

## **Hybrid Human Rights?**

### **Persons, Property Rights, and Medical Devices**

#### **Abstract**

Given the general position in law that only things separate from persons can be subject to property rights, in this chapter, we ask whether medical devices and prostheses which are implanted into/integrated with the human body should be viewed losing the property of being property. Our answer is that, for a range of pragmatic legal and philosophical reasons, they should not. We use hybridity as a means to conceptualise the joining of persons and medical devices/prostheses, arguing that a modified property (rights) approach may be necessary to adequately take account of both the object-ness of the device, as well as more subject-orientated considerations. We contend that whilst our suggested approach would be broadly compatible the (human) right to bodily integrity, it cannot be collapsed into it. When it comes to hybrid humans' devices, this right is only be useful as part of a set of broader legal tools, including property rights.

#### **Keywords**

Medical devices, prostheses, hybrid humans, property rights, right to bodily integrity

### **1. INTRODUCTION**

Increasing numbers of people worldwide rely on medical devices to help them to function, with hundreds of thousands of people receiving a device of some form or another each year. These devices range from the relatively simple, like hip replacements and aesthetic prostheses, to the complex, such as insulin pumps, pacemakers, and the total artificial heart.<sup>1</sup> Since 2003 in the United Kingdom, for example, over 4 million joint replacements have been carried out,<sup>2</sup> with the numbers of hip replacements alone more than doubling in the last 10 years.<sup>3</sup> Significant numbers of new pacemakers and other cardiac devices are implanted each year with the most recent National Audit of Cardiac Rhythm Management reporting nearly 80,000 cardiac implant

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<sup>1</sup> It is not necessary to set them out for the purposes of the current chapter, but for an in-depth analysis of the current medical devices regulations in the United Kingdom see M Quigley, L Downey, Z Mahmoud, and JV McHale, 'The Shape of Medical Devices Regulation in the United Kingdom? Brexit and Beyond' (2023) 5 *Law, Technology, and Humans* 21.

<sup>2</sup> National Joint Registry, '21st Annual Report 2024' (NJR 2024) 21.

<sup>3</sup> National Joint Registry, '20th Annual Report 2023' (NJR 2023) 53.

electronic device procedures per year.<sup>4</sup> Available data suggests that the use of a multitude of other devices is also on the rise.<sup>5</sup> Many of these medical devices have become more sophisticated in recent years. Increasingly, medical devices are smart devices. They are in essence minicomputers. As well as the hardware, they have integrated software. They can store data, they have algorithms which can analyse that data, and they can transmit data either via hard links or wirelessly to the cloud.

There are many benefits to this increased use of, and advances in, medical devices technologies. For example, it is now standard that pacemakers or insulin pumps can analyse and store data, as well as send data via Wi-Fi to the cloud so that both patients and healthcare professionals can access it.<sup>6</sup> The next generation of devices with artificial intelligence (AI) capabilities incorporating machine-learning (ML) algorithms – for instance, wearable devices which can collect and analyse data for stroke predication<sup>7</sup> – is also upon us. However, the integration of medical devices – especially smart medical devices – with persons creates difficulties for the law which have not yet been adequately examined, let alone resolved. Given this, in this chapter, we use rights – specifically property rights – as a lens through which to examine some of the implications of this merging of the embodied biological persons with synthetic (previously external) objects. As will become clear as we proceed, we focus on property rights because, for the law, these are the principal mode by which the use and control of things in the external world are governed. Moreover, the integration of medical devices with persons challenges the philosophical foundations upon which property rights are premised.

To wit, medical devices begin life as external things which, for the law, are incontrovertibly (and uncontroversially) viewed as property – they are objects over which persons can, and do, have property rights.<sup>8</sup> Moreover, these devices are treated much in the same way we treat other items of personal property (chattels). They are bought, sold, loaned, transferred, and so on and so forth.<sup>9</sup> However, it is also true, as far as the common law in

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<sup>4</sup> National Audit of Cardiac Rhythm Management, '2024 Summary Report (2022/23 Data)' 6. Available at <https://www.nicor.org.uk/publications/ncap/cardiac-rhythm/2024/crm-final-report-2022-23>, accessed 3<sup>rd</sup> Dec 2024.

<sup>5</sup> For example, the British Cochlear Implant Group, reported a 40% increase in adult referrals for implants. BCIG, 'UK cochlear implant numbers: BCIG releases figures for 2023-2024'. Available at [https://www.bcig.org.uk/news/118/uk\\_cochlear\\_implant\\_numbers/](https://www.bcig.org.uk/news/118/uk_cochlear_implant_numbers/), accessed 3<sup>rd</sup> Dec 2024. Meanwhile, the NHS are rolling out implementation of hybrid closed loop insulin pump technology for those with diabetes, adding to the numbers already on older generation diabetes technology. See NHS England, 'NHS Rolls Out Artificial Pancreas in World First Move', 2<sup>nd</sup> April 2024. Available at <https://www.england.nhs.uk/2024/04/nhs-rolls-out-artificial-pancreas-in-world-first-move/>, accessed 3<sup>rd</sup> Dec 2024.

<sup>6</sup> This complexity creates a number of issues. For an overview of some of these see K Hutchinson and R Sparrow, 'What Pacemakers Can Teach Us About the Ethics of Maintaining Artificial Organs' (2016) 46 *Hastings Center Report* 14.

<sup>7</sup> F Jiang and others, 'Artificial Intelligence in Healthcare: Past, Present and Future' (2017) 2(4) *Stroke and Vascular Neurology* 230, 243.

<sup>8</sup> M Quigley and S Ayihongbe, 'Everyday Cyborgs: On Integrated Persons and Integrated Goods' (2018) 26 *Medical Law Review* 276, 287.

<sup>9</sup> *Ibid* 287.

England and Wales is concerned (and indeed in other jurisdictions), that only objects which are 'separate and distinct' from persons are capable of being governed by property rights.<sup>10</sup> The law, and indeed many commentators,<sup>11</sup> views the boundary between person and thing as a morally-infused ontological boundary. By this we mean that the person-thing dichotomy is treated as a reflection of reality or state of being which has moral significance and, as such, is incorporated into legal rules and practice. Given these two propositions – that medical devices start life as chattels and that only things separate and distinct from persons can be subject to property rights – what are the implications for how we (and the law) ought to view certain attached and implanted medical devices? Ought these devices be viewed as part of the person and lose the property of being property (so-to-speak)? Or do they retain their object status and thus remain capable of being governed by property rights? The challenge here is not one of mere academic interest; it is crucial to the practical resolution of as yet unanswered questions. For example, whether damage to medical devices and prostheses ought to be viewed as personal injury or damage to property or something else;<sup>12</sup> whether deactivating a life-sustaining device (such as an implantable cardioverter defibrillator (ICD) or an artificial heart) ought to be viewed as killing or withdrawal of treatment, something which may be dependent on whether we see the device as part of the person or somehow a still external object<sup>13</sup>; who ought to have control over data transferred from smart medical devices;<sup>14</sup> and how the law should conceive of any number of (human) rights, freedoms, and other protections which ought to be accorded to persons regarding their medical devices.

To examine how we ought to view the property status of medical devices after implantation and lay the groundwork for the rest of the chapter, we begin in section two by outlining what we mean when we talk about property and property rights. Following this, in section three, we note that

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<sup>10</sup> *R v Bentham* [2005] UKHL 18. A similar position can also be found in other common law jurisdictions, but we do not address this directly here.

<sup>11</sup> M Radin, *Reinterpreting Property* (University of Chicago Press, 1993) 198.

<sup>12</sup> I Goold, H Maslen and C Auckland, 'Damage to Prostheses and Compensation for Harm' (2017) Working Paper. Quigley and Ayihongbe (n 8).

<sup>13</sup> We do not attempt to analyse this aspect here, but merely note that the answer may be dependent on how we view the object status of the device in question. For some of the debate on this see Hutchinson and Sparrow (n 6) 17, where they sketch the problem with the deactivation of medical devices (in particular pacemakers) where they are considered to be part of the body. On the deactivation of life-sustaining devices see also Rodney K Adams, 'Patient Termination of a Life-sustaining Medical Device: Suicide or Natural Death?' (2023) 68 *Journal of Forensic Sciences* 2037; Thomas S Huddle, 'A Moral Argument against Turning Off an Implantable Cardiac Device: Why Deactivation Is a Form of Killing, Not Simply Allowing a Patient to Die' (2019) 28 *Cambridge Quarterly of Healthcare Ethics* 329. For views on deactivation where the person has a terminal illness see Ruth England, Tim England, and John Coggon, 'The Ethical and Legal Implications of Deactivating an Implantable Cardioverter Defibrillator in a Patient with Terminal Cancer' (2007) 33 *Journal of Medical Ethics* 538.

<sup>14</sup> R Reed-Berendt, S O' Donnell, L Hatherall, and M Quigley, 'Diabetes Devices and Data', in progress; LR Curtis, 'Who Owns Health Data Anyway?' (2023) 40 *Practical Diabetes* 5; and SD Khan and SF Terry, 'Who Owns (or Controls) Health Data?' (2024) 11 *Scientific Data* 156.

there is a lack of case law and relevant guidance regarding considerations of property and implanted medical devices. As such, we turn instead to sketch out how the law deals with bodies and biomaterials vis-à-vis property. We do this because the question of whether integrated medical devices (ought to) continue to be subject to property rights, or whether they lose the property of being property, is the opposite dilemma to the question of whether or not biomaterials can become property once separated from the body.<sup>15</sup> In addition, doing this highlights the stark divide between subject and object at the heart of law. Having done this, in section four, we elaborate on the challenge presented by certain medical devices and prostheses to this longstanding legal boundary. What we will see is that devices can become integrated with persons in a multitude of ways, blurring the boundaries between person and thing. Given this, we suggest that persons with attached and implanted devices can be considered, to greater or lesser degrees, as 'hybrid humans'. For us, this reminds us that there is something more going on than the mere joining of 'subject' and object'. The hybrid human can be thought of as an assemblage where, as Popat and colleagues note regarding multi-material bodies (bodies + bodily extensions) as assemblages, '[t]he emergent properties and capacities of the whole are different from (not more or less than) the sum of the parts.'<sup>16</sup> 'Hybrid human' allows us to give adequate attention to the integration of the person with a (once external) object without obscuring crucial subject-orientated considerations.

Appeals to human rights are arguably often reflective of the need for a reminder of the person at the centre of law's deliberations. Nevertheless, what we will see in this chapter is that such appeals – for example, to the right to bodily integrity – will not suffice on their own, something which is especially evident when we consider how we ought to conceive of property rights over devices once they have become joined to persons. Accordingly, in section five, we examine whether such rights need to be reconceptualised and reconstituted when it comes to hybrid humans. Specifically, we consider the Margaret Radin's 'property for personhood' approach to property rights.<sup>17</sup> We are particularly interested in things which, in Radin's words, can become 'constitutive of personhood' and how consideration of these might impact the legal rights, entitlements, and other protections accorded to hybrid humans. Radin's approach entails establishing a 'hierarchy of entitlements' dependant on the strength of connection of objects (in our case medical

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<sup>15</sup> The challenges for, and approaches of, the law in these respects are nicely captured by Akmazoglu and Chandler in their discussion of 'objects as parts of human bodies' and human body parts as objects', See T Akmazoglu, and J Chandler, 'Mapping the Emerging Legal Landscape for Neuroprostheses: Human Interests and Legal Resources' in Hevia, M. (ed), *Regulating Neuroscience: Transnational Legal Challenges*. (Elsevier, 2021), pp. 63-98, pp. 81-88.

<sup>16</sup> S Popat and others, 'Bodily Extensions and Performance' (2017) 13 *International Journal of Performance Arts and Digital Media* 2: 101, p. 102. For clarity, we are not suggesting that our simplified and literal use of the term is in keeping with its origins in continental philosophy, but we find it useful nonetheless. For an account which outlines this and develops assemblage theory beyond these origins, see M DeLanda, *Assemblage Theory* (Edinburgh University Press 2016).

<sup>17</sup> Radin (n 11) 53-58.

devices) to personhood.<sup>18</sup> Those objects that become intimately bound up with personality and personhood are considered to be subject to *personal* property rights and are accorded greater protections. Radin herself does not fully embrace the implications of this when it comes to implanted parts, suggesting (in line with some other commentators) that after implantation medical devices ought to be considered as we do our natural, organic organs. Such positions essentially hold that implanted devices lose the property of being property. Although we do not agree that objects ought to be viewed as losing the property of being property, we argue that Radin's property for personhood approach is useful in calling attention to the fact that the boundary between persons and things may not be as clear-cut as we sometimes think. For us this means that we (and the law) need to be more attentive to the blurring of boundaries between subject and object which is a *sine quo non* of the hybrid human and cannot ignore the conjoined 'subject-object' future for which they are destined. For us, a property rights approach is both a way to take account of the object-ness of the device, whilst simultaneously accommodating their integration with subjects. Retaining some sense of this object-ness is important in particular when it comes to consideration of the rights and obligations of a range of actors; for example, tracking the transfer of rights between different parties, determining the potential liabilities of manufacturers, and so on. In the final section, we will argue that even though such an approach is broadly consistent with existing human rights law, it cannot be collapsed into this. We will see that appeals to the (human) right to bodily integrity have merit in protecting the rights of hybrid humans. However, we will argue that bodily integrity alone cannot adequately take account of the subject-object hybridity at issue. Whilst considerations of the person (the hybrid human) ought to be paramount, something more is needed to also take account of the object-ness of the device. Our argument is that a modified property rights approach would do this, recognising that a changing technological landscape necessitates a move beyond old, outmoded legal positions (i.e. that of a strict subject-object dichotomy).

