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AUTHOR:

Richard Cramer¹

AFFILIATION:

¹DSI/NRF SARChI Research Chair: Mineral Law in Africa, University of Cape Town, Cape Town, South Africa

CORRESPONDENCE TO:

Richard Cramer

EMAIL:

richard.cramer@uct.ac.za

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Waste as property: The law's role in maximising value

The concept of waste is explored against the background of the law of property. Drawing on the work of Eduardo Peñalver, this article addresses how waste is a form of property, property for which the law heavily regulates disposal. Conceptualising waste in such a manner is possible, as it is possible for property to have not only a positive value but also a negative value. How the law regulates the disposal of our unwanted property has important ramifications for the waste cycle. Restricting the disposal of waste can encourage practices such as recycling, and ensure waste is directed to the waste streams in which maximum value can be extracted therefrom. This contribution aims to illustrate the above through the example of mine waste, as the value of mine waste is context-sensitive. It is possible for this form of waste to take on a positive or a negative value, depending on context. Furthermore, it is crucial that such waste be adequately regulated, to ensure the extraction of maximum value, both economic and social.

Significance:

- Waste can be conceptualised as property, and the law strictly regulates the disposal of all forms of property. The law can play an important role in ensuring that maximum value is realised from waste.

Introduction

It is doubtful that the average person views the contents of their bin, or their bag of recycling, as their property. There certainly is no emotional attachment or sentimental feeling that makes one point to a soiled food container and say 'that is my property'. But one's lack of emotional attachment to or economic investment in property is of no interest to the law, which regulates ownership of our property, including determining the exact point at which such ownership can be said to begin and be terminated.^{1,2} As far as the law is concerned, the food waste in your bin is as much your property as your laptop, and your ownership thereof can only terminate in the circumstances prescribed by law.

The concept of waste as property in respect of the value of waste is explored here. The paper addresses how the law, rather than empowering owners to dispose of unwanted property as they please, strictly regulates how property may be disposed of³, from soiled food wrappers to obsolete electronics. In this respect, the law seeks to ensure waste achieves its maximum value. Maximum value is sought through reducing the negative value of waste that lacks the essential qualities necessary to be reclaimed, or through ensuring that waste is recycled and the valuable components thereof are used to their full potential.

First, the concept of value in the law of property, in particular the different kinds of values that property can accrue, is discussed. Of central concern is how property can come to accrue a negative value for its owner. Then, the law's strict regulation of how we may dispose of our property is explored, which is vital in ensuring the negative value of waste is reduced and any potential positive value is captured. Finally, the contextual nature of the value of waste is discussed, with a particular focus on mine waste.

Property, value and disposal of waste

An object must have use and value to fall within the scope of the law of property (i.e. be considered a 'thing', as such objects are referred to).^{4,5} Value, however, need not be purely a positive economic value. It can also include a positive sentimental value, as well as a negative economic value or a negative sentimental value.⁶ An example of property with a positive economic value and a positive sentimental value would be expensive jewellery received as a gift from a partner. However, such property can take on a negative sentimental value should the relationship sour and end.⁶ Property with a negative economic value (in that it takes up space while providing no economic benefit), but a positive sentimental value, could include certain family heirlooms.⁶ Finally, waste such as soiled food containers would be a clear example of property with both a negative economic value and a negative sentimental value.⁶

A consideration of the above role of value makes it clear that waste can fall within the scope of property law. It also serves to illustrate the manner in which the law strictly regulates how we may dispose of that waste we no longer want.³ It is difficult to conceive of how one may (legally) dispose of one's unwanted property outside of the prescribed means, such as municipal collection of residential waste or dropping off one's recycling. It is true one may leave property which may be quickly claimed on the sidewalk, or other public place, in which circumstances property may be considered abandoned, and become the property of the person who takes it away.⁶ However, the law does not countenance the depositing (dumping) of objects that are unlikely to be claimed. An old couch, for which someone else may have use, is one thing. A wholly broken and soiled couch, which it will then fall to the municipality to remove at cost to the public purse, is another. In the latter case, the owner must either take the unwanted object to the appropriate disposal site or pay someone else to do it. Abandonment can function to allocate ownership to the person who takes unwanted property, but not as a means by which an owner may simply avoid and pass on the costs of disposal to the public purse.³

The definition of 'waste' in South African law is wide, with section 1 of the *National Environmental Management: Waste Act 59 of 2008* stating 'waste' includes:

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any substance, material or object, that is unwanted, rejected, abandoned, discarded or disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether or not such substance, material or object can be re-used, recycled or recovered.

