed as a service rather than bought and owned as a product, the consumptive act, or at least its effect, is reasoned to be reduced (Armstrong et al., 2015; Frenken & Schor, 2017). The reduction takes form ultimately as a decrease in the quantity of raw materials that are consumed by society, an outcome which would itself be environmentally advantageous (Sun, 2021). This outcome is sought to be achieved through the effective and efficient use of fewer things more intensively within a transformed market economy (Lawson et al., 2016). The broader availability, accessibility, and use of those fewer things as a service by a greater number of individuals reduces (and could conceivably eliminate) demand for individual ownership of those same things (Fritze et al., 2020; Roblek et al., 2021). This corresponds, it has been hypothesised (Frenken & Schor, 2017), with lower required production levels, and thus less raw material usage.

ABC proceeds on the basis that we can have 'more with less'. It requires no change to the substance of the consumptive act - we still get our homemade pasta. But the form of the supply changes from material good to immaterial service (Fritze et al., 2020) and there is, consequently, a change to the nature of the legal relationship between supplier and consumer (Minami et al., 2021), both of whom behave differently as a result. These changes, which give reality to the transformed transaction, not only concern property but, crucially, are facilitated by it (Schwanholz and Leipold, 2020).

The legal relationship between the supplier of a thing as a service and the consumer of it is essentially property based. It depends on there being an ultimate owner(s) of the thing supplied who has the legal right to grant the lesser possession and usage rights. By transferring possession of a thing to a consumer as part of a service but preserving ownership of it, this being the essence of the transformed transaction, a bailment will typically arise. Supplier and consumer would become, at law, bailor and bailee respectively, and this operates to bring them into a property relationship not only with each other, but also with the thing itself – which remains an object of property. The product-to-service shift of ABC thus completely preserves not only property as an institution, but also all the features of it, including ownership (Bardhi and Eckhardt, 2012). It merely operates to preference the supplier in the allocation of ownership rights and the exploitation of them, with a possible consequence of this being a reduction in ownership by the consumer, perhaps even to the point where, as the WEF predicts, she owns nothing.

2.2. The circular and sharing economy

The 'circular economy' (CE) is a societal transformation to which Auken specifically alluded in her post. She predicted its greater emergence because, in the future, "…no one has an interest in things with a short life-span" (Auken, 2016). Auken associates this transformation with ABC by reasoning that, especially when they are supplied as a service, things will be produced to maximise their "durability, repairability and recyclability" (Auken, 2016). While the latter attribute is clearly directed to the CE, the former two enhance, at least as much, opportunities for the development of the sharing economy (SE). The CE and SE are inter-related and are concerned with maximising the resource, consumptive, and economic value of things at all stages of their effective life, and then beyond it (Schwanholz and Leipold, 2020).

The CE is mostly directed toward environmental sustainability through the management of things at the end of their effective life (Schwanholz and Leipold, 2020). It regards expired things as a waste resource that can be used as a substitute for the raw materials that would otherwise be used in the production process (Korhonen et al., 2018). By recycling, repairing, and reusing expired things, perhaps even by harnessing biological organisms to "…break down, fix or generate" them (Marjamaa and Makela, 2022, p. 8), and then redeploying them as new products, the CE moves away from traditional linear modes of production (Korhonen et al., 2018) to those motivated by zero-waste. Marjamaa and Makela thus identify one indicator of the success of CE as a significant reduction in the quantity of expired things ending up in landfill (Marjamaa and Makela, 2022).

While one aspect of the CE does involve the extended use of a thing during its effective life, for example through platforms like eBay that facilitate the resale of mostly used things (Frenken & Schor, 2017), it is the SE that is more directly concerned with doing so. At the heart of the SE is the exploitation of surplus capacity (Schwanholz and Leipold, 2020; Frenken and Schor, 2017), of which there appears to be a significant amount. Research suggests, for instance, that the average privately owned car in a Western society might sit idle for over 90% of its effective life (Korhonen et al., 2018; Sacks, 2011). Recognising this, Belk, whose scholarship has greatly contributed to our understanding of the human-thing relations (Belk, 1988), but who has been sceptical of the willingness of humans to tolerate the severing of ownership (Belk, 2007), has conceded that sharing makes a "…great deal of practical and economic sense…" (Belk, 2014, p. 1599). By making an otherwise idle thing available to someone who needs the use of it, sharing results in efficiency gains (Martin, 2016). And when it is moved by monetary payment as it mostly is in the market-based SE (Bucher et al., 2016), sharing converts redundancy to economic value (Alharthi et al., 2021), providing the opportunity for the emergence of new businesses eager to realise some of that value (Korhonen et al., 2018), including third-party intermediaries (Heinrichs, 2013).

The SE can deliver sustainability outcomes (Dabbous & Tarhini, 2021). For instance, bike-sharing "…dramatically decreases traffic, reduces energy consumption, decreases harmful gas emissions, improves public health generally, and promotes economic growth" (Qiu and He, 2018, p. 7). And it has been estimated that there could be around ten fewer cars on the road for every car participating in a car-sharing program (Lawson et al., 2016; Shaheen et al., 2012). A reduction in overall consumption might thus be possible if things were made available for broader use by those owning them. Ownership is, undoubtedly, a feature of the SE in any of its forms (Bucher et al., 2016). Even when it is not market-economy based, is not moved by monetary payment, and extends to mitigate surplus capacity via common, cooperative or shared models, ownership as a property concept continues to function and thus be relevant. Somewhat like ABC, such models merely invest, formally or otherwise, a non-individual entity with the paramount rights associated with ownership, and individual participants with something lesser in the form of a right of personal access, possession or participation. As for the market-economy based SE, the operating models of market leaders, such as Uber and Airbnb (Richthofen, 2022), suggest that the ownership of things used in the SE will remain at the individual level (Dellaert, 2018). This is because such models typically leverage the use (and capital value) of privately-owned things. Presumably, then, no business employing such a model would wish for the realisation of the WEF prediction.

Not only does the SE inherently involve continuity of ownership, but it also requires things to be owned to the point of surplus capacity. The SE relies on the willingness of owners, whether individual or collective, to participate (Frenken & Schor, 2017) by making capacity available to others (Dellaert, 2018) in the course of what is, essentially, a property-mediated transaction. By doing so, individuals would engage with property not only as consumers of things, but also as micro suppliers of the things they own (Ertz et al., 2016; Eckhardt et al., 2019). Property owners share use of their things with other consumers in the SE (Dellaert, 2018) and sell to them in the CE (Frenken and Schor, 2017). Both transformations, therefore, immerse individuals more deeply in the institution of property by having them engage more routinely, and in different capacities, in property-based relations. In short, property and ownership remain critical to the realisation of the societal transformations required to support the CE and SE.

2.3. *Transformative drivers, realities, and outcomes*

Our engagement with the transformative discourse reveals it to be alive to the various challenges associated with these societal transformations (Dabbous & Tarhini, 2021; Martin, 2016). It acknowledges that they tend to create new markets (Lawson et al., 2016; Frenken and Schor, 2017) and new ways to sell (Fundin et al., 2012). This gives rise to new opportunities for value extraction (Korhonen et al., 2018) in the form of increased revenue (Oliva and Kallenberg, 2003), capital (Levitt, 1965), and consumer data (Reinartz and Ulaga, 2008). Realising this new value is acknowledged to remain a driver of behaviour (Schwanholz and Leipold, 2020; Gunderson et al., 2018; Mi and Coffman, 2019).

The discourse is clear that, without more, the societal transformations that inform the WEF prediction are unlikely to manifest in the form of the 'New Welfare' growth scenario envisaged by Sessa and Ricci (Sessa and Ricci, 2014). Key features of future growth in that direction are that the profit-seeking supplier is substituted for one seeking principally to "…satisfy social needs and build local capital," (Sessa and Ricci, 2014, p. 78) and that 'enough' becomes the dominant economic paradigm. These transformations contemplate neither. They do not just preserve the market economy (Schwanholz and Leipold, 2020; Martin, 2016) and the growth paradigm to which it is coupled (Nelson, 2016) – they enhance it (Frenken and Schor, 2017; Akenji, 2014). In what Hobson and Lynch referred to as 'Capitalism 2.0′, suppliers are profit-incentivised to find new ways to supply more, while individuals as consumers (Hobson and Lynch, 2016) are given something of a psychological licence to satisfy their consumptive act by understanding it as environmentally friendly and socially acceptable (Akenji, 2014), a belief that can be cultivated through careful marketing, sometimes 'Greenwashing' (Urbański and ul Haque, 2020), of things by suppliers. Instead of asking consumers to question their consumption expectations, or indeed questioning the validity of the growth paradigm (Hobson and Lynch, 2016; Nelson, 2016), these societal transformations are mostly directed to how existing and future consumption can be satisfied alternatively (Fritze et al., 2020). But, in reality, alternative consumption does not necessarily involve the behaviour change that is conducive to sustainable outcomes.

Suppliers of personal electronic devices like mobile phones and laptop computers are not yet producing these products to have the "durability, repairability and recyclability" Auken hoped for (Auken, 2016). In fact, the effective life of such products continues to reduce (Islam et al., 2020) and consumers do not yet respond behaviourally by refusing them on account of this fact. Instead, they respond to increasingly sophisticated and effective marketing campaigns that promote technology and design advancements (Islam et al., 2020) by replacing their electronic devices even when they are still functional (Wilhelm et al., 2011; Ylä-Mella et al., 2015).

Consumers sometimes abuse and behave opportunistically with non-owned things, including share cars (Bardhi & Eckhardt, 2012) and bikes. Indeed, the destruction of bikes has led to the termination of share schemes in France (AFP, 2018), Belgium (Reuters Staff Writer, 2018) and Australia (ABC Staff Writer, 2018). In Melbourne, a municipal bike-share scheme was discontinued because of a lack of community engagement but, when they did engage with another scheme in that city, it was marked by behaviour that saw the bikes thrown into the river and hung from trees. A study looking at shared e-scooters determined that maltreatment could reduce effective-life of the equipment to just three months of useful service, at which point the schemes are unprofitable (Schellong et al., 2019). When used as part of a share scheme, riders of e-scooters are more likely to be non-compliant (Haworth et al., 2019; Cassidy, 2022) and there is a perception, at least, that riders, other road users, and pedestrians are exposed to an increased risk of injury. It appears that such perceptions contributed to the residents of Paris voting overwhelmingly to ban rental e-scooters in that city in April 2023 (Levine, 2023).