## **2. PROPERTY RIGHTS AS ENTITLEMENTS**

We all deal with items of property every day. Our houses, our cars, our pens; other people's houses, cars, and pens, and so on and so forth. We all, therefore, have some background notion of what property consists of and the rights and obligations which it entails. We know, for instance, that we ought not to steal or damage items which belong to others. Put another way, we have duties of non-interference in respect of those items. We know that when we own something, we are (in general) the one with the right to control the use of said item. Thus, if I own a book and want to use it as kindling for my fire rather than as an object to read, the ultimate say-so is mine. We also all have a fairly good grasp of some corollary rights and duties, even where these are not, in and of themselves, related to the core of what it means to have a property right. Most of us know, for example, that we ought not to use our

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<sup>18</sup> Ibid 15.

property to harm others. Hence, whilst I may own the book, and be the holder of the attendant property rights, I nevertheless ought not to use the book as a weapon to throw at people or as kindling to set someone else's house alight. Yet, despite these intuitive and easy examples, pinning down the exact content and contours of property and property rights is not always straightforward. Munzer says that:

Some hold that property is things; others maintain that it is relations between persons and things, or relations among persons with respect to things; yet others claim that it is a basis of expectations with respect to things; and a few believe that 'property' has so many fragmented uses that any overarching normative theory of property is impossible.<sup>19</sup>

His comment points to the fact that property and property rights have been, and continue to be, subject to trenchant debates in some quarters. Yet, despite this, and the many legitimate points of disagreement contained in such debates, in what follows we attempt to identify some central conceptual tenets at play.

So, what do we mean when we talk of property and property rights? At a fundamental level, property law is the law of things.<sup>20</sup> And, whilst in everyday parlance we tend to talk of property *as* things ('this pen is my property'), this is simply shorthand. Property is instead appropriately conceived of as relations between persons pertaining to some resource or thing. Correspondingly, the mainstay of property law is concerned with governing relations between people regarding the use and control of things in the external world. In locating exactly which relations are at issue, it is useful to distinguish between property interests and property rights. Property interests can be conceived of as an open-ended set of use-privileges and control-powers with regards to things.<sup>21</sup> There are a range of interests which people can hold, depending, for example, on whether they own the item in question or are simply looking after it for someone else. In this manner, the interests involved are not an all or nothing affair and are best conceived of as lying along a spectrum, with full-blooded ownership at the top and lesser forms of property (interests) falling further down. Meanwhile, property rights are, arguably, best conceived of as entitlements; that is, when the putative interests come with a corresponding (and enforceable) set of duties we can properly call them rights. This is important because when we make a rights claim, we are doing more than simply making a request. We are asserting that, as a matter of right (be it legal or moral), we are entitled to something or other; that is, that we have an enforceable claim.<sup>22</sup> This means, as Capriati

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<sup>19</sup> S Munzer, *A Theory of Property* (Cambridge University Press: Cambridge, 1990) 17.

<sup>20</sup> H Smith, 'Property as the law of things' (2012) 125 *Harvard Law Review* 1691,1693.

<sup>21</sup> We do not have space to defend this particular conception of property here, but we follow (generally) J Harris' conception as set out in *Property and Justice* (Oxford University Press: Oxford, 2001). For a more detailed account, see M Quigley *Self-ownership, Property Rights, and the Human Body: A Legal and Philosophical Analysis* (Cambridge University Press 2018) ch 6.

<sup>22</sup> CB Macpherson, 'The Meaning of Property' in CB Macpherson (ed.), *Property: Mainstream and Critical Positions* (Oxford: Basil Blackwell, 1978) 3.

points out in her analysis of human rights, that '[f]or a right to exist, it has to have correlative duties; in turn, for a duty to exist, it has to be feasible, since 'ought' implies 'can'.'<sup>23</sup>

There are two things of note here. First, the different degrees to which someone is the holder of property rights indicates and reflects the differing degrees of use and control that they have over certain objects. An example of this might be the difference between the set of property rights held by the owner of a house, which would fall high up on the spectrum, versus those held by a tenant, which would fall lower down. Second, when we say that property rights are best conceived as entitlements, the duties which this entails are good against all others. Property rights in this respect are *in rem* not *in personam* rights. This means that they are rights which are enforceable against persons in the world at large rather than rights which arise in virtue special relationships or agreements between particular people. Accordingly, if a book is my property, then I have set of use and control rights regarding that book. I am the one who can legitimately control the uses of the book: whether it is read or used for kindling, whether I allow others to borrow it (relinquishing any rights of immediate possession), or whether I sell it (thereby, permanently relinquishing and transferring all of my (property) rights over the book). Because it is my book, and I am the one entitled to control its use and enjoyment, others are under duties of non-interference in this respect. To wit, they ought not to act in ways which could deprive me of my use and enjoyment of the book; for instance, by ripping out its pages without permission to do so. My rights in respect of my book are good against all comers. In this way, if a would-be thief sees my book sitting on an unattended table in a café, they do not need to know that the book is mine to know that they ought not to take it. It is enough for them to know that it is not theirs. Likewise, the same applies to all would-be thieves.<sup>24</sup> As the owner, however, I have the power to give up (temporarily or permanently) my rights in respect of the book. In this way, although English law protects both owners and those in possession of chattels, owners are the ones with the ultimate set of powers to control to the disposition of those chattels and, in so being, they are the ones with the powers to alter the normative status of others with respect to the object in question.<sup>25</sup>

As Lawson and Rudden put it, as far as the law is concerned 'the possessor of a thing is protected because he or she has possession; the owner is protected because he or she ought to have possession'.<sup>26</sup> Thus, whether we are talking about full-blooded ownership or about lesser clusters of rights, property is important because having property rights regarding certain objects offers normative protection regarding the objects to the holder of

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<sup>23</sup> M Capriati, 'The Universal Scope of Positive Duties Correlative to Human Rights' (2018) 30 *Utilitas*, 355, 374.

<sup>24</sup> F Morales, 'The Property Matrix: An Analytical Tool to Answer the Question, 'Is This Property?'' (2013) 161 *University of Pennsylvania Law Review* 1125, 1126.

<sup>25</sup> M Quigley, *Self-ownership, Property Rights, and the Human Body: A Legal and Philosophical Analysis* (Cambridge University Press 2018) 180-191.

<sup>26</sup> FH Lawson and B Rudden, *The Law of Property* (3<sup>rd</sup> edn, Oxford University Press, 2002) 65.

those rights. It endows the rights-holder with an extensive arsenal of use-rights and control-powers regarding the object of property and, in this manner, is a means of delineating and protecting a sphere of control. As Mason and Laurie succinctly put it, '[p]roperty implies ownership. Ownership, in turn, implies control.'<sup>27</sup> This observation seems to get to the nub not only of property and ownership in general, but also to what is important about the property question when it comes to attached and implanted medical devices. If property law, and therefore property rights, is the principal mode by which relations between persons with respect to things is regulated, then the question of what happens to a medical device's status as an object of property, once implanted, necessitates consideration. This is especially true given the increasing use, and sophistication, of such devices. As we are about to see, however, whether or not implanted medical devices ought still to be considered as property is not something which the law has hitherto had to deal with, at least not directly. As such, we must look elsewhere for potential answers.

### **3. MEDICAL DEVICES, BIOMATERIALS, AND PROPERTY IN THE BODY?**

Despite the increasing use and sophistication of medical devices, they have received substantially less attention when compared to other matters of interest to health lawyers. Even less has been said about medical devices and the property (rights) question, either in the academic literature or by way of guidance documents from governmental or relevant professional bodies. Neither has the issue been tested by the courts. In this section, we first examine the scant guidance that does exist, before looking at how this guidance fits with the general position of the common law with regards to property and persons.

#### **3.1 Ownership of Implanted Medical Devices**

As already stated, there is scant guidance which speaks directly to the problem at hand. What there is can be traced back to single Health Notice issued by the old Department of Health and Social Security (DHSS) in 1983. This notice on the ownership of implants and the removal of cardiac devices states that:

On implantation, an implant becomes the property of the person in whom it has been implanted and it remains his or her property even if it is subsequently removed. Following the patient's death, it forms

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<sup>27</sup> K Mason and G Laurie, 'Consent or Property? Dealing with the Body and its Parts in the Shadow of Bristol and Alder Hey' (2001) 64 *Medical Law Review* 710, 724.



part of his or her estate unless there is any specific provision to the contrary.<sup>28</sup>

The motivating factor behind this notice was to put in place provision for devices to be returned to hospitals for examination and interrogation after explanation. As such, the notice also made provision for obtaining the explicit consent of the patient (at the point of implantation) for the return of the device after removal. This position was reiterated and actively endorsed in 2011 in a circular from the Medicines and Healthcare products Regulatory Agency (MHRA).<sup>29</sup> Meanwhile, also in 2011 the Department of Health produced a legal notice on ownership of implanted medical devices which stated that:

Put simply, the position is that in instances where there is no specific provision made to the contrary, circular HN(83)6 sets out a default position: that the device is owned by the individual into whom it is implanted. However in any specific case where provisions are explicitly made, either on a pre-operative consent form or subsequently, legal ownership may reside with a health authority or party other than the patient or their estate.<sup>30</sup>

Despite being over 40 years old, HN(83)6 remains part of current guidance,<sup>31</sup> and the core position, that ownership passes to the person into whom the device is implanted, has been adopted recently by the Royal College of Pathologists (RCPath), as part of their guidance on post-mortems on people with implanted medical device, and the Law Commission, as part of their

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<sup>28</sup> Department of Health and Social Security, 'Health Services Management Ownership of Implants and Removal of Cardiac Pacemakers after Death' (HN(83)6, 1983). Available at <<https://webarchive.nationalarchives.gov.uk/ukgwa/20130513182540mp/http://www.mhra.gov.uk/home/groups/dts-bi/documents/websiteresources/con123256.pdf>>, accessed 3<sup>rd</sup> Dec 2024.

<sup>29</sup> MHRA, 'Leaving Hospital with a Medical Device', last modified 21<sup>st</sup> July 2011. Available at <<https://webarchive.nationalarchives.gov.uk/ukgwa/20130513170749/http://www.mhra.gov.uk/Safetyinformation/Generalsafetyinformationandadvice/Adviceandinformationforconsumers/Leavinghospitalwithamedicaldevice/index.html>>, accessed 3<sup>rd</sup> Dec 2024.

<sup>30</sup> M Coutino, 'Ownership of Implanted Medical Devices' (Department of Health Legal Services, August 2011). [This document is no longer available online, but we are happy to provide a saved copy upon request.](#)

<sup>31</sup> For example, 2015 guidance from the Resuscitation Council on cardiovascular implanted devices and end of life refers to it. See Resuscitation Council UK, British Cardiovascular Society and National Council for Palliative Care, 'Cardiovascular Implanted Electronic Devices in People Towards the End of Life, During Cardiopulmonary Resuscitation and After Death' (Resuscitation Council UK, 2015). Available at <https://www.resus.org.uk/sites/default/files/2020-05/CIEDs%20-%20guidance.pdf>, accessed 3<sup>rd</sup> Dec 2024. Also, it is referred to in a recent article in the *Journal of Trauma and Orthopaedics* (the official professional journal of the British Orthopaedics Society). See D Johnson, A Mahmoud, S Britten and S Heaton, 'Ownership of Removed Orthopaedic Implants' (2024) 12 *Journal of Trauma and Orthopaedics* 42.

recommendations in the Consultation on Burial and Cremation (albeit the Consultation Paper only discusses the specific case of pacemakers).<sup>32</sup>

Interestingly, a now out of date operational directive from the Department of Health in Western Australia (WA) on explanted medical devices took a related but slightly different approach. This policy said:

The predominant view in respect of explanted medical devices supplied and implanted by public hospitals and those private healthcare facilities contracted to provide services to public patients is that the patient owns the device (once implanted) by way of a gift, but that ownership re-vests to the Hospital once the device is explanted.<sup>33</sup>

The framing and language of gifting here seems to implicitly (and indeed correctly) recognise that gifts are part and parcel of property law. However, from a strict property law perspective, what is being described is more akin to bailment than transfer by gift. With gifts proper, there can be no expectation that the gift must be returned, something which is the case even with conditional gifts.<sup>34</sup> Contrariwise, with a bailment, whilst possession is transferred, ownership is not. This means that there is an expectation that the object in question will be returned to the owner (unless they divest themselves of ownership by some other mode of transfer, e.g. gift or sale).<sup>35</sup>

In any case, this policy in WA has since been superseded.<sup>36</sup> The newer policy does not mention of the issue of ownership of devices, but the supporting Guideline considers applications for the release of an explanted medical device to a number of parties, including the patient. On this, it says:

The patient does not automatically have the right to take possession or custody of the medical device if the patient's interests are at odds with clinical waste regulation, the requirements for WA Health medical device analysis, or the TGA [Therapeutic Goods

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<sup>32</sup> Law Commission, *Burial and Cremation: Consultation Paper*, October 2024, ss. 11.140-11.150. Available at <https://lawcom.gov.uk/project/burial-and-cremation/>, accessed 3<sup>rd</sup> Dec 2024.