Such a definition is wide enough to include a soiled food container as well as an obsolete but otherwise functional laptop. Regardless of the nature of the property, as soon as it is unwanted, and the owner intends to discard it, it falls within the scope of that part of the legal framework which regulates waste and its disposal. The owner, thus, remains the owner until the law permits official termination of the relationship, at the point the waste is directed to the correct waste stream.

The disposal of solid waste is an area over which local government exercises legislative competence in terms of Part B of Schedule 5 of the Constitution.⁷ As such, one will need to consult municipal by-laws for the details of waste disposal. For example, the City of Cape Town's Integrated Waste Management By-law requires anyone who generates waste to follow its rules in the disposal of any waste, depending on the nature of the waste.⁸ The definition of 'waste' in the by-law mirrors the definition in the aforementioned Waste Act. Regarding normal waste, section 4 of the by-law requires separation of recyclables and non-recyclables, and the disposal of that waste through either the City's own waste removal services or an accredited service provider. Recyclables and non-recyclables must be disposed of separately, as must different categories of waste such as garden waste. Only by complying with these obligations does the law allow an owner – the waste generator – to terminate their relationship with property that constitutes waste.

How property may accrue a negative value varies, depending on the nature of the property in question. In respect of immovable property (land)⁹, the duty to maintain immovable property is a primary driver of negative value where the land holds no other positive benefits for a landowner.¹⁰ For example, property may accrue a negative value due to the locale in which it is located.¹¹ An inner-city building surrounded by urban decay may accrue a negative value, in that the owner cannot derive any benefit therefrom (especially if unlawfully occupied) while the property continues to be a financial burden.^{11,12} A property developer may purchase a piece of land in the hope of clearing it for a new development, but be denied permission to demolish an otherwise derelict building that has been accorded heritage status.¹³ A landowner may have a mining right granted over their land in favour of a third party, who then fails to rehabilitate the land.¹¹ Land in certain areas may also accrue a negative value due to the growing impact of climate change. For example, drought and wildfire may leave the locale vulnerable to mudslides when rain finally does come.^{11,14}

In respect of movable property (i.e. anything not attached to land⁹, such as your pen, laptop, or car), property accrues as a negative value for different reasons. Unlike immovable property, negative value will likely not stem from taxes or an obligation to maintain.¹⁰ One is, for example, perfectly entitled not to service their vehicle (although its inevitable lack of roadworthiness will preclude one from using it on public roads). Rather, the negative value of movable property will flow from the fact that it takes up space, and the duty to store that rests on the holder thereof. Perhaps the best example of the duty to store causing property to accrue a negative value occurred in the wake of lockdowns following the global spread of COVID-19.¹⁵ The cost of storing oil in the USA was so exorbitant in the absence of demand for the resource that producers were forced to pay buyers to accept the commodity.¹⁵

The case of oil surplus in the wake of the COVID-19 pandemic is an extreme example. However, the principle is true in respect of any movable object, particularly in light of the restrictions on disposing of one's property that exist in law. For example, your waste in your bin has a negative value, in that it takes up space while providing you with no benefit, and you pay municipal rates to have it taken away. And suppose you produce excess waste that exceeds the capacity of the bins assigned to you by your municipality. In that case, you can expect to

incur excess charges in disposing of your waste. Even recyclable waste can have a negative value, even if you do not contract a service provider to remove it for you on a regular basis, as you are required to expend time and even money on petrol to take it to a drop-off point. The disposal process can be more time-consuming depending on the nature of the object, for example, old electronics (e-waste) which require specialised recyclers. Extended producer responsibility may place most of the cost of disposal on the producer.¹⁶ Nevertheless, the time and effort required on the part of the consumer to dispose of objects that would otherwise take up space in their living space is a factor towards according such property a negative value.

Certain objects may have no value, and thus not be of concern to the law of property, due to being so insignificant and taking up so little space. A single dead leaf would serve as an example.⁴ However, once dead leaves accumulate in one's garden, and are put into a large pile, the pile of leaves itself can accrue a negative value. As garden refuse, an owner is obligated to dispose of such a pile in a particular fashion (separately from normal residential waste, as noted above). Once again, negative value stems from the duty to store, even for objects that would otherwise have a neutral value as an individual unit.