Quite apart from lack of behavioural change, the societal transformations have not generally resulted in reduced levels of production, consumption, or waste. Over the past five decades total energy produced and used has increased (York, 2016; Gunderson et al., 2018; Akenji, 2014). Despite growing societal awareness of the environmental harm it causes, the OECD predicts that the use of plastics will triple by 2060 (Agrawala et al., 2022). We know that plastic waste is not being used in the CE to any material extent and that it never has been (Greenpeace, 2022), despite claims to the contrary (ABC Staff Writer, 2018; ABC Staff Writer, 2022). As to e-waste, 80% of it still ends up as toxic landfill (Islam et al., 2020). E-waste is now the world's leading form of waste product and, as the WEF has itself recognised, is likely to double in the coming years if not arrested (Platform for Accelerating the Circular Economy (PACE), 2019). There are examples of share scheme operators amassing quantities of product that far exceed the level required to meet demand (Hass, 2017; Mi and Coffman, 2019) and sending redundant shared products to scrapyards instead of opting for the more time-consuming option of redeploying them (Peters, 2020). If the effective life of shared products is disproportionately reduced, as has been observed for e-scooters (Severengiz et al., 2020) and bikes, the waste they generate will outweigh any environmental benefit they might otherwise deliver (Qiu and He, 2018; Mi and Coffman, 2019). Applying the indicator of success suggested by Marjamaa and Makela (2022), that is, by the quantity of things still ending up in landfill, provides one basis for concern; not only about the lack of realised outcomes to date, but also about assuming the capacity of the societal transformations to deliver them in the future (Velenturf and Purnell, 2021).

On 15 November 2022 the human population reached 8 billion.[7] It is sensible, even if conservative, to suggest that a healthy planet probably cannot sustain the ecological footprint of this population (Bradshaw et al., 2021; Murphy et al., 2021; Turner, 2008; Nelson, 2016; Ehrlich, 2010; Hickel and Kallis, 2020; Hickel, 2019; Buchs & Koch, 2019), let alone the one that would materialise if individual consumption was equalised in the future based on levels that are now typical in the 'developed' world (Fioramonti et al., 2022). It is equally sensible to deduce from the discourse that a sustainable future is one in which there is a reduction in production, consumption, and their effects. Such reductions are a way to lessen the risk of realising the outcomes predicted by the *Limits to growth* report (Meadows et al., 1972). That report provided a vision of a future with which to work and, by so doing, is regarded to have "…advanced the development of futures thinking" and marked a turning point in the associated scholarship (Bell, 2001, p64). But, as the discourse makes clear, there has been no such turning point in reality and not enough has yet been done to avert the report's dire conclusions (Turner, 2008; Turner and Alexander, 2014; Herrington, 2020; Kahn, 2022).

Notwithstanding their apparent lack of effectiveness to date, we accept that the discussed societal transformations and those like them probably are a part of the movement towards a more sustainable future (Velenturf and Purnell, 2021). We acknowledge the inroads they have made. But still more is needed. As Yaëll Emerich has recently observed (Emerich, 2023), some contend for more in the form of radical reconfigurations of society and its institutions beyond that which the societal transformations presently contemplate (Hobson and Lynch, 2016; Nelson, 2016) and this too may ultimately be a part of the forward movement. But we can yet find more within existing institutions and paradigms, none more so than property.

An image of a sustainable future (Marjamaa and Makela, 2022) should see property as a means by which relations and behaviours can be mediated to not only encourage people to contract their expectations in terms of consumption (Murphy et al., 2021), but facilitate them to do so. Property can be used to achieve these ends because of the capacity it has not only to mediate relations between people, but more critically between people and things. In a way that the WEF prediction does not understand or reflect, property and the concomitant of ownership is itself part of the movement towards a more sustainable future (Emerich, 2023). In property, we will find opportunities for the types of reconfigurations that help to realise that future, be they radical or otherwise. Property is thus part of the transformative agenda and should inform the discourse concerning it.

In the parts of this article that follow, we will show that ownership can be more diverse, more accommodating of human, societal, and environmental need, than is typically conceived. Ownership can support the types of societal movements that are encouraged by the proponents of, for example, degrowth (Alexander, 2012) and non-market ecosocialism (Nelson, 2016), both of which are often associated with the abolition of private property. It could even facilitate the hunter-gatherer way of life (Gowdy, 2020) from which we might yet learn a great deal (Ehrlich & Erhlich, 2022).

3. Persons, property and society

We have shown how the societal transformations informing the WEF prediction concern property and, moreover, rely upon its ongoing existence as a socio-legal construct. To predict that 'you'll own nothing' in the future ought not, therefore, be understood as contending for the abolition of property or the rights of individuals to own it. In our view, no such contention can properly be imputed to the WEF; were it otherwise, the WEF prediction would undermine the societal transformations since there is little capacity for individuals to share, let alone sell, things not owned. At most then, the prediction speaks to the possibility of a reduced need for individuals to own things in a transformed future society in which property, and individual ownership, will continue to be a pervasive feature. To predict otherwise runs counter to both human history and to the human condition that gave rise to it.

Property is intrinsically a societal (and social) institution (Rose, 2006). It was a subject of Roman law (Garnsey, 2007; Paturet, 2023) and, earlier still, was firmly established as an institution of ancient Greek society and occupied the thoughts of thinkers like Plato and Aristotle (Miller, 1986). Individual ownership was a feature of these property regimes and of those existing in other early societies (Nancekivell et al., 2019). A form of individual ownership existed in pre-Conquest England (Secher, 2014) and has been observed to exist in more recent but still pre-industrialised societies, such as those of the peoples of Ladakh (Norberg-Hodge, 1991). And the known trading activities among the First Nations peoples of Australia (Blainey, 2015), in whom we likely find the oldest surviving human culture (Malaspinas et al., 2016; Ehrlich and Erhlich, 2022; Langton, 2021), suggest that they too recognised some form of 'ownership'.

What this history suggests is that, for a very long time, human beings have tended to think about things and behave in ways

[7] https://www.un.org/en/dayof8billion

indicative of a certain 'predilection' for them (Hood, 2011). Humans possess, manipulate, use, consume, trade, and otherwise exploit things, and such behaviours constitute a significant proportion of all human activity (Hodder, 2012; Babie, 2017). The predilection for things precedes the emergence of property and would appear to be as old as humanity itself (Graeber & Wengrow, 2021).

3.1. The predilection for things

One of the most remarkable learnings from the discovery of Otzi, the 40-year-old man whose remains were found on the Similaun Glacier in the Tirolean Ötztal Alps, was that he travelled and died with possessions. These included the clothes he wore, lithic tools in the form of blades and arrowheads, as well as a scraper, borer and some other bits in a belt pouch found near to him (Wierer et al., 2018). Otzi was an anatomically modern human who lived about 5,300 years ago (Miller, 2014). Finding him reveals that, at least that long ago, humans were behaving in a manner consistent with having a predilection for things. But evidence of such behaviour goes back much further.

Archaeologists believe that the very earliest of our human ancestors, probably *Homo habilis* (Leakey et al., 1964), may have transported lithic tools and the materials used to make them over distances of up to 13 kilometres (Davidson & McGrew, 2005). Intentional transportation is an enduring possessive act. As a behaviour, it indicates something important about the capacity of the transporter and the relation it has to the thing transported, including the fact that self, future-self, and self-interest might all be cognised (Jeffares, 2010). Non-human primates do not transport things in the manner, or over the distances, attributed to early hominins such as *habilis* (Osvath and Gardenfors, 2005). Chimpanzees, for instance, have not been observed to transport their tools more than a few hundred metres (Mercader et al., 2002).

Habilis lived over 2 million years ago (Villmoare et al., 2015). If we accept the archaeological literature as supporting the inferred behaviours of the very earliest hominins, including with respect to extended transportation, we can proceed on the basis that, when it comes to human-thing relations and associated behaviours, humans have always been different to non-human animals (Davidson and McGrew, 2005). Humans, it seems, have always had a predilection for things. The lithic record reflects that it only became more pronounced, and more deeply embedded, as the human genus evolved. When anatomically modern humans emerged about 300,000 years ago (Stringer, 2016; Gowdy, 2020), their behavioural repertoire was replete with the things upon which they then depended (Hodder, 2012; Childe, 2003 / 1936). These behaviours were clearly not the consequence of property but were, rather, causally responsible for it. Property is not an accident (Garnsey, 2007). Its universality as a feature of human society (Khan and Turri, 2022), the prevalence it has as a social institution (Rose, 2006), and its effectiveness as a coercive order (Kelsen, 1941), all tend toward property having its foundations firmly entrenched in the human condition. Property emerged because it is an aspect of the human condition to think about, and behave with, and through, things.

3.2. The emergence of property

The predilection for things motivates the emergence of a human-thing relationship in both thought and actuality. It is reasonable to suppose that Otzi, for example, thought about the things he possessed as if they were 'his', which then informed his behaviour in relation to such things (Pierce et al., 2003). He possessed and transported 'his' things as a means not only of securing the use of them but also, and perhaps more importantly, to convey to others that he perceived that the 'things' were 'his'. The possessive behaviour, which likely extended to violence when challenged, was itself the form of communication (Rose, 1985). When it was received, other individuals might also have responded behaviourally.