<sup>33</sup> Department of Health Western Australia, *Operational Directive (0398/12): Release of Human Tissue and Explanted Medical Devices Policy* (2012, Perth).

<sup>34</sup> Quigley (n 25) 280. On gifting generally, see M Bridge, *Personal Property Law*, 4<sup>th</sup> Edition (Oxford University Press, 2015) chs 5 and 6.

<sup>35</sup> See M Bridge, *Personal Property Law*, 4<sup>th</sup> Edition (Oxford University Press, 2015) 59-74.

<sup>36</sup> Department of Health, 'Guideline for the Release of an Explanted Medical Device' (Department of Health, Australia) available at <https://www.health.wa.gov.au/~media/Files/Corporate/Policy%20Frameworks/Public%20Health/Policy/Release%20of%20Human%20Tissue%20and%20Explanted%20Medical%20Devices%20Policy/Supporting/Guideline-for-the-Release-of-an-Explanted-Medical-Device>, and Department of Health, *Guideline for the Release of an Explanted Medical Device* (Department of Health, 2020). Available at <https://www.health.wa.gov.au/~media/Files/Corporate/Policy%20Frameworks/Public%20Health/Policy/Release%20of%20Human%20Tissue%20and%20Explanted%20Medical%20Devices%20Policy/Supporting/Guideline-for-the-Release-of-an-Explanted-Medical-Device>. All accessed 3<sup>rd</sup> Dec 2024.

Administration – the Australian medicines and medical devices regulator] requirements for testing.<sup>37</sup>

Although lacking in detail, on the face of it, this seems to represent a shift away from the position that the hospital owns the device upon explanation. In this way, and notwithstanding the arguably appropriate delimitation on property rights in (explanted) medical devices listed in the Guideline, this position is closer to that adopted in the UK's HN(83)6 than the previous WA policy.

As we will argue in section five, the general principle that ownership of a medical device passes to the person into whom it is implanted is in essence the correct (and useful) one. As articulated in the 2022 RCPATH guidance (presumably drawing on HN(83)6, albeit not explicitly stated), "[i]t is reasonable to accept that, at the point of implantation, any device (property in law) passes from the hospital (or equivalent) to the patient."<sup>38</sup> We agree, it does. However, the difficulty, as we are about to see, is that such a position does not cohere well with the general subject-object dichotomy inherent in the common law,<sup>39</sup> something that becomes clear when we consider the law's approach to bodies and biomaterials.

### 3.2 Regulating Property, Governing Persons: Never the Twain Shall Meet?

As McMillan and colleagues note, '[i]t is a near-universal legal truism that almost all regulated entities are held to fall into one of two categories: subject or object (classically: 'person' or 'thing').'<sup>40</sup> This division between subject and object represents a bright-line boundary upon which much of the law's structure and operation is predicated.<sup>41</sup> It can be seen, for example, in the general structure of the law, which is divided between the law as it relates to

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<sup>37</sup> Department of Health, Guideline for the Release of an Explanted Medical Device (Department of Health, 2020). Available at <https://www.health.wa.gov.au/~media/Files/Corporate/Policy%20Frameworks/Public%20Health/Policy/Release%20of%20Human%20Tissue%20and%20Explanted%20Medical%20Devices%20Policy/Supporting/Guideline-for-the-Release-of-an-Explanted-Medical-Device>, accessed 3<sup>rd</sup> Dec 2024.

<sup>38</sup> Royal College of Pathologists, 'Guidance for Pathologists Conducting Post-Mortem Examinations on Individuals with Implanted Medical Devices' (Royal College of Pathologists, 2022) available at <https://www.rcpath.org/static/4f04f871-257e-446b-b94f38095defaf0d/guidance-for-pathologists-conducting-post-mortem-examinations-on-individuals-with-implanted-medical-devices.pdf>, accessed 3<sup>rd</sup> Dec 2024.

<sup>39</sup> Quigley and Ayihongbe (n 8) 288. For an overview on how the law views persons, bodies, and objects see Akmazoglu and Chandler (n 15) 80-88.

<sup>40</sup> C McMillan, E Dove, G Laurie, E Postan, N Sethi, and A Sorbie 'Beyond Categorisation: Refining the Relationship Between Subjects and Objects in Health Research Regulation' (2021) 13(1) *Law, Innovation, and Technology* 194.

<sup>41</sup> Although this is not always stated explicitly, the distinction can be traced back to Roman Law and, therefore, permeates most western legal systems. See Akmazoglu and Chandler (n 15) 80; R Esposito, *Persons and Things* (Polity Press 2015) 2; Philippe Ducor 'The legal Status of Human Materials' (1996) 44 *Drake Law Review* 98; and John Trahan, 'The Distinction Between Persons and Things: An Historical Perspective' (2008) 1 *Journal of Civil Liberties* 9.

persons (e.g. assault, personal injury, etc.) and that which applies to things (e.g. land law, property, sale of goods, and so on).<sup>42</sup> What's more, these categories are, for all intents and purposes, mutually exclusive, something which may, for example, impact on available routes to redress should harms occur or problems arise consequent on medical device usage.<sup>43</sup> As Dickenson notes, 'only objects can be regulated by property holding'.<sup>44</sup> Specifically, only those things *separate* from persons can be considered to be such objects.<sup>45</sup> This was affirmed in *R v Bentham* when Lord Bingham said:

One cannot possess something which is not separate and distinct from oneself. An unsevered hand or finger is part of oneself. Therefore, one cannot possess it...What is possessed must under definition be a thing. A person's hand or fingers are not a thing.<sup>46</sup>

This understanding also runs through the jurisprudence (and much of the commentary) relating to property in the body and its parts. In this respect, the law in this area is informative and intersects with the analysis here.

In English law, the body itself has been held to be *res nullius*; that is, a thing belonging to no-one.<sup>47</sup> Consequently, neither the whole living body nor the whole deceased body can be subject to property rights. It is not that organs, tissues and, other biomaterial can never become property, but that they can only do so in certain circumstances and for certain purposes once separated from the body.<sup>48</sup> Although traditionally, it was third parties rather than the person from whom the materials were removed who could come to have property rights,<sup>49</sup> it is now reasonably well-established that, at least in the specific case of stored sperm, the person themselves will be deemed to be the holder of such rights.<sup>50</sup> Of this, the Court in *Yearworth*, the original sperm case, stated that 'developments in medical science now require a re-analysis of the common law's treatment of and approach to the issue of ownership of parts or products of a living human body, whether for present purposes (viz. an action in negligence) or otherwise.'<sup>51</sup> This re-analysis – that the person

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<sup>42</sup> E Reiter, 'Rethinking Civil Law Taxonomy: Persons, Things, and the Problem of Domat's Master' (2008) 1 *Journal of Civil Liberties* 189; V Kurki, 'Animals, Slaves, and Corporations: Analysing Legal Thinghood' (2017) 18 *German Law Journal* 1070; Quigley and Ayihongbe (n 6) 288.

<sup>43</sup> Esposito (n 41) 1. Quigley (n 25) 132.

<sup>44</sup> D Dickenson, *Property in the Body: Feminist Perspectives* (2nd edn, Cambridge University Press 2017) 5. Dickenson says, '[t]he implication is clear: to the extent that persons' body parts can be regulated by property holding, those body parts are objects or things. If we are embodied persons, then to some extent we become objects too. The question is to what extent.' (p. 5).

<sup>45</sup> For an in-depth analysis of this separation between persons and things in the common law see M Quigley, 'Property in Human Biomaterials: Separating Persons and Things?' (2012) 32 *Oxford Journal of Legal Studies* 659. Quigley (n 25) ch 5, s. 2.1 and s. 3.

<sup>46</sup> *R v Bentham* [2005] UKHL 18.

<sup>47</sup> This is somewhat of an oversimplification, but further detail is not necessary here. For the more nuanced view, see Quigley (n 25) ch 3.

<sup>48</sup> See generally Quigley (n 45).

<sup>49</sup> Quigley (n 25) ch 3.

<sup>50</sup> Quigley (n 25) ch 4.

<sup>51</sup> *Yearworth and Others v. North Bristol NHS Trust* [2009] EWCA Civ 37 at [45] per Lord Judge CJ.

from whom the sperm came could be the holder of property rights in the sperm – was subsequently restated and held to be persuasive in cases in other jurisdictions.<sup>52</sup> Although it has not yet been tested in Court, the reasoning in the sperm cases is likely applicable to other tissues and biomaterials (dependent, of course, on the particular facts of any case which might arise).

As Price put it, it is the 'conceptual impossibility of separating a particular thing from the person to whom it belongs [that] is the hallmark of personal as opposed to property rights'.<sup>53</sup> However, advances in technology and medicine have long meant that organs, tissues, and cells are not only conceptually, but literally separable from the whole.<sup>54</sup> Equally, as we are about to see technologies such as medical devices and prostheses, which are separate can become not only an integrated part of the body, but an integral part of the person more broadly conceived; something which has consequences for the traditional subject-object divide inherent in much of the common law. Much like Lord Judge's observation regarding the sperm in *Yearworth*, it is our contention that the integration of persons and medical devices requires a re-analysis of the common law's approach. To this end, in the next section, we will see that medical device and prosthetic technologies can be integrated with persons along several axes: physically, functionally, psychologically, and phenomenologically.<sup>55</sup> As such, those with integrated medical devices can be viewed as 'hybrid humans'. We will also see that this hybridity, and the process of becoming hybrid, presents a direct challenge to the way the law conceptualises and categorises when it comes to persons and things, something which is of direct relevance to the property rights question at hand.

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<sup>52</sup> See *Bazley v. Wesley Monash IVF Pty Ltd* [2010] QSC 118; *Jocelyn Edwards; Re the estate of the late Mark Edwards* [2011] NSWSC 478, and *Re H, AE No 2*, [2012] SASC 177, (No 3) [2013] SASC 196. See also the Scottish case of *Holdich v. Lothian Health Board* [2013] CSOH 197.

<sup>53</sup> D Price, *Human Tissue in Transplantation and Research* (Cambridge University Press, 2010) 241.

<sup>54</sup> For a critique of what Penner calls the separability thesis in the context of biomaterials see Quigley (n 25 and n 45). For his defence of the separability thesis see JE Penner, *The Idea of Property in Law* (OUP 1997), ch 5. For a more recent rejection of this which covers similar ground to Quigley's article and book but rejects the idea of self-ownership as the justification for such a rejection, see A Singh, 'The Body as Me and Mine: The Case for Property Rights in Attached Body Parts' (2021) 66 *McGill Law Journal* 565. Singh does not give a comprehensive argument for his rejection of self-ownership as the basis for property rights in body parts beyond saying that "proponents of self-ownership depart from any useful reference from the concept of property" (at 569). Whilst this is certainly true of many political philosophical accounts of self-ownership, it is not universally the case. See, for instance, Quigley's (n 25) book length treatment of the topic which analyses black letter property law, as well as legal and political philosophical arguments regarding this. For arguments in favour of a property approach, which do not necessarily rely on appeals to self-ownership, see I Goold and M Quigley, 'Human Biomaterials: The Case for a Property Approach' in I Goold, K Greasley, J Herring, L Skene (eds) *Persons, Parts and Property: How Should we Regulate Human Tissue in the 21st Century?* (Hart Publishing, 2014).

<sup>55</sup> Quigley (n 25) 251; Quigley and Ayihongbe (n 8) 305.

#### 4. HYBRID HUMANS? SUBJECT, OBJECT, AND 'SUBJECT-OBJECTS'

To think about the ways in which medical devices can become joined to and integrated with persons, let's begin by considering cardiac pacemakers. These implanted devices are physically internalised and part of the person in a very tangible sense. Surgical intervention is required to place the pacemaker. This necessitates the internal placement of both the device itself and leads (wires) which run from the chambers of the heart to the device. Prior to the pacemaker being sited the leads are inserted into the cephalic or subclavian veins through an incision near the patient's collar bone. These leads are fed along the veins into the right atrium (upper chamber) of the heart.<sup>56</sup> They are then connected to the pacemaker, which is subsequently placed in a pocket under the skin and subcutaneous tissue, usually in the pectoral region of the chest. Although the bodily line must be surgically broken for the placement of the pacemakers and leads, the wounds made in the subcutaneous tissue and skin will heal, rendering internal what was once external. The result is the conjunction of two categories which are often kept separate: the subject and the object.