The most important takeaway from the above is that by restricting the disposal of our unwanted property, the law plays a role in ensuring the optimum value is extracted from waste. Inevitably, some forms of waste are destined for the landfill, and will continue to have a negative value stemming from their continued use of space. However, such negative value can be nullified should the landfill eventually be reclaimed and turned into a space beneficial to the community, such as a park.¹⁷ Until then, it is important that the negative value be ameliorated as much as possible. In respect of some property, the reclamation of positive value is possible through recycling, whereby valuable resources whose value would otherwise be lost or lie dormant can be put back into the economy, ultimately reducing our reliance on the extraction of virgin resources.

Waste and the law of abandonment

Waste provides the most obvious example of how the law strictly regulates the circumstances in which we may dispose of our unwanted property. It is difficult to conceive how one may simply dispose of movable property that qualifies as waste outside the disposal streams prescribed by law. That is, without falling foul of the provisions of the Waste Act or local by-laws regulating littering and dumping, such as the City of Cape Town's Integrated Waste Management By-law discussed above. The one exception, as noted above, is the depositing of objects in a public place, such as a sidewalk, which may be claimed quickly by people who may find it useful, such as old but usable furniture. Otherwise, if one wishes to dispose of property which would not be claimed readily, the only means through which this can be done is to follow the prescribed rules, which inevitably requires cooperation with a third party. Effectively, abandonment of property, in the true sense of the word (being a purely unilateral act), operates in a narrow set of circumstances to allocate ownership to parties willing to take responsibility for unwanted objects.³ While the claimant of unwanted property may acquire ownership of unwanted property, abandonment does not serve as a defence against a charge of dumping or littering for the original owner.

According to the law of abandonment, all that is required for the abandonment of an object is physical relinquishment of possession coupled with the intention to no longer be the owner.^{1,2} The rule effectively remains unchanged from its Roman law and Roman-Dutch law origins.¹⁸ However, as aforementioned, the rule finds its application limited in contemporary society. In a society which produces increasingly larger amounts of waste, that is increasingly unwilling to reuse and repair when new items are increasingly disposable¹⁹, strict rules for the disposal of unwanted objects are necessary. Where these rules are followed, such as the depositing of an unwanted item in a rubbish bin or at a dump, it can be assumed that the owner has the intention to give up ownership of such an object.²⁰ The doctrine of abandonment's continued relevance only appears to operate in circumstances in which another person lays claim to, and is willing to take responsibility for, a particular object.^{3,18} Even the unlawful disposal of an object meets the requirements of

abandonment; until a third party takes possession thereof, the law considers the original owner the responsible party.

It is important to note that, in respect of certain categories of property, there may be no intention to relinquish ownership, even if the object is deposited in a bin or directed to the correct waste stream. Sonnekus²⁰ uses the example of an artist who puts his sketches in the rubbish to be collected by the municipality. The artist likely intends that the sketches will be eventually destroyed or irretrievably lost in a landfill, with no intention that a passer-by may come along and claim it from his municipal bin.²⁰ A more modern example may apply to the disposal of a computer's hard drive. The owner of the hard drive likely does not intend that another party take ownership thereof after disposal, and attempt to retrieve data therefrom. Rather, the owner intends the party to which the old hard drive is directed to take the necessary steps to destroy it.

Destruction provides a unilateral form of disposal in respect of some objects of property.²¹ But, for a private person, such an act would be limited to burning one's personal papers in a fireplace, for example, given the limited effect such an act has on third parties. Many categories of property cannot simply be destroyed by private individuals in a way that completely stops them taking up space. One cannot simply start burning one's unwanted property without falling foul of laws on air pollution and causing a nuisance for one's neighbours.²² The right to destroy²¹ – as with the right to abandon – is heavily circumscribed.

What is critical about the law's approach to the disposal of unwanted property is that it can be used to instil important values into society at large.³ Requiring separation of recyclables and non-recyclables before waste is collected can impress the importance of recycling upon society at large.³ Strict rules for the disposal of certain kinds of property, such as e-waste, can assist in the development of a circular economy.²³ While South Africa may not have the resources to enforce recycling norms like societies such as Switzerland²⁴, there are still important measures that can be taken. These measures would include effective extended producer responsibility for waste such as e-waste¹⁶, and supporting important players in the recycling industry, such as waste reclaimers. While the practice of waste reclaiming is viewed in a negative light by some²⁰, the practice of removing inappropriately disposed of recyclables from the general residential waste stream is an overall good, especially in a society in which the means to enforce recycling norms are lacking. To the extent the practice does violate the law²⁰, the law should change, as it fails to ensure the value of recyclables is maximised, rather than lost.