Property law scholar James Krier has employed Game Theory to advance the likelihood of a survival-strategy-informed "predilection for deference to possession" (Krier, 2008, p. 34). In short, there is generally less risk in not interfering with the things possessed by another. In this deference behaviour, coupled with the innate sense of possession (Krier, 2009), Krier actually locates the genesis of property. His work offers an evolutionary theory of property that admits the possibility of property being 'hard-wired' in humans (Krier, 2008). Jeffrey Stake thinks similarly. Also a property scholar, Stake locates the 'physical-control rule' of property in biology to advance that humans have a property 'instinct' (Stake, 2004). This 'instinct' has many dimensions "…ranging from what constitutes property to what to do with property" (Stake, 2004, p. 1772). Stake thus sees the property rules of a society as having a foundation in the human condition, which would explain why property is so all-pervasive (Snare, 1972) and effective as a coercive order.

The still limited property law scholarship (Blumenthal, 2009) of the kind usefully contributed by Krier and Stake finds alignment within broader theoretical (Hodder, 2012; Malafouris, 2016), philosophical (Hegel, 1820/1896) and scientific discourse (Jones and Goldsmith, 2005; Pierce et al., 2003; Ellis, 1985). Here, we interpret the discourse as supporting not so much a biological basis for property itself, but more precisely for the human predilection for things. We suggest that this predilection might even operate at a cellular level to motivate the human-thing relationship that stimulates the neural processes (Hodder, 2012) that, in turn, inform the expression of human-thing behaviours. It is via these behaviours that the human person operates as an autonomous entity in the world (Dagan, 2020; Knowles, 1983). Property is the human construct that emerges principally to accommodate, mediate, and regulate the expression of these behaviours within a societal setting.

3.3. The substance of property and ownership

Property is not a 'thing' (Underkuffler, 2003; Christman, 1994; Penner, 1996). Bicycles, therefore, are not property, and nor are pasta-makers or cars. But these are each a 'thing' to which a human person can relate and with which she can behave. A thing is thus an object of property (Davies, 2016), as distinct from property itself. Property is a social and legal construct that formally recognises, in the form of rights and obligations prescribed by law (Macpherson, 1978), a relationship between a human and a thing (Snare, 1972). Any 'thing' can be recognised as existing in some relation to a human if a society agrees that it be so (Davies, 2020). It is the society, in fact, that determines not only the 'things' of property, but also the particular rules (Christman, 1994; Snare, 1972) for the use of those things (Freyfogle, 2012). These rules are the substance of property (Davies, 2020) and they take form and effect within human society as property law (Davies, 2016).

Jeremy Bentham said that "property and law are born together and die together" (Diamond, 1971). He was right, but only in a formal sense. As law, property is a human construct that does not exist outside of a human society (Freyfogle, 2012; Snare, 1972; Davies, 2016). But such a view of property fails to look beyond its substance to see that with which it is really concerned; namely, the human predilection for things and the behaviours that are expressed in consequence of it. Our knowledge of Otzi, and likely of early hominins like *habilis* too, strongly suggest that these behaviours existed many thousands of years before the emergence of property law (Krier, 2009) and thus exist independently of it. It is therefore unlikely that law or its absence could completely suppress the predilection that humans have to think about, and behave with and through, the external things of the world (Fritze et al., 2020). Things power the person (Hodder, 2012), and that is why individuals seek to possess them.

Possessive behaviour is a feature of all human societies (Ellis, 1985; Pierce et al., 2003) and is the behaviour with which property is most generally concerned (Rose, 1985). Ownership is a form of property that has "crystallized around" (Ellis, 1985, p. 128) certain types of possessive behaviour: that which manifests as enduring and personal, and which is often asserted as exclusive. The exclusivity aspect of ownership, which has become its most defining feature (Page, 2017; Christman, 1994), results in it being understood as a type of private, as opposed to public, property. Although the divide between the two types is more porous than might generally be acknowledged (Page, 2017; Freyfogle, 2012), ownership does denote the existence of a human-thing relationship that is qualitatively distinct (Snare, 1972).

We observed that Otzi probably related to the things found near to him as 'his'. They likely were so in a way that the mountains he was traversing, and the streams from which he drank, were not. We can observe similar differences evident in Auken's post – she refers to "*my* bike" and "*my* living room" as distinct from "*our* city". The grammatical determiner in each case might appear benign, and may well be unintentional, but it likely communicates something about how Auken herself relates to these things: at some level, she regards the bike and the living room are 'hers' in a way, or to an extent, that the city is not; probably, then, she has taken 'psychological ownership' of these things to some degree (Pierce et al., 2003; Fritze et al., 2020).

Property law has developed in response to the human-thing relationship in all its manifestations. To 'own' a thing at law is different to 'leasing' or 'renting' it, which is different again from having the right to merely use or access it. The very fact of ownership as a property concept, but also its near universal presence as a feature of human society, suggests that the behaviour with which it is principally concerned, enduring possession, is a function of a particular kind of human-thing relationship. This leads us to regard ownership as a societal constant. While this position is informed by history and extrapolation therefrom, we avoid the challenge of Hume's truism (Piirainen et al., 2012) by anchoring it in our understanding of the human condition. By so doing we operate within the confines of critical realism which has been accepted as a theory of knowledge appropriate for futures studies (Bell, 2001). It is with the personhood theory of property, however, that we locate and explain possessive behaviour, and thus ownership, as an aspect of the human condition.

3.4. *Personhood theory of property*

The personhood theory of property has its genesis in Hegel's *Philosophy of Right* (Arnold, 2002; Alexander & Penalver, 2012; Knowles, 1983). In simple terms, it posits that a human becomes a person by relating to, and then behaving with, external things (Hegel, 1820/1896). Things have no will of their own and, therefore, they can contain the will of the person. When they do, things become the property of the person whose will they contain. Freedom is perhaps the most important concept in Hegelian philosophy (Hegel, 1899/1831; Patten, 1995) and while Hegel regards the person as inherently free, property is needed by the person to fully realise and express that freedom. Thus, both in Hegel's philosophy generally and the personhood theory of property derived from it, there is a very close connection between the concepts of human, person, thought, behaviour, freedom, things, property, and ownership. By exploring just some of these connections, we can better understand the personhood theory as it relates specifically to ownership as a form of property.

A human is a subject, which means only that she is living and conscious. All animals are subjects according to Hegel. A person, however, is a subject who is aware of the fact that she is aware. A person therefore has her 'self', that is to say her subjective experience of life, as an object of her own thought. That capacity implies that she knows both what she is and what she is not. This knowledge, which arises in consequence of higher-order thought that Hegel regards as uniquely human, gives rise to cognitive freedom of the person. But, being cognitive, it is internal, and this leads Hegel to regard the person as 'internally located'. The personhood theory regards 'things' as the "external sphere" of the internally located person (Hegel, 1820/, 1896). By relating to things in thought and then choosing to engage her free will, by which she translates her thought into behaviour, the person moves into the physical, objective, world. Things not only constitute the medium via which the subjective person gives herself this objective reality, but also embody the expressed free will of the person (Hegel, 1896; Alexander and Penalver, 2012). It is thus a core tenet of the personhood theory that persons are constituted in the things to which they relate and behave (Radin, 1982; Arnold, 2002).

Although the personhood theory might be characterised as essentially being a philosophical argument (Jones, 2011), its fundamental tenets do have empirical support (Alexander & Penalver, 2012; Belk, 1988). For example, research suggests that people take 'psychological ownership' of things (Pierce et al., 2003; Fritze et al., 2020; Kirk et al., 2018) and that this has 'psychological consequences' (Beggan, 1992). One consequence is the emergent feeling of 'mine' (Hood, 2011) that, as a phenomenological experience, is intimately associated with the sense of 'me' (Wang et al., 2015; Hood, 2011; Belk, 1988). A thing cannot be perceived as 'mine' unless there is first a feeling, an awareness, of 'me', which is nothing other than the internally located 'self' with which the personhood theory is concerned. But because what is 'mine' is the external manifestation of the inner-located 'me', there tends to be a conflation of the two such that, from a psychological perspective at least, what is 'mine' is actually 'me' (Wang et al., 2015). This would explain why a person might react so strongly to having such a thing taken away, or why giving or receiving a gift might be such an intimate experience; because it feels as though what is taken, given or received is not merely the thing, but a part of the 'me' constituted in it (Belk, 1988). This phenomenon would also explain the effectiveness of regimes that operate to deny property rights to certain classes of people; historically, this has included women (Davies, 2016), indigenous peoples, and penal convicts, and still today people held as prisoners. The intended consequence of excluding such people from the institution of property is to inhibit the sense of self (Hood, 2011) and, in this sense, it can be understood as a punitive act. The perception of it as such could explain something, at least, about the strong reaction to the WEF prediction.

The feeling of 'mine' is believed to emerge universally (Furby, 1991) in early in childhood (Nancekivell et al., 2019; Khan and Turri, 2022; Hood, 2011). It is expressed in the form of possessive behaviour and children tend to exhibit it more forcefully than adults (Khan and Turri, 2022). This could suggest that people learn to suppress the feeling of 'mine', and perhaps more broadly the contended for property 'instinct', as they mature. But, as Haider Riaz Khan and John Turri have suggested, to regard the feelings as unnatural would be misguided; they are "…a pervasive neurocognitive experience that constitutes the basic…sense of self" (Khan and Turri, 2022, p. 11). Such a view is materially consistent with the personhood theory of property.

The personhood theory of property enables us to understand not only the human predilection for things for which we contend, but also the function and justification for property and, indeed, ownership, which arises in consequence of it. The predilection exists to motivate the human to engage with things, both in thought and actuality, as a means of emerging in the physical world as a person (Radin, 1982). And since the person is constituted in the things to which she relates and behaves, access to such things must be assured (Radin, 1982). Property emerged to provide this assurance (Rousseau, 1968/1762), with ownership being the form of property that most effectively acts as the "normative fence" around the things in which the free will of the person is embodied (Waldron, 1988). Hegel asserted that all persons must own things (Hegel, 1820/1896; Waldron, 1988). Margaret Radin, whose property law scholarship most explicitly extracted the personhood theory from Hegel's philosophy, concluded similarly by expressing her view that the law should recognise the right for persons to own at least some things (Radin, 1982). Absent such a right, the opportunity to be and express personal autonomy and freedom, that is to say to be a human person, would be diminished (Waldron, 1988). This would have direct consequences for the capacity to be happy.