There is more going on here, however, than just physical internalisation. Implanted devices are meant to act as replacements for some bodily function or other. Consider, for example, artificial hip replacements. They are designed to mimic the natural function of the ball and socket hip joint. When they work (well) they serve to improve functioning and quality of life for those who receive them. In cases of severe osteoarthritis of the hip, they may allow the recipient to walk where they could not before or at least walk with a much-reduced level of pain. They are internalised and become an integral part of the person, part of the functioning whole. Indeed, in some cases, such as with pacemakers, functional integration is paramount. A pacemaker might be needed if a person's heart has some abnormal electrical activity; for example, when the heart rhythm is too slow, too fast, or irregular, or where the heart's own electrical pulse is not being conducted properly through the heart. The implanted pacemaker takes over the function of the heart's natural pacemaker (the sinus node). Some pacemakers only kick in once the heart starts beating irregularly, while others must operate constantly to regulate the person's cardiac rhythm. Other devices, similar to pacemakers, are implanted in those patients who might suffer intermittent life-threatening heart rhythms. These devices, ICDs, can emit electric shocks to restore the heart to a normal rhythm.<sup>57</sup> While hip replacements and other implanted devices support or augment physical (or physiological) functioning, their critical function is not (intended to be) life-sustaining.

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<sup>56</sup> British Heart Foundation, 'Living with a Pacemaker' (2019) 19. Available at <http://www.heartrhythmuk.org.uk/files/file/Docs/Guidelines/PPM%20implant%20part%201%20EiH.pdf>, accessed 3<sup>rd</sup> Dec 2024.

<sup>57</sup> British Heart Foundation, 'Implantable Cardioverter Defibrillators (ICDs)' (2017). Available at [https://www.bhf.org.uk/-/media/files/information-and-support/publications/treatments-for-heart-conditions/2017\\_bhf\\_icd\\_a5.pdf?rev=4970f9080c5942e2a9cbbd3b8198af99](https://www.bhf.org.uk/-/media/files/information-and-support/publications/treatments-for-heart-conditions/2017_bhf_icd_a5.pdf?rev=4970f9080c5942e2a9cbbd3b8198af99), accessed 3<sup>rd</sup> Dec 2024.

Implanted cardiac devices on the other hand go beyond this kind of functional integration and are of vital importance to the recipient's continued existence. They keep the person alive, whether continuously or on an intermittent basis, and, for that reason, become constitutive of the person's (very capacity for) personhood.

A further way in which implanted parts and devices may become incorporated into persons is psychologically; recipients may psychologically constitute themselves in relation to their device. The physical incorporation of an object that was once external may become part of that person's narrative about themselves and hence become part of their identity. This may be so even when they are not constantly or actively aware of its functioning. For example, people may see themselves as a person with a 'false' hip or metal heart valve. Within this narrative, the people might view the implant as fully part of themselves. Alternatively, they could conceive of it as 'other', as something that is not quite the self, but nevertheless a thing which has become part of their story as a person. Relatedly, the different ways in which parts and devices become incorporated into the body affects the ways in which we experience or do not experience the implanted parts and devices. For example, Oudshoorn vividly describes the experiences of people living with ICDs, saying 'the shocks given by their implant are a literally shocking experience because their bodies receive electric jolts from a device inside their bodies.'<sup>58</sup> This can be contrasted with our everyday experiences of our bodies. Haddow, drawing on the work of Leder, says '[i]n the day-to-day activity, our body is absent to us'<sup>59</sup>. By this she means that ordinarily we do not notice the presence of our bodies as we go about our everyday lives. Similarly, and in contrast to the experience of living with an ICD, some medical devices, to greater or lesser degrees, become absent to us. For example, those with joint replacements may be aware of their device in the immediate aftermath of surgery and on days when they experience some pain and stiffness, but at other times they may recede into the background under conscious awareness.<sup>60</sup>

Thus, people can become integrated with medical devices in different, and sometimes multiple, ways: devices are internalised within the body; they can support important, sometimes life-sustaining, functions; and they can become incorporated into people's sense of self. In these ways, persons with attached and implanted medical devices can be considered (to greater or lesser degrees) to be person–thing hybrids; that is, 'hybrid humans'.<sup>61</sup> We use this term to draw attention to the fact that the hybrid human is in essence 'a subject–object nexus in which there is a merging of synthetic (and once

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<sup>58</sup> N Oudshoorn, *Resilient Cyborgs: Living and Dying with Pacemakers and Defibrillators* (Palgrave MacMillan, 2020), p. 97. Also see more generally her discussion at pp. 93-116, as well as G Haddow, *Embodiment and Everyday Cyborgs: Technologies that Alter Subjectivity* (Manchester University Press, 2021), chs 3 and 4.

<sup>59</sup> Haddow (n 58) 47. See D Leder, *The Absent Body* (University of Chicago Press, 1990).

<sup>60</sup> Quigley (n 25) 253.

<sup>61</sup> H Parker, *Hybrid Humans: Dispatches from the Frontiers of Man and Machine* (Profile Books Ltd, 2022).



external) objects with embodied biological persons.’<sup>62</sup> Gill Haddow uses the term ‘everyday cyborg’ to describe such instances of ‘techno-organic hybridity’.<sup>63</sup> Her everyday cyborg highlights, amongst other things, the increasing daily use and reliance on ‘medical devices that have smart or cybernetic functionalities’.<sup>64</sup> In previous work, one of us has drawn on the metaphor (and actuality) of the everyday cyborg to demonstrate some of the challenges for the law of the joining of persons with increasingly sophisticated medical device technologies.<sup>65</sup> In this chapter, however, drawing inspiration again from Haddow’s work, we focus instead on the idea of hybridity and the hybrid human.<sup>66</sup> We also draw inspiration from the work of Bublitiz and Chandler who discuss the ‘hybrid mind’. By this, they mean ‘the direct coupling of the human cognitive system with an artificial cognitive system, so that cognitive processes of the two systems are functionally integrated through bi-directional interactions and mutually adapt to each other.’<sup>67</sup> Whilst we are not (directly at least) concerned about the integration of different cognitive processes/systems, we are interested in the implications of the *integration* of human and machine and have previously discussed this in terms of ‘integrated persons’.<sup>68</sup>

Like the ‘everyday’ in Haddow’s ‘everyday cyborg’, thinking about the ‘hybrid human’ shifts the emphasis. As Parker, describing his experience of having bilateral leg prostheses, puts it:

*Cyborg* and *bionic* carry too much baggage... Hybrid bikes and hybrid cars, hybrid working...; it isn’t perfect, but ‘a combination of two different elements’ seems to fit. And I like that *human* is part of it – human, more than anything, is how I want to feel, and it disappears from cyborg, bionic and disabled. This hybrid is a fusion, an amalgam, a confluence of things... It feels like a better way of describing my experiences and is somehow less loaded.<sup>69</sup>

Thinking about the hybrid human also prompts us to think about hybrid human rights and the multitude of meanings implicated in this phrase. Both hybrid humans and human rights are (at least in principle) subject orientated. We intend them to function as conceptual tools which bring an important

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<sup>62</sup> M Quigley and L Downey, ‘Integrating the Biological and the Technological: Time to Move Beyond Law’s Binaries?’ in Edward Dove and Niamh Ni Shuibhne (eds) *Law and Legacy in Medical Jurisprudence: Essays in Honour of Graeme Laurie* (Cambridge University Press, 2022) 283.

<sup>63</sup> Haddow (n 58) 155.

<sup>64</sup> Haddow (n 58) 85. There isn’t space here to do justice to Haddow’s rich analysis of the everyday cyborg which is much wider and deeper than simply being about the increased use of and reliance on smart medical devices.

<sup>65</sup> We have also described this joining of increasingly sophisticated medical devices and persons as ‘integrated persons’. Quigley and Ayihongbe (n 8); Quigley (n 25).

<sup>66</sup> Haddow (n 58) 4.

<sup>67</sup> C Bublitiz and J Chandler ‘Human–Machine Symbiosis and the Hybrid Mind: Implications for Ethics, Law and Human Rights’ in Ienca, M. *et al* (eds) *The Cambridge Handbook of Information Technology, Life Sciences and Human Rights* (Cambridge University Press, 2024), pp. 286-303, p. 286.

<sup>68</sup> Quigley and Ayihongbe (n 8) 305.

<sup>69</sup> Parker (n 61) 21.



counterbalance to the often more object-focused approach of the law; something which, as we are about to see, is particularly needed when it comes to considerations of persons and medical devices. Importantly, the 'human' in 'human rights' (as opposed to simply 'rights') reminds us of, and centres, the person whose rights, freedoms, and other protections are at issue.<sup>70</sup>

To be clear, and as we will return to in section five, our claim here is not that integrated devices and prostheses *are* or *become* the person and/or their body. However, the different modes of integration just outlined demonstrate that, at a fundamental level, there is a philosophical and conceptual mismatch between how the law works and the reality of the hybrid human. Whilst the law maintains a clear separation between persons and things, subjects and objects, when devices become integrated with persons, they are arguably no longer appropriately conceptualised as fully object, but also ought not to be conflated completely with the subject.<sup>71</sup> If this is correct, then becoming hybrid calls some aspects of the (foundations underlying) law into question; in particular, it challenges how the law conceptualises and categorises, something which is directly relevant to the property question. It is of course correct, as McMillan and colleagues say, that 'the law requires categorisation to provide a degree of certainty'.<sup>72</sup> Nevertheless, as they also note, not all things fall neatly into law's categories. Hybrid humans represent an interesting, albeit not necessarily unique, challenge to these categories.

For McMillan and colleagues, 'the human embryo in vitro is paradigmatic of an entity that does not fit neatly into either of the legal categories of 'subject' or 'object'.<sup>73</sup> They continue saying that '[i]t is arguable that embryos in vitro are treated neither as a legal subject nor as a legal object by the 1990 [Human Fertilisation and Embryology] Act, but rather as something that falls in between this binary....[that is,] as subject-objects'.<sup>74</sup> The eventual fate of any particular embryo determines whether the law treats that embryo as more akin to a subject (if it is used for reproductive purposes and is destined to be a 'subject-to-be') or more like an object (if it is to be used in research).<sup>75</sup> The implication of all this for McMillan and colleagues (and we agree) is that '[i]n vitro embryos are liminal entities when they are created'.<sup>76</sup> By this they mean the anthropological concept of the 'in-between'; 'a threshold phase characterised by uncertainty, possibility,

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<sup>70</sup> Philosophical and jurisprudential criticisms of the concept notwithstanding. See for example, J Thompson, 'Why Human Rights Aren't Rights' in CM Smyth, R Lang, and J Thompson (eds), *Contemporary Challenges to Human Rights Law* (Cambridge Scholars Publishing, 2020) 357.

<sup>71</sup> Quigley and Downey (n 62); McMillan et al. (n 40).

<sup>72</sup> McMillan et al. (n 40) 197.

<sup>73</sup> Ibid 212.

<sup>74</sup> Ibid 213. For more on the law's construction of the embryo as a 'subject-object' see C McMillan, *The Human Embryo In Vitro: Breaking the Legal Stalemate* (Cambridge University Press, 2021).

<sup>75</sup> McMillan et al. (n 40) 213-214.

<sup>76</sup> Ibid 215.

marginality, and transformation.<sup>77</sup> It is this liminality, be it of embryos or other 'subject-objects', which challenges law's established binaries and boundaries between subject and object.

Although the embryo example is not completely analogous to that of the hybrid human, there are considerable parallels, and the hybrid human can be considered quite literally as a 'subject-object'.<sup>78</sup> As the literal joining of subject (person) and object (medical device), hybrid humans challenge law's 'bounded object' approach,<sup>79</sup> as well as its reliance on the person-thing binary which underpins much of its foundations and structure. The challenge is that continuing to treat hybrid humans' medical devices or prostheses as mere objects, especially against a backdrop of law which is arguably already overly object focused,<sup>80</sup> can (perhaps unwittingly) obscure the subject, neglecting considerations which are not object focused. Viewing medical devices as solely different types of (regulatory) objects may miss crucial aspects of persons' experiences of becoming and being hybrid; for example, how this impacts on a person's use and experience of their device; whether the device is/has become more than a mere device (to them); whether it has become part of their lives, part of themselves, and/or what loss of the device would entail (for them).<sup>81</sup> By contrast, the fusion, amalgam, and confluence, which for Parker denotes, the hybrid human, serves to remind us that some technologies - particularly those which keep the person alive and as such are constitutive of the person's (very capacity for) personhood - blur the (ontological, moral, and legal) boundaries between subject and object. Yet, despite this blurring of boundaries, as we are about to see, it may also not be appropriate (or practicable) to view integrated medical device and prostheses 'entirely as 'part' of the subject.'<sup>82</sup> Being overly object- or overly subject-focused, and dealing with things within a highly dichotomised structure, may

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<sup>77</sup> S Taylor-Alexander and others 'Beyond Regulatory Compression: Confronting the Liminal Spaces of Health Research Regulation' (2016) 8 *Law, Innovation, and Technology* 149,150.