The contextual nature of value

Conceptualising 'waste as property' becomes more complicated depending on the nature of the waste. Waste itself has the potential to become valuable depending on context and technological advances. For example, e-waste – which may otherwise simply take up space in one's home – can become valuable when its potential for the reclaiming of valuable resources can be realised. Old electronics, which may otherwise sit around people's homes, can be tapped as a source of metals and minerals which may otherwise need to be extracted as virgin materials from the earth.²⁵ A unique example of e-waste being turned into valuable items (in a particular context) is the production of medals for the 2020 Tokyo Olympics.²⁶

Mine waste provides just such an example of property whose value can fluctuate from negative to positive depending on context. Much mine waste, in the form of mine dumps, will likely retain its negative value indefinitely, at least until rehabilitated. In the meantime, such dumps will continue to take up space (often resembling small hills due to their size), and pose threats to both the environment and human health.²⁷ Due to the nature of mine dumps, they may be viewed as straddling the line between movable property and immovable property, and thus the duty to store (as they take up space) and the duty to maintain (often being a significant feature of the land on which they are deposited).

Value can be won from certain kinds of mine dumps. The possibility of using the gold mine tailings of the Witwatersrand for brickmaking has been explored, and, although found initially wanting, is worth researching further due to the potential benefits to environmental conservation and

waste management.²⁸ A study from Brazil reported on the possibility of using iron ore tailings as pigment for the production of sustainable paint for buildings.²⁹ With technological advancements, other metals and minerals can be extracted from tailings initially created for the purpose of mining another resource. For example, it has been suggested that Australia could maintain its position as the top producer of lithium (a component of batteries) – not through opening new and expensive mines – but by re-using existing tailings.³⁰ New techniques make it possible to recover lithium from lower-grade materials, meaning tailings can be re-mined rather than simply becoming useless mine dumps.³⁰ It would also avoid the exorbitant costs of opening new mines (estimated at AUD150 million to AUD2 billion) as well as the environmental harm that results therefrom.³⁰

A recent initiative by the Resilient Futures Community of Practice explored the possibility of remediating mining land by planting of fibrous plants (for example, flax, hemp and bamboo).^{31,32} The initiative has the potential to not only remediate mining land through the use of these plants, but also create an agricultural sector to support surrounding communities, where such a sector would otherwise not exist.^{31,32} Again, property which would at one point have a negative value – land that would effectively be waste – can accrue a positive value. In fact, the initiative goes further, effectively seeking to prevent such land accruing a negative value in the first place through introducing fibrous plants during the life cycle of the mine rather than waiting until operations have officially ceased.^{31,32} Such an initiative is critical in a context in which mining land is rarely effectively rehabilitated, and may otherwise remain a threat to both human health and the environment.^{31,32}

What is evident is that the value of waste – from e-waste to mine waste to mining land – is forever fluctuating, depending on technological advancements and human initiative to tap into the value of waste. What may otherwise be waste with a negative value one day, could be a resource with a positive value the next. It is vital that initiatives such as the Community of Practice: Waste to Value evaluate and identify the optimal means through which a positive value can be realised from negative-value property.

Conclusion

Regardless of its value, waste is property. Waste is property because – among other things – it has value^{4,5}, although that value more often than not is a negative one. How it accrues this value depends on the circumstances and nature of the waste, but especially in the case of movable waste, the negative value stems largely from the fact that it takes up space. An owner has a duty to store the waste, at least until such a point at which it is directed to the correct waste stream. The law of abandonment effectively only operates in limited circumstances, often to settle ownership disputes over useful property that may be readily claimed, in a modern society that needs to regulate the disposal of waste strictly.

Examining waste through the lens of property law provides an otherwise neglected perspective. As Peñalver explains, the idea that one is simply permitted to terminate one's relationship with property at will is largely an illusion³, at least in contemporary society in which the law strongly dictates the terms on which property may be disposed of. The law has a unique role to play in ensuring that the optimal value is realised from waste (both that which needs to be recycled and that which is destined for the landfill), and it does so through regulating the circumstances in which our relationship with property can end. An owner of property is not simply entitled to terminate their relationship with an object. This observation applies regardless of whether the property still has any residual positive value (such as an obsolete but otherwise functioning cell phone), or has accrued a negative value due to the duty to store it (like the contents of our municipal bins waiting for collection).

What is critical in realising the optimal value of waste, is ensuring effective enforcement of existing laws, as well as providing support to import role players in the waste sector. The law can simultaneously require that waste be directed to the proper stream, while empowering parties such as waste reclaimers, who play a critical role in directing waste to the proper stream where enforcement of existing legal rules falls short.

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Competing interests

There are no competing interests to declare.

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