4. Ownership and happiness

In the *Nicomachean Ethics* Aristotle posited that happiness is the end to which all human action is directed (Aristotle, 1996). Being happy satisfies no other need or want; it is completely self-sufficient. To be happy, according to Aristotle, a person has to live in a manner which exercises the function that most intimately attends the human condition. He believed this function was the capacity to act in accordance with virtue, the highest of which is the activity of contemplation. Indeed, for Aristotle, contemplation is itself happiness because, more than anything else, it engages that which the person inherently is; a thinking, intellectual, being. Hegelian and Aristotelian philosophy are thus aligned in their understanding of the person as a human being that is capable of, and centrally located in, thought.

As the personhood theory of property advances, the external things of the world not only motivate and inform human thought, since humans think through things (Hodder, 2012), but are also the media via which it is actualised. The actualisation of thought is nothing less than life as phenomenologically experienced by the internally-located person (Dant, 2006). It is in this sense that we see a direct connection between things and personhood. But if being a person is necessary to be happy, as Aristotle suggests, then we also see a connection between things and happiness; the human cannot be happy otherwise than by being what she inherently is, a person, and cannot be a person otherwise than by having access to things with which to think through, behave, and actualise her inner-located self. Aristotle indeed accepted that a person needed access to the external things of the world (Aristotle, 1996).

The WEF prediction fails to understand or reflect these connections. In fact, it is contrary to them since it supposes a disconnect between 'ownership' and 'happiness' by implying that the absence of the former will not compromise the latter. No such implication is properly derived from Auken's original post because, as we earlier observed, she predicted only that her future life was "all in all … good". Certainly, when it is subjectively perceived in relative terms, 'good' is not necessarily an indication of human potential – Aristotle's key concern in the *Nicomachean Ethics* – being fully actualised. At the most fundamental level, human potentiality takes form as personhood; to emerge, be, and flourish in the external world as a person (Matthews, 1995). To be a person, Hegel claimed, is the highest aim of the human being (Hegel, 1820/1896). In Aristotelian terms, personhood is the human *telos*. If personhood is the foundation of, or perhaps a threshold requirement for, human happiness, it follows that any social condition undermining personhood will compromise the opportunity for human happiness. Personhood will be undermined in a future where individuals own nothing. We offer two reasons to support this claim.

First, ownership supports ontological stability of the person (Bardhi & Eckhardt, 2012). It does so by assuring, more than any other form of property, enduring access to the things in which the person feels themselves to be constituted (Kershnar, 2002). As Samuel Johnson keenly observed in his novel *Rasselas*, "happiness…must be something solid and permanent, without fear and without uncertainty" (Johnson, 1759, p. 103). Pierce et al. (2003) materially support this view by observing that "radical change or destruction of objects for which there are strong feelings of ownership can result in a diminution of one's self-concept, adverse health effects, and feelings of normlessness and powerlessness" (p. 102). No such feelings could be regarded as being generally conducive to happiness.

Secondly, the absence of individual ownership will tend to frustrate the human predilection for things. It manifests as urges and drives that "have a certain correspondence … with the states of affairs that anyone intelligent would consider human flourishing" (Finnis, 1980, p. 380). Foundational property law jurist William Blackstone also identified such a correspondence in his *Commentaries*. He understood that property engaged "…the affection of mankind" (Blackstone, 1765, p. 393) and that feeling, Blackstone reasoned, corresponded to the "immutable laws of nature" with which the individual could comply simply by acting in ways that "…tend the most effectually to our own substantial happiness" (Blackstone, 1765, p. 28). Indeed, Blackstone characterised as the one 'paternal precept' that persons should pursue "…true and substantial happiness" and, for him, property was a means of doing so. In the *Commentaries*, Blackstone thus explicitly made the kind of connection between property and happiness for which we contend.

We do not suggest that personhood is realised exclusively through individual ownership of things. Other forms of ownership, including joint, common and socially owned things can also be conducive to personhood and thus to the possibility, albeit not the guarantee, of happiness. Indeed, we accept that in at least some cases non-individual ownership, or ownership as differently conceived, could actively promote happiness. We contend only that ownership in some form or other is necessary since it is the type of property that acts as the 'normative fence' around the kind of human-thing relation that tends to most effectually support the "physiological and psychological requirements" (Buchs and Koch, 2019, p159) of personhood, the realisation of which is, we suggest, a threshold requirement for 'objective' happiness. This kind of happiness aligns with Aristotle's eudaemonia, concerned as it is with 'doing well', 'thriving', 'meaning', 'security' and being 'self-sufficient' in terms of the capacity for achieving these ends (Miller, 1986). We agree with Buchs and Koch that this concept of happiness, as opposed to subjective happiness, is suitable for use as a "basic human needs framework" (Buchs, Koch, 2019, p. 155) with which to assess the impacts of societal transformations – and we believe that the possibility of ownership supports it.

As for subjective happiness, we acknowledge that a reduction in consumption might not result in a longer-term reduction in individual happiness, as a Japanese study suggests (Komatsu, Rappleye, & Uchida, 2022). These results bode well for maintaining human happiness within a transformed society. But we are inclined to the view that subjective happiness, which is an assessment of personal experience (Goldman, 2022), is more associated with the consumption of discretionary or experiential things (van Boven and Gilovich, 2003), or the 'material consumption' with which this study was concerned (Komatsu, Rappleye, & Uchida, 2022), while objective happiness is probably more impacted by the things that satisfy those basic "physiological and psychological requirements" (Buchs and Koch, 2019, p159) of the person. These are the types of things within which the person is 'bound up' and feels themselves to be constituted (Radin, 1982), and over which they would likely take 'psychological ownership' (Fritze et al., 2020), even in the absence of its legal counterpart (Pierce et al., 2003). A home might be an example of such a thing and, indeed, a study from China found a strong correlation between home ownership and overall happiness (Hu, 2013). This is perhaps despite the fact that, in China, there has been much the same shift in the concept of subjective wellbeing as has been reported in Japan (Komatsu, Rappleye, & Uchida, 2022).

It is because of the connection between things, personhood, and happiness that we contend for the preservation of ownership as a property concept. We believe, however, that ownership in its current 'totalizing and universalizing' legal form (Blomley, 2004, p102), which tends to promote Western liberal notions and values above others, is not generally conducive to the societal circumstances that broadly or equitably support the objective human wellbeing and happiness that should be the final cause of any society (Cordozo, 1921). The institution of property is a dynamic sociable construct within our control (Page, 2017; Davies, 2016). We can change it (Krall, 2002) and, moreover, use it to inform and realise the image we have (Marjamaa and Makela, 2022) of future society (Alexander et al., 2009). To this end, and as a means of demonstrating how we can use property, we offer an aspiration for ownership in the future.

5. An aspiration for ownership

There is much scholarly discourse upon which to draw in the consideration of a new form of ownership. For example, critical property theorists are engaged in the re-imagining of property in all its forms (Davies, 2020). Nicole Graham's work involves the critique of "legal and cultural practises that are ecologically unsustainable" (Graham, 2014, p. 397). Her concern with the existing property paradigm lies in its 'de-physicalising' effect, and its tendency to exclude 'things' from the property relation to the point of irrelevance. This obscures, Graham says, "…the fact that the 'thing' is the actual and non-fungible condition of human existence" (Graham, 2014, p. 414). Craig Arnold is another whose work aims to bring 'things' more into the property fold. His 'web of interests' metaphor aims to "reconstitute property" by integrating both its "humanness and its thingness" (Arnold, 2002). Such an approach recognises not only the importance of the human-thing relationship, but also each part of it. Arnold thus follows Margaret Radin, the leading contemporary personhood property theorist, in claiming that the 'things' of property matter (Arnold, 2002). This leads Arnold to reject the prevailing 'bundle of sticks' conception of property (Penner, 1996) on account of what he sees as its 'anti-thingness'. The property scholarship of Margaret Davies urges a radical reimagining of property based on an understanding that humans are themselves things that are part of, and inter-connected-and-dependent with, the world (Davies, 2016). This leads Davies to propose property rights based on the extent to which they are capable of supporting these connections in a way that is conducive to the flourishing not just of the person, but of the shared ecology of all things. Davies' conception responds to the concerns of Graham and Arnold by 're-physicalising' property (Davies, 2016).

We acknowledge the concerns within the property discourse about the dangers inherent in a concept of property that takes too little account of its 'thingness'. We accept that, by maintaining the view of property as a 'bundle' of legal rights, there is a risk that persons are alienated from the very 'thing' with which those rights are associated. Despite these concerns, however, we resist the call to move away from this prevailing conception because, while not a theory of property in itself (Smith, 2012; Penner, 1996), it does accurately convey something of the substance of property (Glackin, 2014). Without any conceptual modification, it accommodates diversity both in the forms that ownership can take (Page, 2017; Emerich, 2023) and the types of things over which it can be taken; joint, shared, cooperative, common, and social property are all within the proper ambit of what ownership can be. As a discrete theory of property, personhood can explain and justify ownership as a property concept (Radin, 1982). While it may not require individual ownership of many types of things, say, for example, those employed in the means of production, the personhood theory is not inconsistent with the idea of ownership of such things taking one of these other, non-individual, forms. To the extent that it does so, ownership continues to function as a property concept and thus remains useful. It follows, therefore, that we do not conceive of ownership, much less property more generally, as an institution of any polity in particular; rather, we say that property and the concomitant of ownership support human societies regardless of their economic and political structure. They do so because human societies are formed by persons, and persons actualise in and through the things of the world that can be recognised and respected as property. Property, and ownership, support personhood. That is why humans have a predilection for things and why they engage "…the affection of mankind" (Blackstone, 1765, p. 393). By staying with the prevailing rights metaphor of property, we can more easily align with, and work from, the account of property given by Blackstone and its strong appeals to 'affection' and 'happiness', both of which respond directly to the WEF prediction.