<sup>78</sup> Quigley and Downey (n 62) 293.

<sup>79</sup> As Laurie has cogently argued, the law takes a 'bounded object' approach'. By this, he means that 'law creates artificial constructs that become the object of regulatory attention of dedicated regulators who operate within legally defined spheres of influence or 'silos'.' G Laurie, 'Liminality and the Limits of Law in Health Research Regulation' (2017) 25 *Medical Law Review* 47, 49.

<sup>80</sup> Laurie (n 85); See also Quigley and Ayihongbe (n 8) 305.

<sup>81</sup> For an exploration on how law can neglect the nuance of being and becoming, and the need to recognise the liminal spaces in law and regulation, see Taylor-Alexander and others (n 81) 149. See also Laurie (n 85) 65.

<sup>82</sup> Quigley and Downey (n 62) 293. This builds on Quigley and Ayihongbe's previous argument where they say that 'viewing a prosthesis (or indeed other medical devices, implanted or otherwise), as objects of property may not offer adequate redress for damage done' ('Everyday Cyborgs', 2018, p. 291). As noted in Quigley and Downey (n 62), and will become clear in this chapter, this is not to claim that integrated devices and prosthesis ought to be viewed as the body (as has been interpreted by some; e.g. K Low, W Yee and YC Wu, 'Property/Personhood and AI: The Future of Machines' in Ernest Lim and Phillip Morgan (eds), *The Cambridge Handbook of Private Law and Artificial Intelligence* (Cambridge University Press, 2021), pp. 307-331, 308-309 and Law Commission, *Burial and Cremation: Consultation Paper*, October 2024, note 1306, p. 271, available at <https://lawcom.gov.uk/project/burial-and-cremation/>, accessed 3<sup>rd</sup> Dec 2024).

not be sufficiently attentive to the conjoined future for which certain medical devices are destined; that is, their future as part of the hybrid human.

## 5. RECONCEPTUALISING HYBRID HUMAN RIGHTS?

Given the blurring of boundaries which is indicative of the hybrid human, how should we (and the law) view the rights they have over their integrated medical devices and prostheses in a way that adequately takes account of their hybridity? To think about this, in this section, we consider Margaret Radin's 'property for personhood' approach. We do this because her approach actively acknowledges that law's strict boundaries between subject and object are not always appropriate and that there are occasions when objects can become so intimately bound up with persons so as to warrant greater protections qua property. What we will see, however, is that although this approach is attractive, there are contradictions and justificatory gaps at the heart of Radin's particular approach. As such, for us, it does not provide a robust way to differentiate between different types of hybrid human rights. Nevertheless, we will argue that the utility of such an approach is to alert us to the need to confront head on the normative significance of established legal distinctions and boundaries in light of advancing bodily technologies.

### 5.1 Property for Personhood: Rights as a Hierarchy of Entitlements

Property, for Radin, lies on a continuum of 'fungible to personal'.<sup>83</sup> The place that a thing occupies along this continuum determines the strength of the property rights and the correlative protections that accompany it: 'rights near one end of the continuum – fungible property rights – can be overridden in some cases in which those near the other – personal property rights – cannot be.'<sup>84</sup> The strength of connection to personhood distinguishes items at different ends of the continuum and generates a 'hierarchy of entitlements'.<sup>85</sup> Only those objects seen as intimately bound up with personality and personhood make it into the realm of *personal* property. Importantly, when rights and other claims conflict, more fungible property claims should yield to those more closely connected to personhood.<sup>86</sup>

Note 'personal property' here, although overlapping, does not have the same meaning as it does in, for example, English law, where it denotes all property that is not land or freehold estates; that is, chattels. Rather, Radin uses the term idiosyncratically to capture items which she argues ought to garner stronger legal protections because of their relationship to the person. Examples of these, for her, include an individual's home and wedding ring. Her approach allows that the same item may lie at the fungible end for one person, but at the personal end for another. A wedding ring, for instance, might be fungible property for the jewellery shop owner, but personal property for the person who subsequently buys it and makes it their wedding

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<sup>83</sup> Radin (n 11) 53.

<sup>84</sup> Ibid.

<sup>85</sup> Ibid.

<sup>86</sup> M Radin 'Property and Personhood' (1982) 34 *Stanford Law Review* 957, 1015.

ring.<sup>87</sup> Here Radin stresses 'the importance of certain property to *self-constitution*',<sup>88</sup> arguing that 'objects held by persons for purposes of wealth gain through market trading are to be thought of differently from objects held as integral to personal continuity'.<sup>89</sup> For Radin, if the possession and use of objects external to the self represents the embodiment of a person's will, these objects become 'constitutive of well-developed personality [personhood]'.<sup>90</sup> Here, Radin's approach is most plausibly understood as a metaphysical or psychological one rather than a strictly literal one.<sup>91</sup> We say this in contradistinction to commentators such as James Harris whose objection to personality or personhood-constituting theories of property rests on the fact that they seem go too far in respect of their underlying, but central, ontological claim. The objection, as articulated by Harris, is that such theories ask us 'to understand that someone conceives of some object as *incorporated into himself* so as to lose its moral identity as a mere thing.'<sup>92</sup> He continued, saying 'it is true that a person's home may be the locus for psychologically significant instances of individual self-expression, but it seems far-fetched to suppose that most people incorporate their dwellings into themselves.'<sup>93</sup>

We agree, this would be far-fetched. We will see shortly that a more literal interpretation may bear fruit in some circumstances, such as in the specific case of the hybrid human. For now, however, we note that Radin's underlying claim rests, not on literal incorporation, but as already stated, on the importance of certain objects for a person's self-constitution/personhood. The difficulty with this, however, is not the potential outlandishness of the 'incorporation' of the object (as it would be if literally applied to houses, wedding rings, and so on), but that fact that the extent to which items do or do not become constitutive of personhood is necessarily subjective. If it is psychological personhood which is significant, then it would seem reasonable to assume that *each person's* 'self-constitution' is different and that various factors affect the health of each individual's self-constitution in diverse ways. Different items will be integral to achieving and maintaining this type of personhood for each individual. As such, it could only be a person's own account of the relative importance of the objects in question

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<sup>87</sup> Radin (n 11) 54. Note that Radin does not view the categories as rigid and immutable: 'the same person in the same time frame can experience the connection as personal in some contexts and fungible in others' (16).

<sup>88</sup> Radin (n 11) 55 [emphasis added].

<sup>89</sup> Ibid 198.

<sup>90</sup> Ibid 196. Note that Radin takes an explicitly Hegelian approach, whereby the actualisation of the will is achieved through the possession and use of external objects. To be clear, our purpose here is not to defend claims that property is necessary for well-developed personality (or personhood) nor that the extent to which objects become so constituted bears on property's internal structure (i.e. whether the property entitlements held are protected as fungible or personal).

<sup>91</sup> Akmazoglu and Chandler (n 15) 63-98.

<sup>92</sup> Harris (n 21) 222 [emphasis added]. For other critiques of the property for personhood approach see Stephen J Schnably, 'Property and Pragmatism: A Critique of Radin's Theory of Property and Personhood' (1993) 45 *Stanford Law Review* 347, 362-379 and Shelly Kreiczer-Levy, 'Property without Personhood' (2017) 47 *Seton Hall Law Review* 771.

<sup>93</sup> Harris (n 21) 223.

which could dictate those items that are *their* personal property and which, thus, attract stronger protections qua rights. For example, it might be the case that Fred's house is intimately tied up with, and constitutive of, his well-being and his psychological personhood, but, for Jane, it might be her books.<sup>94</sup> The implication here is that it would be difficult to see how anything could be excluded from the realm of personal property for *particular* people. This presents a challenge for the law. The basis for determining whether greater or fewer property protections may be applied would be ever shifting, open to change depending on the subjective claims of those who come before the courts. How are we (and the courts) to distinguish between different items? What is there to separate, for example, Jane's books from Jane's house or wedding ring other than her own views? The subjectivity of the property for personhood approach would seem to go against a central legal tenet, which is that the law should be, as far as is reasonably possible, predictable. Yet, if the severity of the rights violations is to be determined purely based on a person's own subjective views, this would largely remove such predictability. For instance, if there are worse punishments for violations of personal property, then a potential criminal damager or tortfeasor could have no prior knowledge of what might be expected of them under the law and how harshly (or otherwise) they might be judged for any putative infringements.

Radin's own arguments suggest a potential solution here. She distinguishes between objects which 'support healthy self-constitution'<sup>95</sup> and those object relationships which ought not to be admitted into the arena of personal property (and thus garner greater protection within the law). Her contention is that personal property ought not to be recognised where there is an 'objective moral consensus that control [regarding the object] is destroying personhood rather than fostering it.'<sup>96</sup> By identifying an objective criterion to delineate those different object relationships, she hopes to avoid 'fetishism', whereby a person becomes *too* attached to particular objects.<sup>97</sup> Only those items where the aforementioned objective moral consensus has been formed would be eligible for protection as personal property. This would not serve to exclude items entirely from the realm of property (rights), merely from the heightened protections accorded to items of *personal* property.<sup>98</sup> Whilst potentially attractive, the appeal to an objective consensus is less than satisfactory.<sup>99</sup> This is because it undermines the very basis of the property for personhood approach. We can see this if we go back to the example of the wedding ring. The crux of the matter is an appeal to the fact that the ring has divergent roles and meanings in the lives of the jeweller who

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<sup>94</sup> Radin does not specify the items which are excluded; therefore, I am limited to speculating about Jane and her books.

<sup>95</sup> Radin (n 11) 43.

<sup>96</sup> Ibid 44.

<sup>97</sup> Ibid 43-44.

<sup>98</sup> Note that Radin's particular approach is tied to a conception of well-being and a hierarchy of needs. See Radin (n 11) 56.

<sup>99</sup> For a critique of the appeal to consensus see Stephen J Schnably, 'Property and Pragmatism: A Critique of Radin's Theory of Property and Personhood' (1993) 45 *Stanford Law Review* 347, 362-379.

sells it and the eventual wearer. This requires us (and the law) to accept the inherent subjectivity of the relationships that persons have with (their) things.<sup>100</sup> On such an account, it is not for others to impose their assessment of whether or not certain items matter more to people or are more substantively tied to their (own subjective assessment of) personhood. To do so would be to attempt to reassert (in some cases) the boundary between subject and object which the property for personhood approach seeks to make indistinct.

## **5.2 Persons, Bodies, and Medical Devices: Losing the Property of Being Property?**

On Radin's account, property for personhood is both a justification for according persons greater protections regarding some items and a way to determine how strong those protections ought to be (depending on where they fall on the spectrum of fungible to personal property rights). As we have seen, the strength of the ensuing rights is dependent on the degree to which any particular item is constitutive of any particular person's personhood. Yet, as we have also seen, there are problems inherent in Radin's own account; in particular, the contradiction between trying to offer an objective criterion as part of an account which rests on an essential subjectivity. Having said all this, however, and despite the difficulties noted, property for personhood is useful insofar as it calls attention to the possibility that the boundary between persons and things may not be as clear-cut as we sometimes think. It is an example of an approach where the supposed ontological (and often morally infused) boundaries between subject and object can be challenged to establish a different set of legal boundaries; that is, to distinguish between different types of legal (property) rights. In this way, it might be useful when thinking about the challenges of the more literal ways in which objects can become incorporated into (the lives of) persons. Whilst we likely ought not to think of things such as houses and wedding rings as being incorporated in such a manner, as we have emphasised throughout, there is a narrow class of (once external) objects – certain medical devices – to which we have more than a mere psychological attachment. Indeed, Harris himself acknowledges this in the case of artificial organs.<sup>101</sup> Given this, a property for personhood approach would seem to suggest that, for hybrid humans, their medical devices are so closely connected to their bodies, functioning, and sometimes life, that they ought to be treated as personal property and, therefore, have the requisite rights and other entitlements attaching to them. Correspondingly, this approach would also mean that, where conflicts of rights exist regarding such devices, the rights of the hybrid human will (likely) trump those of other rights holders; for instance, those of the device manufacturers or the hospital from whom the person receives their device.

Radin does not consider the specific case of medical devices or prostheses in-depth. However, she does note that there are difficulties

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<sup>100</sup> Radin (n 11) 53.