Blackstone characterised property at least as much by reference to the right to 'use' as to the right to 'exclude' (Page, 2017). Page is among property law scholars who, in recognition of this, continue to urge a shift in the thinking of the concept of ownership away from the dominant 'right to exclude' (Rose, 1985) and towards the 'right to use', while at the same time contending for the latter right to be more shared and proportionate. To this end, Page has elsewhere suggested that ownership "…is better understood as securing an exclusivity of use, coupled with a qualified freedom from interference" (Page, 2017, p12). While this understanding was conceived specifically for real property (i.e., land), we think it has the potential for broader application. But to realise a more a socially just, sustainable, and emancipatory future, there is capacity to go further still.

An aspiration for ownership might be to understand it as a *paramount* right of use coupled with a qualified freedom from *unreasonable* interference. A paramount right of use might be one affording its holder not the exclusive, but merely the pre-eminent, right to use a thing in certain ways, chief among which would be the assurance of enduring access. Society could agree upon other usage-associated rights and, in so doing, might be guided by the pursuit of individual wellbeing that is not at the cost of society, or the environment in which it exists. An example would be the right to dwell on, and produce a living from, a parcel of land, but not in a way that undermines its biodiversity value or extracts a pecuniary gain only from its natural increase in value (Proudhon, 2014/1840; Christman, 1994). The paramount right would be further circumscribed by reasonable interferences with it. A reasonable interference would be one that did not diminish the capacity of the paramount right-holder to pursue the uses permitted by it; walking onto land 'owned' by another to admire a beautiful tree or rest in its shade would be an example of an interference that was not unreasonable since it would not, without more, tend to diminish the capacity of the landowner to enjoy the paramount right of use. And interference could go further in some circumstances and might even tolerate more active forms of use by the non-owner; it might, for example, permit the temporary appropriation and use of an unused vehicle in circumstances of a medical emergency.[8]

We do not suggest that such a conception of ownership is entirely novel. Ownership defers to public access rights in many legal systems around the world. *Allemansratten*, for example, is a customary right of the public to access and use much of the land, public and private, in Sweden. The right is firmly rooted in Swedish identity (Stens and Sandstrom, 2014). Scotland might be the jurisdiction with the most extensive statute-based 'right to roam' (Law Reform (Scotland) Act 2003), with Lovett arguing that such laws present 'an imaginative re-design' of property that reconciles typically antithetical private rights to exclude with public rights of inclusion (Lovett, 2011). Despite taking form as positive law, the Scottish rights and obligations are determined by reference to reasonableness (Klick and Parchomovsky, 2017) having regard to fact and circumstance, this suggesting that a contextual, open-ended property regime is feasible in a "modern democratic nation committed to the rule of law [and] the protection of private property" (Lovett, 2011; Page, 2021). Such a regime operates to give people back some power, and importantly some responsibility, to determine how they behave, whether it be by way of using, consuming, or otherwise.

The aspiration for ownership that we have outlined, and which we can deal with here only very briefly, recognises that, for each right in the 'bundle', there is a corresponding obligation to which it should be connected (Davies, 2016; Burdon, 2010); for example, the 'owner' has an obligation to tolerate (and perhaps even facilitate) reasonable interference, while the 'non-owner' has a legally recognised right to interfere, but an obligation not to do so in a way that unreasonably diminishes the paramount use right of the 'owner'. And because the determination of such rights are always fact and circumstance dependent and require an assessment of the thing to which they relate, the 'thing' is not forgotten, nor are the various relations with it (Burdon, 2010).

The personhood theory of property supports the concept for ownership outlined above because it is centrally concerned with assuring, but almost never at the cost of excluding, access by persons to the things in which they feel themselves to be constituted. Such a conceptualisation promotes the functions of property over its form. And while such a view remains rooted in traditional property theory, it nonetheless conforms to the ideas and values usefully advanced by progressive property theorists (Alexander et al., 2009). We think it likely, too, that, despite its prediction, the WEF would generally support the ownership to which we aspire here because, for all the reasons we have outlined, it is conducive to the kind of future society contemplated by its 'Great Reset' agenda (Schwab, 2017; https://www.weforum.org/great-reset).

[8] This might engage, interact with, or develop the 'law of necessity' which can operate to imply such rights or provide a defence to a claim of wrongful appropriation of property

6. Conclusion

In this article we have examined the WEF prediction and the societal transformations that inform it. We have demonstrated how these transformations not only preserve property and the concomitant of ownership, but also rely on it existing in the future. We have used the transformative discourse to show that, while the transformations are likely a part of the movement toward a more sustainable future, they have thus far not been able to deliver the outcomes with which they are often associated. Assumptions that they might do so in the future are not properly supported by evidence and do not, therefore, justify a movement away from individual ownership of things as property.

No human society has ever existed without property and nor is it likely to do so in the future. Humans appear always to have related to things, and engaged in human-thing behaviours, that can be identified as property-like, and we have used the personhood theory of property to show why. Property emerged as a socio-legal construct that wraps around the human-thing relationship and the behaviours through which it is expressed. Property mediates not just the relations between people upon which society is based, but between people and things. Ownership is the form of property that best assures the latter relationship and by so doing it supports the emergence, development and expression of personhood, which is a threshold requirement for happiness. A future with no individual ownership is therefore not a happy one, because it will undermine personhood. The WEF prediction should thus not be understood as envisioning any such future.

Futurists understand predictions as hypotheses about future states for which there can be no empirical data (Bell, 2001). Nevertheless, and especially when they are the product of an evaluation framework (Piirainen et al., 2012; van der Steen and van Twist, 2012), predictions are properly a part of futures discourse (van der Duin, 2012). Predictions provide an image of the future that can be explored through the lens of theory that is informed by, and can be evaluated against (van der Steen and van Twist, 2012), data that we do have (Fuller, 2000; Bell, 2001). The resulting knowledge, which futures scholarship supplies and to which we contribute from a property perspective, permits us to see what is before us and "walk on into futurity" (Thoreau, 1854, p119).

Funding statement

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

We acknowledge and thank the two anonymous reviewers and the editors of this journal for very valuable comments on a previous version of this article. All remaining shortcomings are of course our own.

References

ABC Staff Writer, 12 June 2018, oBike to leave Melbourne after crackdown on bicycle share company. ABC News, ⟨https://www.abc.net.au/news/2018–06-12/obike-dockless-bicycle-scheme-to-leave-melbourne/9860314⟩.

ABC Staff Writer, 9 November 2022, Shoppers told to put plastic bags in the bin after suspension of REDcycle's soft plastics recycling scheme. ABC News, ⟨https://www.abc.net.au/news/2022–11-09/redcycle-soft-plastics-recycling-program-suspended/101632220⟩.

AFP, 25 February 2018, Gobee.bike pulls out of France due to 'mass destruction' of its dockless bike fleet. The Guardian, ⟨https://www.theguardian.com/world/2018/feb/25/gobeebike-france-mass-destruction-dockless-bikes⟩.

Agrawala, S., Lanzi, E., Dellink, R., 2022, Global Plastics Outlook: Policy Scenarios to 2060, OECD, ⟨https://www.oecd-ilibrary.org/sites/aa1edf33en/index.html?itemId=/content/publication/aa1edf33-en⟩.

Akenji, L. (2014). Consumer scapegoatism and limits to green consumerism. *Journal of Cleaner Production, 63*, 13–23. https://doi.org/10.1016/j.jclepro.2013.05.022

Alexander, G., Penalver, E., Singer, J., & Underkuffler, L. (2009). A statement of progressive property. *Cornell Law Review, 94*, 743–744.

Alexander, G., & Penalver, E. (2012). *An Introduction to Property Theory*. New York: Cambridge University Press,.

Alexander, S. (2012). Planned economic contraction: the emerging case for degrowth. *Environmental Politics, 21*(3), 349–368. ⟨https://DOI:10/1080/09644016.2012.671569⟩.

Alharthi, M., Alamoudi, H., Shaikh, A., & Bhutto, M. (2021). "Your ride has arrived" – Exploring the nexus between subjective well-being, socio-cultural beliefs, COVID-19, and the sharing economy. *Telematics and Informatics*, *63*. https://doi.org/10.1016/j.tele.2021.101663

Aristotle, 1996, The Nicomachean Ethics (H. Rackham, trans). United Kingdom, Wordsworth Edition Limited.

Armstrong, C., Niinimäki, K., Kujala, S., Karell, E., & Lang, C. (2015). Sustainable product-service systems for clothing: exploring consumer perceptions of consumption alternatives in Finland. *Journal of Cleaner Production, 97*, 30–39. https://doi.org/10.1016/j.jclepro.2014.01.046

Arnold, C. (2002). The Reconstitution of Property: Property as web of interests. *Harvard Environmental Law Review, 26*(2), 281–364.

Antic, A., 4 April 2022, Senate Speech 30 March 2022 - World Economic Forum. YouTube ⟨https://youtu.be/zKoXAnqYYCU⟩ retrieved 19 August 2022.

Auken, I., 10 November 2016, Welcome To 2030: I Own Nothing, Have No Privacy And Life Has Never Been Better. Forbes ⟨https://www.forbes.com/sites/worldeconomicforum/2016/11/10/shopping-i-cant-really-remember-what-that-is-or-how-differently-well-live-in-2030/?sh=452194481735⟩ retrieved 3 August 2022.

Babie, P. (2017). Private property suffuses life. *Sydney Law Review, 39*(1) (available at SSRN) ⟨https://ssrn.com/abstract=3012954⟩.

Bardhi, F., & Eckhardt, G. (2012). Access-based consumption: the case of car sharing. *Journal of Consumer Research, 39*, 881–898. https://doi.org/10.1086/666376

Beggan, J. (1992). On the social nature of nonsocial perception: the mere ownership effect. *Journal of Personality and Social Psychology, 62*(2), 229–237.