<sup>101</sup> Harris (n 21) 222. Of course, if persons are seen as self-owners and have property in their own person, not having property in other external material objects does not pose a problem.

relating to questions of property (rights) when it comes to removed body parts and biomaterials, as well as implanted parts. She does not take a definitive position on the property status of these but suggests that whilst some body parts can become fungible (such as blood), some 'may be too 'personal' to be property at all'.<sup>102</sup> In this manner, although the property for personhood approach explicitly and purposefully puts pressure on the subject-object dichotomy, she is reluctant to completely collapse the distinction.<sup>103</sup> For this reason, she allows that body parts and biomaterials can become property, but only *after* they have been removed from the body. On the flipside of this, she maintains that that implanted parts lose the property of property<sup>104</sup> once they have become internalised, saying 'plastic parts are fungible when sold to the hospital, but once inserted they are no longer fungible, and should be considered as the natural organs they replace, hence perhaps no longer property at all.'<sup>105</sup> If this is correct, then medical devices unambiguously begin life as external things, and would be legally classified as personal property (qua chattels), but once implanted ought no longer to be considered as the appropriate subject of property rights. Although he does not elaborate on it, Harris put forward a similar view, saying that '[i]f an artificial organ is implanted into someone's body, it becomes part of him.'<sup>106</sup>

Viewing integrated medical devices and prostheses as losing the property of being property in this way, not only runs counter to the more general property for personhood approach but also does not work at either a conceptual philosophical level or a legally practicable one. These tensions are illustrated by Radin's own comments when she says:

We have an intuition that property necessarily refers to something in the outside world, separate from oneself. Though the general idea of property for personhood means that the boundary between person and thing cannot be a bright line, still the idea of property seems to require some perceptible boundary, at least insofar as the notion of thing requires separation from self.<sup>107</sup>

As we have seen throughout this chapter, it is correct that, for the common law at least, a perceptible boundary is required. What is more, for the law, this boundary is drawn at the skin. The implication of this, as both Radin and Harris seem to hold, is that objects which become part of the body are normatively transformed and become part of the subject. The subject thus acquires all the rights and other interests over these which they would ordinarily have over their whole embodied self. However, whilst this seems like a somewhat intuitive solution, as demonstrated recently by Christoph

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<sup>102</sup> Radin (n 11) 41.

<sup>103</sup> Ibid.

<sup>104</sup> Here we paraphrase Radin's own phraseology and double meaning. She maintains that there is a 'blurring between subject and object – between attribute-property and object-property – that lies buried in Hegel's property theory'. Radin (n 11) 196.

<sup>105</sup> Radin (n 11) 41.

<sup>106</sup> Harris (n 21) 222. Of course, if persons are seen as self-owners and have property in their own person, not having property in other external material objects does not pose a problem.

<sup>107</sup> Radin (n 11) 41.

Bublitz, where he asks, 'what is 'the body, in a legal sense?',<sup>108</sup> this type of approach is not entirely satisfactory.

Bublitz considers Donna Haraway's famous question, '[w]hy should our bodies end at the skin, or include at best other beings encapsulated by skin?'<sup>109</sup> In answering this, he accepts, as we did in section three, that, for conceptual, philosophical, phenomenological, and social reasons, 'bodies have multiple boundaries'.<sup>110</sup> He, nevertheless, argues for retaining a naturalistic conception of the body as the 'legal body'. This is not because he thinks the bodily boundary 'is itself a normatively relevant border nor because organic materiality should be privileged.'<sup>111</sup> Instead, he argues that:

...the legal body ends at the skin because everything beyond its borders has a social dimension that the law cannot ignore. Expanding bodies into things while accommodating social interest in them would result in a devaluation of the body.<sup>112</sup>

When he refers to the social dimensions of things, he is thinking mainly about the interests and rights which third parties might have regarding medical devices, as well as uncertainties which may arise vis-à-vis, for instance, liability should medical devices be viewed by the law as becoming exclusively part of bodies.<sup>113</sup> A similar point is made by Walker and Sparrow in their recent critique of what they call the 'extended body thesis'; that is, 'claims that bodily processes are not confined to the skin and extend into the environment, and that particular objects should, where certain criteria are met, be considered parts of the body.'<sup>114</sup> Walker and Sparrow argue that viewing these parts *as* the body has implications regarding third party obligations because 'we don't typically have obligations to look after (as opposed to not harm) the body parts of others.'<sup>115</sup> We agree with these commentators. It certainly would be problematic if, suddenly, medical device manufacturers were no longer to be held responsible for the safe and effective functioning of their devices simply because they had become part of the person into whom it is implanted.

There are also practical (medical and legal) reasons why it may not be appropriate to view hybrid humans' devices exactly as the organic body. Consider the fact, for example, that the anticipated battery life of a pacemaker is six to seven years, after which the pacemaker box (albeit not the pacemaker

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<sup>108</sup> C Bublitz, 'The Body of Law: Boundaries, Extensions, and the Human Right to Physical Integrity in the Biological Age' (2022) 9 *Journal of Law and the Biosciences* 2.

<sup>109</sup> D Haraway, 'A Manifesto for Cyborgs: Science, Technology and Socialist-Feminism in the Late Twentieth Century' in Linda Nicholson (ed), *Feminism/Postmodernism* (Routledge 1990) 191, 220. This is a question also previously considered by one us. See Quigley and Downey (n 62) 279–306.

<sup>110</sup> Bublitz (n 108) 25.

<sup>111</sup> Ibid.

<sup>112</sup> Ibid.

<sup>113</sup> Ibid 24.

<sup>114</sup> MJ Walker and R Sparrow, 'Being in the World: Extended Minds and Extended Bodies' in Heinrichs, J-H., Beck, B., and Friedrich, O. (eds) *Neuro-ProsthEthics: Ethical Implications of Applied Situated Cognition* (J.B. Metzler Berlin, Heidelberg, 2024) 73.

<sup>115</sup> Walker and Sparrow (n 114) 83.



leads) will need to be replaced.<sup>116</sup> Similarly, other medical devices have lifespans which may well be shorter than the life of the person into whom they are implanted. If they cease to work properly, they may need to be replaced or removed entirely. How are we to conceive of these devices vis-à-vis property rights in such situations? It seems a stretch that we (and the law) ought to view them as being normatively transformed each time they cross the bodily boundary. To hold this is akin to thinking some kind of moral (and legal) magic happens which transform them from objects capable of being governed by property rights to part of the subject, and thus incapable of being so governed, once implanted to being back once again in the realm of property once removed. The opposite also holds. Those who think that only those biomaterials which are separate and distinct from the body are capable of being governed by property rights must think that some sort of morally normative transition has taken place which ought to be reflected in a legal rule.<sup>117</sup> All of this seems not only overly complicated, but not of much practical legal use.

Having said all of this, the arguments in this chapter (see especially section four) indicate that the particular class of objects under consideration – integrated medical devices and prostheses – do become bound up with (the lives and functioning of) persons in ways that other objects simply do not. If this is correct, then where does this leave us? The solution, we suggest, is that such devices continue to be capable of being governed by property rights, albeit the person into whom the device is implanted or to whom it is attached will hold the requisite rights. This is, of course, the solution unwittingly encapsulated in the old DHSS guidance regarding the removal of cardiac devices (HN(83)6). For reasons on which we are about to elaborate, explicitly adopting a property rights position helps to navigate the challenges which are consequent on the inherent liminality of hybrid humans as subject-objects. Perhaps counter intuitively, property rights – as Radin's property for personhood approach implies – allow us to continue to recognise the object-ness of the device, whilst simultaneously accommodating their integration with subjects.

Radin's uncertainty regarding the status of implanted parts notwithstanding, her comments demonstrate why hybrid humans' rights over their integrated devices ought to be construed as property rights. According to Radin, '[o]nce we admit that a person can be bound up with an external 'thing' in some constitutive sense, we can argue that by virtue of this connection the person should be accorded broad liberty with respect to control over that 'thing'.'<sup>118</sup> If we accept this, then it very easily follows that once persons become bound up with medical devices and prostheses in a constitutive way, they ought to be accorded a broad spectrum of use and

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<sup>116</sup> British Heart Foundation, 'From the Procedure to Recovery: Frequently Asked Pacemaker Questions' (British Heart Foundation) <<https://www.bhf.org.uk/information-support/heart-matters-magazine/medical/how-does-a-pacemaker-work/frequently-asked-pacemaker-questions>>, accessed 3<sup>rd</sup> Dec 2024.

<sup>117</sup> In relation to body part and biomaterials, Quigley has previously argued against such a position (the 'no moral magic' principle). See Quigley (n 25) 234-236.

<sup>118</sup> Radin (n 86) 957.

control rights over that thing. Moreover, if it is also true, as we argued in section two, that the locus of property can be identified as resting in the control that persons (ought to) have over the use of things, then these look very much like rights of the property ilk. This is especially the case if a person's interests in this respect are protected by a corresponding (and enforceable) set of duties against all other persons. On such an account, those property rights held by third parties (i.e. manufacturers, hospitals, and so on) over medical devices are transferred to the hybrid human upon implantation. They then acquire all the rights of use and control formerly held by the relevant third party. As Goold and Quigley have previously argued in the context of biomaterials, property law is extraordinarily well suited to dealing the transfer of things.<sup>119</sup> To a certain degree, this is the *raison d'être* of property law. Moreover, they argue that 'a property approach...gives us the capacity to determine who has the best claim to an item, and from this to establish who can retain possession of it, use it, transfer it and so on.'<sup>120</sup>

Our suggested approach – that integrated medical devices and prostheses ought not to be viewed as losing the property of being property – has several benefits. First, it does not entail engaging in metaphysical, moral, or legal gymnastics, whereby the location of the device is determinative of an object's property status. Accordingly, property rights do not come in and out of existence as the device moves across the bodily boundary. Second, as with other objects in the world, the standard operation of property law means that questions of who has the requisite use and control and how transfers are handled are easily dealt with. Third, we do not need to be unduly bothered by concerns regarding the potential lack of continuing obligations, and attendant liability, of third parties such as manufacturers. Allowing that integrated devices continue to be governed by property rights (albeit those of the hybrid human) gives a continuing justificatory reason why manufacturers would be liable for device failures. This is because such devices, in not being subsumed entirely into the category of persons (bodies), can continue to be dealt with under the relevant medical devices' regulations and product liability regimes. Fourth, by recognising the hybrid human as the holder of the requisite property rights, we acknowledge the locus of control regarding integrated medical devices is most appropriately vested in those to whom such devices are implanted or attached. Fifth, property law, both criminal and civil, already has mechanisms in place which could take account of a range of relevant harms.<sup>121</sup> In their analysis on compensation for harm in the context of damage to prostheses, Goold and colleagues note that the criminal law already takes seriously the effect on the person within its property offences, particularly where the crime involves violence.<sup>122</sup> Equally, they argue that the

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<sup>119</sup> Goold and Quigley (n 60) 261.

<sup>120</sup> Ibid 261.

<sup>121</sup> I remain indebted to Imogen Goold, Hannah Maslen, and Cressida Auckland who shared with me their analysis on how the law could take account of damage to prostheses (n 12). This remains the only in-depth piece I have read which dissects the intricacies of both the criminal and civil law, comparing potential approaches where the requisite harms are conceptualised as being to the person/living body versus property.

<sup>122</sup> Goold, Maslen, and Auckland (n 12) 18-22.

civil law offers routes for redress that are apt for application in such cases; namely, trespass to goods, conversion, negligence, and bailment.<sup>123</sup>

## 6. PROPERTY RIGHTS, BODILY RIGHTS, HUMAN RIGHTS...

Although integrated medical devices and prostheses ought not to be seen as losing their object-ness (and thus property-ness), to greater or less degrees, they are ontologically contiguous and coextensive with the (body of the) person into whom they are implanted or attached. Given this, a potential objection to the position just sketched out might be as follows: Even though integrated medical devices and prostheses ought not to be thought of as being wholly subsumed into the person or their body (insofar as they lose their object-ness), the rights that hybrid humans have over these are better captured by something like a (human) right to bodily integrity rather than property rights. This, at least on the face of it, is an attractive proposition, but as we are about to see, can only be part of the story when it comes to hybrid humans.

### 6.1 Legal Pragmatism and the Right to Bodily Integrity

Despite the fact, as Herring and Wall note, that 'it is very hard to find any definitive legal definition of the concept [of bodily integrity]',<sup>124</sup> as they also rightly say, 'the right to bodily integrity (however that is understood) is an important part of the law'.<sup>125</sup> The right has consistently found traction not only in domestic law but wider European jurisprudence and international human rights instruments.<sup>126</sup> Indeed, as Bublitz has argued, various human

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<sup>123</sup> Ibid 22-25. Depending on the facts of any case which may arise, there are some uncertainties here; for example, on the possibility of recovery for psychiatric injuries stemming from negligent damage to property (Goold at 28). They note that the likely directly applicable authority on this is *Attia v British Gas Plc* [1987] 3 All ER 455. However, its status is uncertain within existing jurisprudence, having not been cited in more recent cases on (pure) psychiatric injury (at 30; P Giliker, *Tort* (Sweet & Maxwell 2023) 4-012). Part of the problem may be to do with how any ensuing psychiatric injury is characterised. It is well established in personal injury claims that recovery for mental distress/psychiatric injury consequent upon the physical injury is recoverable. This can be contrasted with pure psychiatric injury, where recovery is possible but highly circumscribed (for a commentary on the most recent of these cases see I Goold and C Kelly, 'Time to Start de Novo: the Paul, Purchase and Polmear Litigation and the Temporal Gap Problem in Secondary Victim Claims for Psychiatric Injury' (2023) 39 *Professional Negligence* 24). Part of the uncertainty then in the context of property damage, which Mulheron points out, is that that the requisite injury is seemingly treated not as consequential but as pure psychiatric injury (R Mulheron, *Principles of Tort Law* (Cambridge University Press 2016) 221). Ultimately, however, the problem may lie at the level of practice not principle. There may be a need to distinguish between distress occasioning psychiatric injury and other forms of distress. As Descheemaeker notes, whilst recovery for what he broadly terms emotional distress is possible, and its scope and limits broad, it is nevertheless rare. (E Descheemaeker, (2018) 'Rationalising Recovery for Emotional Harm in Tort Law' 134 *Law Quarterly Review* 602, 613-614 and Low, Yee and Ying-Chieh (n 88) 312.

<sup>124</sup> J Herring and J Wall, 'The Nature and Significance of the Right to Bodily Integrity' (2017) 76 *Cambridge Law Journal* 566, 566.

<sup>125</sup> Ibid 569.

<sup>126</sup> For an overview of some of the relevant cases see Ibid 569-575.

rights instruments can be interpreted as containing such a right, even when not explicitly articulated as such.<sup>127</sup> Here, he specifically mentions Article 3 of the Universal Declaration of Human Rights ('right to life, liberty and security of person'), Article 9 of the Convention on Civil and Political Rights ('right to liberty and security of person'), and Article 8 of the European Convention on Human Rights (ECHR) ('right to respect for private and family life'). Amongst others, to this list, we can also add Article 3 of the ECHR ('prohibition of torture') and Article 3 of the EU Charter of Fundamental Rights ('right to integrity of the person').<sup>128</sup>

For a number of reasons, some might favour the appeal to the human right of bodily integrity as the means to protect the rights of hybrid humans over their integrated medical devices. First, as noted in section three, the 'human' in human rights serves to remind us of, and centre, the person whose rights, freedoms, and other protections are at issue. There is, therefore, an intuitive appeal and synergy with something which already forms an important part of our wider jurisprudence. Second, considerations of bodily integrity or integrity of the person highlight the potential consequences for the person when the bodily boundary is breached. The body (at least for the time being) cannot intelligibly be understood separately from the person whose body it is. As Margaret Shildrick notes we 'live through our bodies not just in them.'<sup>129</sup> This embodied subjectivity cannot be neglected when considering the reasons why, and ways in which, law protects or ought to protect persons (hybrid or not). For Herring and Wall, what is important about a right to bodily integrity is that 'it protects *the point of integration*' between the inherent subjectivity of the person and the more objective body.<sup>130</sup> In so protecting, they say that the 'right [to bodily integrity] gives a person exclusive use of, and control over, their body on the basis that the body is the site, location, or focal point of their subjectivity (however understood and constituted).'<sup>131</sup> This leads to a third, and related, reason why the right to bodily integrity is appealing; that is, we might think that this right is appropriately reflective of the reality of bodies in the biotechnological world. Again, as Herring and Wall say, 'the body is...leaky...the boundary around what constitutes 'the body', which the right to bodily integrity protects, is not a fixed boundary.'<sup>132</sup> Given our own arguments in section four, we cannot disagree with this. In many ways, this lack of fixity is exactly what is at issue when it comes to hybrid humans. Fourth, when it comes to law, a degree of ambiguity or porousness regarding concepts and definitions is not always a disadvantage. Practically speaking, this allows a greater degree of flexibility when it comes to interpretation, if and when suitable cases appear

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<sup>127</sup> Bublitz (n 108) 6.

<sup>128</sup> More on these different formulations shortly.

<sup>129</sup> M Shildrick, 'Contesting normative embodiment: Some reflections on the psycho-social significance of heart transplant surgery' (2008) 1 Perspectives: International Postgraduate Journal of Philosophy 12, 15.

<sup>130</sup> Herring and Wall (n 124) 581.

<sup>131</sup> Ibid 580.

<sup>132</sup> Ibid 586.

before the courts. Indeed, this is arguably what happened in the 2001 case of *Price v the UK*.<sup>133</sup>

The applicant in *Price* was a severely disabled wheelchair user who was 'four-limb deficient as a result of phocomelia due to thalidomide'.<sup>134</sup> She alleged inhumane and degrading treatment (a violation of Article 3 - prohibition of torture - of the ECHR) during a period of detention in a local police station and subsequent imprisonment. There were several facets to this, but of relevance to the present discussion was the fact that she was not allowed to bring a battery charger for her wheelchair with her to either the police cell or the prison. Of this Judge Greve said:

In my opinion, these compensatory measures come to form part of the disabled person's physical integrity. It follows that, for example, to prevent the applicant, who lacks both ordinary legs and arms, from bringing with her the battery charger to her wheelchair when she is sent to prison for one week...is in my opinion a violation of the applicant's right to physical integrity.<sup>135</sup>

We can see why, in this case, interpreting not having access to the battery, and thus not being able to use the wheelchair, as such a violation might be attractive. There is an argument to be made that broadly speaking, the law tends to treat physical interferences with the person more seriously than interferences with property.<sup>136</sup> Thus, characterising the situation in *Price* as a physical violation could be viewed as capturing this seriousness more aptly. As Herring and Wall say, for a person with the applicant's disabilities, 'being deprived of access to the battery can have the same moral and legal significance as being physically interfered with.'<sup>137</sup> As we will see shortly, however, whilst we agree with Judge Greve (and with Herring and Wall) on the seriousness of the consequences in such cases, ultimately it is not clear that appeals to the right to bodily integrity can do (all) the work asked of them.

Another case from the United States, which did not go to court, but which may illicit similar intuitions has been reported by MacDonald Glenn (the attorney of record on the case). She describes how her client, Mr Collins, a disabled Vietnam veteran, had his 'fully functional powered mobility assistance device' (which had been designed specifically for him) damaged on a flight.<sup>138</sup> Although the airline committed to replacing the device, the process took eleven months, rendering Mr Collins bedridden. He requested compensation from the airline to cover his out-of-pocket expenses and to account for pain and suffering (including developing bedsores from being confined to a bed). The insurance adjuster initially denied this claim, then offered \$1,500 in compensation. The sticking point seemed to be that the

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<sup>133</sup> [2001] ECHR 458.

<sup>134</sup> Ibid.

<sup>135</sup> Ibid, per Separate Opinion of Judge Greve.

<sup>136</sup> Quigley and Ayihongbe (n 8) 289. Albeit this characterisation of the law's approach

<sup>137</sup> Herring and Wall (n 124) 587.

<sup>138</sup> L Glenn, 'Case Study: Ethical and Legal Issue in Human Machine Mergers (Or the Cyborg Cometh)' (2012) 21 *Annals of Health Law* 175, 176.

adjuster 'was not aware of the difference between a wheelchair and [a mobility assistive device].'<sup>139</sup> According to MacDonald Glenn, the assistive device functioned as 'a prosthetic and operated as an extension of Mr Collins' body, functioning as his lower limbs and lower torso muscles.'<sup>140</sup> The case was finally settled out of court for \$20,000.<sup>141</sup> Arguably, the 'error' made by the adjuster can be explained by thinking about the problem in an overly object-focused manner. Viewing Mr Collin's assistive device as a mere object and thus easily interchangeable with a manual wheelchair was to miss the subjective element of the damage to the device; that is, the effect that being deprived of the device had on Mr Collin's life given that his reliance on it to function as if it was part of his body.<sup>142</sup>

In drawing attention to these examples, we are not necessarily suggesting that persons with such external devices fall within our conceptualisation of the hybrid human, although we concede that it is arguable. Instead, we do so because the decision in *Price* is an example of one way in which the law could be said to have transcended its usual highly dichotomised approach to blur the boundaries between subject and object. If what animates the right to bodily integrity is the consequences of any harm or interference – which seems to be what is implied in *Price* – then recourse to the right to bodily integrity could help to bring the subject-orientated considerations into the frame. This need not necessitate the claim that the wheelchair is part of the body *stricto sensu*<sup>143</sup> but instead represent some form of convenient legal fiction. Thus, insofar as such a right does not require us to subscribe to some version of the extended body thesis, or insofar as other devices can be viewed as integrated with or incorporated into persons without entailing that they have acceded to the whole,<sup>144</sup> then the right to bodily

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<sup>139</sup> Ibid 177.

<sup>140</sup> Ibid.

<sup>141</sup> Ibid 179.

<sup>142</sup> Another instance of damage to a wheelchair/assistive device, with even more serious consequences, was reported more recently. Prominent disability rights activist Engracia Figueroa had her custom wheelchair damaged on a United Airlines flight between Washington DC and Los Angeles in July 2021. Following the destruction of her wheelchair, she was forced to use an inadequate replacement chair, which resulted in her developing pressure sores. These sores became infected, eventually leading to Ms Figueroa's death in October 2021. Spocchia, Gino. (2021) 'Disabled activist dies after United Airlines destroyed her custom wheelchair' *The Independent*, Friday 5<sup>th</sup> November 2021. Available at: <https://www.independent.co.uk/news/world/americas/crime/disabled-activist-death-united-airlines-b1958791.html>, accessed 3rd Dec 2024.

<sup>143</sup> Bublitz (n 108) 9. Note that Bublitz seems to interpret Herring and Wall's position as being some variant on the Extended Body Thesis, but whilst they say 'what counts as a body is a question that is answered by a person's subjective engagement in the world', they are more concerned about the normative implications of the impact of a person's external environment and how the right to bodily integrity could accommodate this, rather than defining the body *per se* (see Herring and Wall (n 124) p. 587). In any case, their point, much like our own in section four, is that what we think of as 'the body' (whatever that might mean) is not fixed.

<sup>144</sup> Although an analysis based on the legal doctrine of accession might bear fruit here, but, as recently noted by Low and colleagues in the context of prostheses, this would be replete with difficulties (Low (n 88) 308-312). Accession is where two pieces of property becomes

integrity could be utilised and might even prove useful.<sup>145</sup> In this way, it may serve a symbolic function – reminding us of the importance of the human body for persons, as well as their humanity more generally.<sup>146</sup>

The difficulty with this is that, if we look at the rights from the various human rights instruments listed earlier, these all represent differing (and potentially completely different) articulations of the right to bodily integrity.<sup>147</sup> Hence, as Viens argues, despite the fact that the right to bodily integrity has found both widespread penetration in the law and is often treated as uncontroversial within the academy, “[t]here is a great need to better understand the content of the [right to bodily integrity] in order to be able to obtain a clear and justified idea of when the right is engaged and on what basis the right is violated.”<sup>148</sup> We can all surely agree with Judge Greve’s comments in *Price* when she said that “[i]t requires no special qualification, only a minimum of ordinary human empathy, to appreciate [the applicant’s] situation”.<sup>149</sup> Nevertheless, without more, it is unclear how this aspect of the opinion should be interpreted more broadly. Neither is it clear what the comment on the violation of physical integrity adds beyond what is already adequately captured by the standard formulation of Article 3 as covering a prohibition on inhuman and/or degrading treatment, as well as torture.

Even if we were to accept that the right to bodily integrity plays a solely symbolic function in such cases, something which is not a given,<sup>150</sup> this right could only be useful as part of a set of broader legal tools. As argued throughout, when it comes to hybrid humans, we need something which can

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joined together and the accessory becomes part of the principal (KGC Reid, *The Law of Property in Scotland* (Edinburgh: Butterworths/Law Society of Scotland, 1996) para 570). Part of the problem in the context of medical devices and prostheses is that the doctrine of accession requires, as Reid says, that the accessory ‘is considered, in law if not in fact, to have lost its identity as a separate item of property’ (para 574). Crucially, however, it accedes to *another* piece of property, it does not lose its identity as an object *capable of being governed by* property rights at all. For an analysis which discusses the manifold difficulties with accession, which in any case is not well developed in English law, in the context of human biomaterials see Quigley (n 25) 83-94.

<sup>145</sup> For an interesting analysis which ‘casts doubt’ on the view that the body should be accorded special significance, and thus favours the term personal rights as more broadly encompassing, see T Douglas, ‘From bodily Rights to Personal Rights’ in A von Arnould, K von der Decken, and M Susi, *The Cambridge Handbook of New Human Rights: Recognition, Novelty, Rhetoric* (Cambridge University Press, 2020) 378, 379.

<sup>146</sup> Goold, Maslen, and Auckland (n 12). In this paper, the authors discuss the potential symbolic value of considering prostheses as part of the body. For reasons discussed in the main text in relation to the sufficiency of property law, ultimately, they reject this.

<sup>147</sup> Viens has recently described these as falling into three categories (1) freestanding, enumerated rights, (2) delegated rights, and (3) interpreted rights. AM Viens, ‘The Right to Bodily Integrity: Cutting Away Rhetoric in Favour of Substance’ in A Arnould, K Decken, and M Susi, *The Cambridge Handbook of New Human Rights: Recognition, Novelty, Rhetoric* (Cambridge University Press, 2020) 363, 364-365.