Bell, W. (2001). Futures studies comes of age: twenty-five years after The limits to growth. *Futures, 33*(1), 63–76. https://doi.org/10.1016/S0016-3287(00)00054-9

Belk, R. (2007). Why not share rather than own. *The Annals of the American Academy* (Vol 611)(1)). https://doi.org/10.1177/0002716206298483

Belk, R. (1988). Possessions and the extended self. *The Journal of Consumer Research, 15*, 139–168. https://doi.org/10.1086/209154

Belk, R. (2007). Why not share rather than own. *The ANNALS of the American Academy of Political and Social Science, 611*(1), 126–140. https://doi.org/10.1177/0002716206298483

Belk, R. (2014). You are what you can access: Sharing and collaborative consumption online. *Journal of Business Research, 67*(8), 1596–1600. https://doi.org/10.1016/j.jbusres.2013.10.001

Blackstone, W. (1765). *Commentaries on the Law of England* (Vol 1).

Blomley, N. (2004) Unsettling the City: Urban Land and the Politics of Property, Routledge.

Brand, R., 30 January 2021, You will own nothing, and you will be happy? The Great Reset. YouTube https://youtu.be/mD-ioJM8v64; (25 January 2021). The Great Reset - Conspiracy or Fact?. ⟨https://youtu.be/d4AduA8mgro⟩ retrieved 8 August 2022.

Blainey, G. (2015). *The Story of Australia's People: The Rise and Fall of Ancient Australia*. Australia: Penguin Group.

Blumenthal, J. (2009). "To Be Human": a psychological perspective on property law. *Tulane Law Review*, *83*. ⟨https://ssrn.com/abstract=1334692⟩.

Bradshaw, C., Ehrlich, P., Beattie, A., Gerardo, C., Crist, E., Diamond, J., Dirzo, R., Ehrlich, A., Harte J., Harte, M., Pyke, G., Raven, P., Ripple, W., Saltré, F., Turnbull, C., Wackernagel, M., Blumstein, D. (2021). Underestimating the Challenges of Avoiding a Ghastly Future. Frontiers in Conservation Science, 1, https://DOI=10.3389/fcosc.2020.615419.

Bucher, E., Fieseler, C., & Lutz, C. (2016). What's mine is yours (for a nominal fee) – Exploring the spectrum of utilitarian to altruistic motives for Internet-mediated sharing. *Computers in Human Behavior, 62*, 316–326. https://doi.org/10.1016/j.chb.2016.04.002

Buchs, M., & Koch, M. (2019). Challenges for the degrowth transition: The debate about wellbeing. *Futures*, *105*. https://doi.org/10.1016/j.futures.2018.09.002

Buckle, S. (1991). *Natural Law and the Theory of Property*. United States: Oxford University Press,.

Burdon, P. (2010). What is good land use? From Rights to Relationship. *Melbourne University Law Review, 34*(3).

Cao, S., Xia, C., & Suo, X. (2022). Is China evolving a new model for civilisation? *Futures*, *135*. https://doi.org/10.1016/j.futures.2021.102878

Cassidy, C., 23 July 2022, Solution or hazard? Australia's e-scooter debate gains speed, but the rules are a mess. The Guardian, ⟨https://www.theguardian.com/australia-news/2022/jul/23/solution-or-hazard-australias-e-scooter-debate-gains-speed-but-the-rules-are-a-mess⟩.

Childe, V.G. (2003). Man Makes Himself. United Kingdom, Spokesman (Originally published 1936).

Christman, J. (1994). The Myth of Property: Toward an Egalitarian Theory of Ownership. Oxford University Press.

Cole, S., & Masini, E. (2001). Introduction Limits beyond the millennium: a retro prospective on The limits to growth. *Futures, 33*(1). https://doi.org/10.1016/S0016-3287(00)00047-1

Cordozo, B. (1921). The Nature of the Judicial Process. United States, Yale University Press.

Dabbous, A., & Tarhini, A. (2021). Does sharing economy promote sustainable economic development and energy efficiency? Evidence from OECD countries. *Journal of Innovation & Knowledge, 6*(*1*), 58–68. https://doi.org/10.1016/j.jik.2020.11.001

Dagan, H. (2020). Autonomy and Pluralism in Private Law. In A. Gold, J. Goldberg, D. Kelly, E. Sherwin, & H. Smith (Eds.), *The Oxford Handbook of the New Private Law*. Oxford University Press.

Dant, T. (2006). Material civilisation: things and society. *The British Journal of Sociology, 57*(2), 289–308. https://doi.org/10.1111/j.1468-4446.2006.00110.x

Davies, M. (2020). Can property be justified in an entangled world. *Globalizations, 17*(7), 1104–1117. https://doi.org/10.1080/14747731.2019.1650696

Davies, M. (2016). Material subjects and vital objects – prefiguring property and rights for an entangled world. *Australian Journal of Human Rights, 22*(2), 37–60. https://doi.org/10.1080/1323238X.2016.11910941

Davidson, I., & McGrew, W. (2005). Stone Tools and the Uniqueness of Human Culture. *The Journal of the Royal Anthropological Institute, 11*(4), 793–817. https://doi.org/10.1111/j.1467-9655.2005.00262.x

Dellaert, B. (2018). The consumer production journey: marketing to consumers as co-producers in the sharing economy. *Journal of the Academy of Marketing Science, 47*, 238–254. https://doi.org/10.1007/s11747-018-0607-4

Diamond, S. (1971). The Rule of Law versus the Order of Custom. *Social Research, 38*(1), 42–72.

Eckhardt, G. M., Houston, M. B., Jiang, B., Lamberton, C., Rindfleisch, A., & Zervas, G. (2019). Marketing in the Sharing Economy. *Journal of Marketing, 83*(5), 5–27. https://doi.org/10.1177/0022242919861929

Ehrlich, P. (2010). The MAHB, the Culture Gap, and Some Really Inconvenient Truths. *PLoS Biology, 8*(4). https://doi.org/10.1371/journal.pbio.1000330

Ehrlich, P., & Erhlich, A. (2022). Returning to "Normal"? Evolutionary Roots of the Human Prospect. *BioScience, 72*(8), 778–788. https://doi.org/10.1093/biosci/biac044

Ellis, L. (1985). On the rudiments of possessions and property. *Social Science Information, 24*(1), 113–143. https://doi.org/10.1177/053901885024001006

Emerich, Y. (2023). Property for Nature. In S. Lamalle, & Peter Stoett (Eds.), *Representations and Rights of the Environment* (pp. 259–286). United Kingdom: Cambridge University Press. https://doi.org/10.1017/9781108769327.

Ertz, M., Durif, F., & Arcand, M. (2016). Collaborative consumption or the rise of the two-sided consumer. *International Journal of Business and Management, 4*(6), 195–209.

Fioramonti, L., Kubiszewski, I., Sutton, P., Costanza, R. (16 November 2022). Global population hits 8 billion, but per-capita consumption is still the main problem. The Conversation, ⟨https://theconversation.com/global-population-hits-8-billion-but-per-capita-consumption-is-still-the-main-problem-194568⟩, retrieved 21 November 2022.

Finnis, J. (1980). Natural Law and Natural Rights. United Kingdom, Clarendon Press.

Frenken, K., & Schor, J. (2017). Putting the sharing economy into perspective. *Environmental Innovation and Societal Transitions, 23*, 3–10. https://doi.org/10.1016/j.eist.2017.01.003

Freyfogle, E. (2012). Property Rights. In R. Anderson (Ed.), *The Berkshire Encyclopedia of Sustainability: The Future of Sustainability*. Berkshire Publishing Group.

Fritze, M., Marchand, A., Eisingerich, A., & Benkenstein, M. (2020). Access-Based Services as Substitutes for Material Possessions: The Role of Psychological Ownership. *Journal of Service Research, 23*(3), 368–385. https://doi.org/10.1177/1094670520907691

Fuller, T. (2000). Will small become beautiful. *Futures, 32*(1), 79–89. https://doi.org/10.1016/S0016-3287(99)00068-3

Fundin, A., Witell, L., & Gebauer, H. (2012). Service transition: finding the right position on the goods-to-services continuum (https:// DOI) *International Journal of Modelling in Operations Management, 2*(1). https://doi.org/10.1504/IJMOM.2012.043961.

Furby, L. (1991). Understanding the Psychology of Possession and Ownership: A Personal Memoir and an Appraisal of Our Progress. *Journal of Social Behaviour and Personality, 6*(6), 457–463.

Garnsey, P. (2007). *Thinking about Property: From Antiquity to the Age of Revolution*. Cambridge: Cambridge University Press,.

Goldman, R., 11 March 2022, What is Subjective Well-Being? verywellmind, ⟨https://www.verywellmind.com/what-is-subjective-well-being-5221255⟩, retrieved 23 November 2022.

Glackin, S. (2014). Back to Bundles: Deflating Property Rights, Again. *Legal Theory, 20*(1), 1–24. https://doi.org/10.1017/S1352325213000153

Gowdy, J. (2020). Our hunter-gatherer future: Climate change, agriculture and uncivilization. *Futures*, *115*. https://doi.org/10.1016/j.futures.2019.102488

Graeber, D., & Wengrow, D. (2021). *The Dawn of Everything: A New History of Humanity*. United Kingdom: Allen Lane (Penguin Books).

Graham, N. (2014). This is Not a Thing: Land, Sustainability and Legal Education. *Journal of Environmental Law, 26*, 395–422. https://doi.org/10.1093/jel/equ020

Greenpeace, 24 October 2022, New Greenpeace Report: Plastic Recycling Is A Dead-End Street—Year After Year, Plastic Recycling Declines Even as Plastic Waste Increases. ⟨https://www.greenpeace.org/usa/news/new-greenpeace-report-plastic-recycling-is-a-dead-end-street-year-after-year-plastic-recycling-declines-even-as-plastic-waste-increases/⟩.

Gunderson, R., Stuart, D., Petersen, B., & Yun, S. (2018). Social conditions to better realize the environmental gains of alternative energy: Degrowth and collective ownership. *Futures, 99*, 36–44. https://doi.org/10.1016/j.futures.2018.03.016

Hass, B., 25 November 2017, Chinese bike share graveyard a monument to industry's 'arrogance'. The Guardian, ⟨https://www.theguardian.com/uk-news/2017/nov/25/chinas-bike-share-graveyard-a-monument-to-industrys-arrogance⟩ retrieved 10 August 2022.

Haworth, N., & Schramm, A. (2019). Illegal and risky riding of electric scooters in Brisbane. *Medical Journal Of Australia, 211*(9), 412–413. https://doi.org/10.5694/mja2.50275

Hegel, G. (1896). Hegel's Philosophy of Right (S.W Dyde, Trans.). London, George Bell and Sons (Original work published 1820).

Hegel, G. (1899). The Philosophy of History (J Sibree, Trans). New York, Dover Publications (Original work published 1831).

Heinrichs, H. (2013). Sharing Economy: A Potential New Pathway to Sustainability. *Gaia-Ecological Perspectives for Science and Society, 22*, 228–231. https://doi.org/10.14512/GAIA.22.4.5

Herrington, G. (2020). Update to limits to growth: Comparing the World3 model with empirical data. *Journal of Industrial Ecology, 25*(3), 614–626. https://doi.org/10.1111/jiec.13084

Hickel, J., & Kallis, G. (2020). Is Green Growth Possible'. *New Political Economy, 25*(4). https://doi.org/10.1080/13563467.2019.1598964

Hickel, J. (2019). Is it possible to achieve a good life for all within planetary boundaries. *Third World Quarterly, 40*(1). https://doi.org/10.1080/01436597.2018.1535895

Hobson, K., & Lynch, N. (2016). Diversifying and de-growing the circular economy: Radical social transformation in a resource-scarce world. *Futures, 82*, 15–25. https://doi.org/10.1016/j.futures.2016.05.012

Hodder, I. (2012). *Entangled: An Archaeology of the Relationships between Humans and Things*. United Kingdom: John Wiley and Sons,.

Hood, B. (2011). Passion for possessions mine! *Scientific American Mind, 22*(4), 56–63.

Hu, F. (2013). Home ownership and subjective wellbeing in Urban China: does owning a house make you happier? *Social Indicators Research, 110*, 951–971. https://doi.org/10.1007/s11205-011-9967-6

Islam, A., Ahmed, T., Awual, M. D., Rahman, A., Sultana, M., Aziz, A., Monir, M., Teo, S., & Hasan, M. (2020). Advances in sustainable approaches to recover metals from e-waste-A review. *Journal of Cleaner Production*, 244. https://doi.org/10.1016/j.jclepro.2019.118815

Jeffares, B. (2010). The co-evolution of tools and minds: cognition and material culture in the hominin lineage. *Phenomenology and the Cognitive Sciences, 9*(4), 503–520. https://doi.org/10.1007/s11097-010-9176-9

Johnson, S. (Unknown), Rasselas, London, George Routledge & Sons, Limited (Originally published 1759).

Jones, J. (2011). Property and Personhood Revisited. *Wake Forest Journal of Law & Policy, 1*(1), 93–136.

Jones, O., & Goldsmith, T. (2005). Law and Behavioural Biology. *Columbia Law Review, 105*(2) (SSRN) ⟨https://ssrn.com/abstract=688619⟩.

Kahn, M., 12 July 2022, What the controversial 1972 'Limits to Growth' report got right: Our choices today shape future conditions for life on Earth. The Conversation. ⟨https://theconversation.com/what-the-controversial-1972-limits-to-growth-report-got-right-our-choices-today-shape-future-conditions-for-life-on-earth-184920⟩.

Kelsen, H. (1941). The law as a specific social technique. *The University of Chicago Law Review, 9*(1), 75–97.

Kershnar, S. (2002). Private property rights and autonomy. *Public Affairs Quarterly, 16*(3).

Khan, H., & Turri, J. (2022). Phenomenological origins of psychological ownership. *Review of General Psychology, 26*(4). https://doi.org/10.1177/10892680221085506

Kirk, C., Peck, J., & Swain, S. (2018). Property lines in the mind: consumers' psychological ownership and their territorial responses. *Journal of Consumer Research, 45*, 148–168. https://doi.org/10.1093/jcr/ucx111

Klick, J., & Parchomovsky, G. (2017). Roam if you want to. *Regulation: AEI Journal on Government and Society, 40*(1), 18–23.

Knowles, D. (1983). Hegel on Property and Personality. *The Philosophical Quarterly, 33*(130). https://doi.org/10.2307/2219203

Komatsu, H., Rappleye, J., & Uchida, Y. (2022). Is happiness possible in a degrowth society? *Futures, 144*. https://doi.org/10.1016/j.futures.2022.103056

Korhonen, J., Honkasalo, A., & Seppälä, J. (2018). Circular economy: the concept and its limitations. *Ecological Economics, 143*, 37–46. https://doi.org/10.1016/j.ecolecon.2017.06.041

Krall, L. (2002). Thomas Jefferson's Agrarian Vision and the Changing Nature of Property. *Journal of Economic Issues, 36*(1), 131–150. https://doi.org/10.1080/00213624.2002.11506446

Krier, J. (2008). The Evolution of Property Rights: A Synthetic Overview. University of Michigan Law & Economics Working Papers Archive ⟨https://doi.org/10.2139/ssrn.1284424⟩.

Krier, J. (2009). Evolutionary theory and the origin of property rights. *Cornell Law Review, 95*(1).

Langton, M. (2021). Welcome to Country: A Travel Guide to Indigenous Australia, (2nd ed), Hardie Grant Publishing.

Lawson, S., Gleim, M., Perren, R., & Hwang, J. (2016). Freedom from ownership: An exploration of access-based consumption. *Journal of Business Research, 69*(8), *2615–2623*. https://doi.org/10.1016/j.jbusres.2016.04.021

Leakey, L., Tobias, P., & Napier, J. (1964). A New Species of The Genus Homo From Olduvai Gorge. *Nature, 202*, 7–9. https://doi.org/10.1038/202007a0

Levine, U., 6 April 2023, Paris Ban On Electric Scooters Will Kill The Rental Scooters Industry Worldwide. Forbes, ⟨https://www.forbes.com/sites/urilevine/2023/04/06/paris-ban-on-electric-scooters-will-kill-the-rental-scooters-industry-worldwide/?sh=591b25db5558⟩.

Levitt, T. (1965). Exploit the product life cycle. *Harvard Business Review, 43*, 81–94.

Lovett, J. (2011). Progressive Property in Action: The Land Reform (Scotland) Act 2003. *Nebraska Law Review, 89*, 739–820.

Macpherson, C. (1978). The meaning of property. In C. Macpherson (Ed.), *Property: Mainstream and Critical Positions*. University of Toronto Press.

Malafouris, L. (2016). *How Things Shape the Mind: A Theory of Material Engagement*. Cambridge: MIT Press,.

Malaspinas, A., et al. (2016). A genomic history of Aboriginal Australia. *Nature, 538*, 208–214. https://doi.org/10.1038/nature18299

Marjamaa, M., & Makela, M. (2022). Images of the future for a circular economy: The case of Finland. *Futures*, 141. https://doi.org/10.1016/j.futures.2022.102985

Martin, C. (2016). The sharing economy: a pathway to sustainability or a nightmarish form of neoliberal capitalism. *Ecological Economics, 121*, 149–159. https://doi.org/10.1016/j.ecolecon.2015.11.027

Matthews, F. (1995). Community and the Ecological Self. *Environmental Politics, 4*(4). https://doi.org/10.1080/09644019508414229

Mercader, J., Panger, M., & Boesch, C. (2002). Excavation of a Chimpanzee Stone Tool Site in the African Rainforest. *Science, 296*. https://doi.org/10.1126/science.1070268

Meadows, D.H., Meadows, D.L., Randers, J., Behrens, W. (1972). The Limits to growth; a report for the Club of Rome's project on the predicament of mankind. New York, Universe Books.

Mi, Z., & Coffman, D. (2019). The sharing economy promotes sustainable societies. *Nature Communications, 10*, 1214. https://doi.org/10.1038/s41467-019-09260-4

Miller, F. (1986). Aristotle on Property Rights. *The Society for Ancient Greek Philosophy Newsletter*, 317. ⟨https://orb.binghamton.edu/sagp/317⟩.

Miller, G. (2014). The bare necessities. *New Scientist, 221*(2962), 41–42. https://doi.org/10.1016/S0262-4079(14)60636-9

Minami, A., Ramos, C., & Bortoluzzo, A. (2021). Sharing economy versus collaborative consumption: What drives consumers in the new forms of exchange. *Journal of Business Research, 128*, 124–137. https://doi.org/10.1016/j.jbusres.2021.01.035

Moss, M., 23 February 2021, Let's talk about the World Economic Forum's stated goals for 2030. Facebook. ⟨https://aut.ac.nz.libguides.com/APA7th/social-media⟩ retrieved 3 August 2022.

Murphy, T., Murphy, D., Love, T., LeHew, M., & McCall, B. (2021). Modernity is incompatible with planetary limits: Developing a PLAN for the future. *Energy Research & Social Science, 81*. https://doi.org/10.1016/j.erss.2021.102239

Nancekivell, S., Friedman, O., & Gelman, S. (2019). Ownership matters: people possess a naïve theory of ownership. *Trends in Cognitive Sciences, 23*(2). https://doi.org/10.1016/j.tics.2018.11.008

Nelson, A. (2016). "Your Money or Your Life": Money and Socialist Transformation. *Capitalism Nature Socialism, 27*(4), 40–60. https://doi.org/10.1080/10455752.2016.1204619

Norberg-Hodge, H. (1991). *Ancient Futures*. United States: Local Futures.

Oliva, R., & Kallenberg, R. (2003). Managing the transition from products to services. *International Journal of Service Industry Management, 14*(2). https://doi.org/10.1108/09564230310474138

Osvath, M., & Gardenfors, P. (2005). Oldowan Culture and the Evolution of Anticipatory Cognition. *Lund University Cognitive Studies, 122*.

Page, J. (2017). Property Diversity and its Implications. London. Taylor and Francis Group.

Page, J. (2021). Public Property, Law and Society: Owning, Belonging, Connecting in the Public Realm. Routledge.

Parker, C., 12 November 2016, 8 predictions for the world in 2030. World Economic Forum. ⟨https://www.weforum.org/agenda/2016/11/8-predictions-for-the-world-in-2030/⟩.

Patten, A. (1995). Hegel's justification of private property. *History of Political Thought, 16*(4), 576–600.

Paturet, A. (2023). Persons, Things and Nature in Roman Law. In S. Lamalle, & Peter Stoett (Eds.), *Representations and Rights of the Environment* (pp. 184–205). United Kingdom: Cambridge University Press. https://doi.org/10.1017/9781108769327.

Penner, J. (1996). The Bundle of Rights Picture of Property. *UCLA Law Review, 43*(3).

Peters, A., 27 May 2020, Uber just destroyed thousands of electric bikes. FastCompany. ⟨https://www.fastcompany.com/90510167/uber-just-trashed-thousands-of-electric-bikes⟩, retrieved 10 August 2022.

Pierce, J., Kostova, T., & Dirks, K. (2003). The state of psychological ownership: integrating and extending a century of research. *Review of General Psychology, 7*(1), 84–107. https://doi.org/10.1037/1089-2680.7.1.84

Piirainen, K., Gonzalez, R., & Bragge, J. (2012). A systematic evaluation framework for futures research. *Futures, 44*(1), 464–474. https://doi.org/10.1016/j.futures.2012.03.008

Platform for Accelerating the Circular Economy (PACE), January 2019, A New Circular Vision for Electronics Time for a Global Reboot In support of the United Nations E-waste Coalition. ⟨https://www.weforum.org/reports/a-new-circular-vision-for-electronics-time-for-a-global-reboot⟩.

Proudhon, P.J. (2014) What is Property? An Inquiry into the Principle of Right and of Government. United States, Dialectic (Original work published 1840).

Qiu, L.-Y., & He, L.-Y. (2018). Bike Sharing and the Economy, the Environment, and Health-Related Externalities. *Sustainability, 10*(4), 1145. https://doi.org/10.3390/su10041145

Radin, M. (1982). Property and personhood. *Stanford Law Review, 34*(5), 957–1016. https://doi.org/10.2307/1228541

Reinartz, W., & Ulaga, W. (2008). How to sell services more profitably. *Harvard Business Review, 86*, 5.

Reuters, 26 February 2021, Fact check: The World Economic Forum does not have a stated goal to have people own nothing by 2030. Reuters ⟨https://www.reuters.com/article/uk-factcheck-wef-idUSKBN2AP2T0⟩ retrieved 3 August 2022.

Reuters Staff Writer. (2018). Bike share firm Gobee quits Brussels, Lille over vandalism, 11 January *Reuters* ⟨https://www.reuters.com/article/europe-bikesharing-vandalism-idUSL8N1P53WJ⟩.

Richthofen, G. (2022). Happy Hosts? Hedonic and Eudaimonic Wellbeing in the Sharing Economy. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.802101

Roblek, V., Meško, M., & Podbregar, I. (2021). Impact of car sharing on urban sustainability. *Sustainability, 13*(2), 905. https://doi.org/10.3390/su13020905

Rose, C. (1985). Possession as the origin of property. *The University of Chicago Law Review, 52*(1), 73–88. https://doi.org/10.2307/1599571

Rose, C. (2006). Property and language, or the ghost of the fifth panel. *Yale Journal of Law and the Humanities*, *18*.

Rousseau, J. (1968). *The Social Contract (M. Cranston, Trans)*. London: Penguin Group,.

Sacks, D., 18 April 2011, The Sharing Economy. FastCompany ⟨https://www.fastcompany.com/1747551/sharing-economy⟩ retrieved 19 September 2022.

Shaheen, S., Mallery, M., & Kingsley, K. (2012). Personal vehicle sharing services in North America. *Research in Transportation Business & Management, 3*, 71–81. https://doi.org/10.1016/j.rtbm.2012.04.005

Schellong, D., Sadek, P., Schaetzberger, C., Barrack T. (2019) The Promise and Pitfalls of E-Scooter Sharing. Boston Consulting Group Report, ⟨https://web-assets.bcg.com/img-src/BCG-The-Promise-and-Pitfalls-of-E-Scooter%20Sharing-May-2019_tcm9–220107.pdf⟩.

Schwab, K. (2017). The Fourth Industrial Revolution. United States, Penguin Random House.

Schwab, K., 3 June 2020, Now is the time for a 'great reset'. World Economic Forum. ⟨https://www.weforum.org/agenda/2020/06/now-is-the-time-for-a-great-reset/⟩.

Schwanholz, J., & Leipold, S. (2020). Sharing for a circular economy? an analysis of digital sharing platforms' principles and business models. *Journal of Cleaner Production*, *269*. https://doi.org/10.1016/j.jclepro.2020.122327

Secher, U. (2014). *Aboriginal Customary Law: A Source of Common Law Title to Land. United Kingdom.* Hart Publishing Limited.

Sessa, C., & Ricci, A. (2014). The world in 2050 and the New Welfare scenario. *Futures*, *58*. https://doi.org/10.1016/j.futures.2013.10.019

Severengiz, S., Finke, S., Schelte, N., Wendt, N., 5–7 March 2020, Life Cycle Assessment on the Mobility Service E-Scooter Sharing. IEEE European Technology and Engineering Management Summit (E-TEMS). Dortmund, Germany ⟨https://doi.org/10.1109/E-TEMS46250.2020.9111817⟩.

Shelton, L., 6 April 2022, Senator Alex Antic and the World Economic Forum. YouTube ⟨https://youtu.be/JEOxYIAYWMs⟩ retrieved 19 August 2022.

Sky News Australia, 13 December 2020, You will own nothing, and you will be happy: Warnings of 'Orwellian' Great Reset. YouTube https://youtu.be/NcAO4-o_4Ug; (28 February 2021). No 'secret agenda' about The Great Reset. YouTube. ⟨https://youtu.be/nL1HuTYcoC4⟩. retrieved 3 August 2022.

Smith, H. (2012). Property as the Law of Things. *Harvard Law Review, 125*, 1691–1726.

Snare, F. (1972). The Concept of Property. *American Philosophical Quarterly, 9, 2*.

Stake, J. (2004). The property 'instinct'. *Philosophical Transactions of The Royal Society Of London B, 359*(1451). https://doi.org/10.1098/rstb.2004.1551

Stens, A., & Sandstrom, C. (2014). Allemansratten in Sweden: a resistant custom. *Landscapes, 15*(2), 106–118. https://doi.org/10.1179/1466203514Z.00000000029

Stringer, C. (2016). The origin and evolution of Homo sapiens. *Phil Trans R Soc B*. https://doi.org/10.1098/rstb.2015.0237

Sun, S. (2021). How Does the Collaborative Economy Advance Better Product Lifetimes? A Case Study of Free-Floating Bike Sharing. *Sustainability, 13*, 1434. https://doi.org/10.3390/su13031434

Thoreau, H. (1854). Walden. London, Macmillan Collectors Library (edition first published 2004).

Turner, G. (2008). A comparison of The Limits to Growth with 30 years of reality. *Global Environmental Change, 18*, 397–411. https://doi.org/10.1016/j.gloenvcha.2008.05.001

Turner, G. and Alexander C., 2 September 2014, Limits to Growth was right. New research shows we're nearing collapse. The Guardian, ⟨https://www.theguardian.com/commentisfree/2014/sep/02/limits-to-growth-was-right-new-research-shows-were-nearing-collapse⟩.

Underkuffler, L. (2003). The Idea of Property: Its Meaning and Power. United States, Oxford University Press.

Urbański, M., & ul Haque, A. (2020). Are you environmentally conscious enough to differentiate between greenwashed and sustainable items? A global consumers perspective. *Sustainability, 12*(5), 1786. https://doi.org/10.3390/su12051786

van Boven, L., & Gilovich, T. (2003). To do or to have? That is the question. *Journal of personality and Social Psychology, 85*(6), 1193–1202. https://doi.org/10.1037/0022-3514.85.6.1193

van der Duin, P. (2012). Looking back on looking forward. *Futures, 44*(5), 415–419. https://doi.org/10.1016/j.futures.2012.03.003

van der Steen, M., & van Twist, M. (2012). Beyond use: Evaluating foresight that fits. *Futures, 44*(5), 475–486. https://doi.org/10.1016/j.futures.2012.03.009

Velenturf, A., & Purnell, P. (2021). Principles for a sustainable circular economy. *Sustainable Production and Consumption, 27*, 1437–1457. https://doi.org/10.1016/j.spc.2021.02.018

Villmoare, B., Kimbel, W., Seyoum, C., Campisano, C., DiMaggio, E., Rowan, J., Braun, D., Arrowsmith, J., & Reed, K. (2015). Early Homo at 2.8Ma from Ledi-Geraru, Afar, Ethiopia. *Science, 347*, 1352–1355. https://doi.org/10.1126/science.aaa1343

Waldron, J. (1988). *The Right to Private Property*. United States: Oxford University Press,.

Wang, X. T., Ong, l, & Tan, J. (2015). Sense and sensibility of ownership: Type of ownership experience and valuation of goods. *Journal of Behavioral and Experimental Economics, 58*, 171–177. https://doi.org/10.1016/j.socec.2015.04.010

Wierer, U., Arrighi, S., Bertola, S., Kaufmann, G., Baumgarten, B., Pedrotti, A., Pernter, P., & Pelegrin, J. (2018). The Iceman's lithic toolkit: Raw material, technology, typology and use. *PloS One, 13*(6). https://doi.org/10.1371/journal.pone.0198292

Wilhelm, W., Yankov, A., & Magee, P. (2011). Mobile phone consumption behavior and the need for sustainability innovations. *Journal of Strategic Innovation and Sustainability, 7*, 2.

Ylä-Mella, J., Keiski, R. L., & Pongrácz, E. (2015). Electronic waste recovery in Finland: Consumers' perceptions towards recycling and re-use of mobile phones. *Waste Management, 45*, 374–384. https://doi.org/10.1016/j.wasman.2015.02.031

York, R. (2016). Decarbonizing the energy supply may increase energy demand'. *Sociology of Development, 2*(3), 265–272. https://doi.org/10.1525/sod.2016.2.3.265