<sup>148</sup> Ibid 365.

<sup>149</sup> *Price* (n 133). For an interesting analysis which discusses Judge Greve’s comments in the context of a putative ‘right to hope’ see S Trotter, ‘Hope’s Relations: A Theory of the ‘Right to Hope’ in European Human Rights Law’ (2022) *Human Rights Law Review* 1.

<sup>150</sup> See, for instance, Goold, Maslen, and Auckland (n 12); Viens (n 152) 363, and Low, Yee and Ying-Chieh (n 88).

allow us to continue to recognise the object-ness of the device, whilst simultaneously accommodating the interests of the subjects with whom they are integrated. This is something, we suggested in section 5.2, which a (potentially modified) property rights approach is well placed to do. Viewing integrated medical devices, and potentially assistive devices, as personal property would go a long way towards take account of the significance of such devices to (the lives of) persons. Just like Radin's example of the wedding ring, certain medical devices and prostheses have, in Bublitz's words, a 'dual nature'.<sup>151</sup> He notes that 'in some descriptions, they are part of the body; in others, they are technical artefacts and alienable goods.'<sup>152</sup> This dual nature means that a pragmatic approach to any challenges arising is likely needed and that treating certain devices solely as objects or solely as subjects may be neither appropriate nor adequate. Arguably, despite the fact that it has traditionally operated on the basis of an organising subject-object dichotomy, there is no reason to think that the law could not accommodate an alternative, more nuanced approach. This is where the more dynamic approach of the common law can be beneficial in dealing with the challenges wrought by advancing technology. Just as bodily boundaries are not necessarily fixed and immutable (ontologically and philosophically-speaking), neither is the approach of the common law (something aptly illustrated by the *Yearworth* case).<sup>153</sup> Depending on the facts of any case which might come before the courts, advances in medical device technologies may necessitate a re-analysis of the common law's approach to hybrid humans. Again, as illustrated by *Yearworth*, a measure of judicial creativity may be needed for this. It might be that some mixture of elements from say personal injury, property law, and human rights law are required to ensure adequate redress for any harms incurred or wrongs done (again facts depending). The caveat to this, in the words of the current Master of the Rolls (the then Chancellor of the High Court), is that '[j]udicial creativity has its place, but when it intervenes, it should do so incrementally rather than in great strides.'<sup>154</sup> The application and evolution of existing common law principles to better take account of hybrid human realities would likely fit this mould.

## 6.2 Beyond Pragmatism Towards Philosophical Coherence

In addition to the more pragmatic reasons why property rights are appropriate and useful tools for resolving certain challenges pertaining to the hybrid human, there is also a philosophical one. Think again about Herring and Wall's definition of bodily integrity (which is as good a definition as there is to be found). As we already saw, they characterise the right as one which 'gives a person exclusive use of, and control over, their body on the basis that

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<sup>151</sup> Bublitz (n 108) 21.

<sup>152</sup> Ibid.

<sup>153</sup> *Yearworth* (n 51) [45] per Lord Judge CJ.

<sup>154</sup> G Vos, 'Certainty v Creativity: Some pointers towards the development of the common law' SAL Distinguished Speaker Lecture, 14 September 2018 at 64. Available at <https://www.judiciary.uk/wp-content/uploads/2018/09/speech-by-chc-sal-lecture-sept2018.pdf>, accessed 3<sup>rd</sup> Dec 2024.



the body is the site, location, or focal point of their subjectivity'.<sup>155</sup> They go on to say that 'the right to bodily integrity is exclusive in the sense that it entails power to exclude all others from the body. In this way, the right to bodily integrity is *akin* to a property right'.<sup>156</sup> They do not expand on this aspect, but we emphasise the 'akin' part because it is clear in their other work that they do not subscribe to the view that the (whole living) body can or ought to be considered as property.<sup>157</sup> Yet, despite this, they have nevertheless hit upon the philosophical crux of the matter, which is that rights, such as the right to bodily integrity, presuppose a background (extra-legal) conception of property in the body.

If as outlined and discussed in section two, the locus of property rights is to be identified as resting in the control that persons (ought to) have over the use of things and, if a person's interests in this respect are protected by a corresponding (and enforceable) set of duties, then if we have similar use and control rights over our bodies and embodied selves, these look very much like property rights. As one of us has previously argued, the rights that persons have over their bodies and embodied selves are the logical entailment of their autonomy and of persons as autonomous beings. Moreover, the position of normative authority that persons have in this respect can usefully, and justifiably, be conceptualised as a set of property rights – which we can call self-ownership.<sup>158</sup> The rights, which comprise self-ownership, can be construed as a perimeter of rights that gives normative protection to an individual's personal domain as located in their own person. The aptness of property here is evident when we think about the concept of ownership more generally. On this, Quigley has previously argued that:

Owners are the ones with the normative authority to exercise (or not) the use and control. It is their interests which are at issue and they are the holders of the requisite rights. They can thus be said have ownership when their rights with regards to the thing are better than all others and when they are the one with the power to authorise a change in the normative baseline.<sup>159</sup>

It is this normative authority that the law protects and gives effect to. Although it is sometimes said that English law has no concept of ownership, there must be one working in the background as a philosophical touchstone. If there were not, property law (with all its nuances and variations) would be

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<sup>155</sup> Herring and Wall (n 124) 580.

<sup>156</sup> Ibid [our emphasis].

<sup>157</sup> J Herring and PL Chau, 'Interconnected, Inhabited and Insecure: Why Bodies Should Not Be Property.' (2014) 40 *Journal of Medical Ethics* 39; J Wall, *Being and Owning: The Body, Bodily Material, and the Law* (Oxford University Press 2015).

<sup>158</sup> Quigley (n 25) 194-230. Quigley argues for a version of self-ownership which does not entail the usual distributive commitments more common in libertarian-esque political philosophical versions of self-ownership. Similarly see Aas' interesting piece where he also rejects these but puts forwards arguments for ownership of our bodies but not 'ownership of the self' (at 213). S Aas, '(Owning) Our Bodies, (Owning) Our Selves?' in D Sobel and S Wall (eds) *Oxford Studies in Political Philosophy* Volume 9 (Oxford University Press 2023) 213.

<sup>159</sup> Quigley (n 25) 190.

rendered unintelligible. As Lawson and Rudden state, and we saw in section two, for the law 'the possessor of a thing is protected because he or she has possession; the owner is protected because he or she ought to have possession'.<sup>160</sup> As such, whereas ownership in things in the external world is a reflection of owners' normative authority regarding those things, self-ownership is a reflection of self-owners' (persons') normative authority regarding their bodies and selves. In this way, we do not claim self-ownership as a *legal* concept. Instead, it is best viewed as a set of rights which functions as a global *moral* descriptor of the protected interests that persons have in themselves, their bodies, and their lives.

We are not alone in thinking that property is relevant to considerations of persons and their bodies. Beyleveld and Brownsword contend that 'a person's body is par excellence the kind of thing that might be treated as one's property'.<sup>161</sup> Moreover, they argue that legal instruments, such as the Convention on Human Rights and Biomedicine (Oviedo Convention), presuppose that bodies and body parts can be property. Specifically, they locate support for this in the 'the informed consent requirement of Article 22'.<sup>162</sup> This Article states that:

When in the course of an intervention any part of a human body is removed, it may be stored and used for a purpose other than that for which it was removed, only if this is done in conformity with appropriate information and consent procedures.

For Beyleveld and Brownsword, the 'control [given] over the post-removal use of our body parts, by granting us not only the right to set the initial bounds of permitted use but also to sanction any deviation from such initial permitted use...look very much like property rights in our own body parts'.<sup>163</sup> Again, it is a person's normative authority, and by extension the control that persons (ought to) have over the use of their removed biomaterials, which is determinative. On this view, consent is a power which is part and parcel of someone's pre-existing set of (moral) property rights in relation to their biomaterials. When someone consents to either particular uses of those materials or they consent to transfer the materials and give up their rights over them, that consent functions to authorise a change in normative (legal or moral) relations between people with regards to those materials.<sup>164</sup> And, whether these rights are viewed as deriving from statutory instruments such as the Human Tissue Act 2006, case law, or human rights such as Article 22 of the Oviedo Convention, they do look a lot like the property rights we have in many other sorts of objects in the external world.

There is sometimes a baseline assumption from commentators that the embodied person, and thus their constituent parts, cannot be considered as

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<sup>160</sup> Lawson and Rudden (n 26) 65.

<sup>161</sup> D Beyleveld, and R Brownsword, 'My Body, My Body Parts, My Property' (2000) 8 *Health Care Analysis* 87, 88.

<sup>162</sup> Ibid 88.

<sup>163</sup> Ibid 90.

<sup>164</sup> Quigley (n 25) 270.

property.<sup>165</sup> However, if we do not accept this as a defensible starting point, as our arguments here suggest we should not, then we do not need to view integrated devices and prostheses as undergoing a category shift from property to non-property. On this view, there is no inherent tension or incongruence between the rights that subjects have over themselves and those which they have over things in the external world. If this is the case, then the blurring of boundaries between subject and object which is a *sine quo non* of the hybrid human can easily be accommodated by the law without the need to deny either the subjectivity of the person or the object-ness of their integrated medical devices and prostheses.

## 7. CONCLUDING THOUGHTS

In this chapter, we outlined some of the different modes in which objects can become incorporated into (the lives of) persons and, in so doing, argued that this integration can lead to persons 'becoming hybrid'. We argued that the bounded approach of the law can result in inadequate attention to more subject-orientated considerations and the complexity of person-thing hybridity. This may be particularly acute in situations where the object – the medical device – is literally constitutive of the subject's personhood. Here we gave the example of ICDs and certain pacemakers, where in some cases the person's continued existence relies on the device. The philosophical and practical legal difficulty with this is that, when they are in the external world, medical devices and prostheses are incontrovertibly and uncontroversially things which are capable of being governed by property rights. They are transferred, bought, and sold, and those who possess them are protected by the usual operation of property law *qua* chattels.<sup>166</sup> Given this, and the standard legal bright-line between subjects and objects, questions arise as to how we, and indeed the law, ought to conceptualise the resulting 'subject-object' when such medical devices are joined to persons; that is, when persons become hybrid.

In one sense the division between persons and things is a pragmatic one. It allows us to create a system by which we can categorise and organise various legal rules, distinguishing, for example, property law from contract law. However, the philosophical problem arises where such distinctions are taken not only as pragmatic legal ones, but as representing the underlying moral philosophical justification for having such classifications in the first place. It is also here that the material challenges regarding property in the body lies. When it comes to the body and biomaterials, we cannot assume that the categories adopted or enshrined in legal rules reflect or map easily on to ontological, phenomenological, or moral realities. To address this, we examined Radin's 'property for personhood' approach. We saw that she maintains that certain items are (or can become) more personal or *constitutive of personhood* than others and, for that reason, (ought to) impact on the

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<sup>165</sup> See, for example, JE Penner, *The Idea of Property in Law* (Oxford University Press, 1997); R Rao, 'Property, Privacy, and the Human Body' (2000) 80 *Boston University Law Review* 359, 455; and Herring and Chau (n 130) 39.

<sup>166</sup> Quigley and Ayihongbe (n 8) 287.

protections qua property rights that we accord to persons with regards to such items. Ultimately, we have argued that a Radin-esque property for personhood approach, involving a hierarchy of entitlements based on the strength of connection of the device to the person, might be useful in the very specific case of the hybrid human (albeit perhaps not more generally). When it comes to persons and their medical devices, this could help us to navigate the liminal space between object and subject, where devices are (arguably) no longer appropriately conceptualised as fully object, but also ought not to be conflated completely with the subject.

Advances in medical device technologies make such a re-imagining, including a re-analysis of the common law's approach, a necessity given the conjoined future for which certain medical devices are destined. In making our case, we argued that we cannot rely solely on appeals to the (human) right to bodily integrity to do all the work needed of it when it comes to hybrid human rights. Just as we cannot (and ought not to) neglect the subjecthood of the person with the medical device, we also cannot ignore the object-ness of the device itself. Property rights and other rights, such as the right to bodily integrity, are not mutually exclusive. They are different tools which can both be drawn on to resolve complex legal problems if and when relevant cases come before the courts.

Having said all this, we acknowledge that this reimagining of hybrid humans as law's subject-objects, and the application of a modified property approach, will not appeal to everyone. And whilst we think that our approach is both justifiable and practically useful, in the end, we agree with Hansson when he says: 'if an implant replaces a part of the body, or fills its function to a significant degree, then the person has essentially the same type of right to that implant as she has to her original, biological body parts.'<sup>167</sup> In the context of ownership of removed biomaterials, Bjorkman and Hansson argued that the primary normative issue is what combination of rights a person should have to a particular item of biological material and '[w]hether that bundle qualifies to be called 'property' or 'ownership' is a secondary, terminological issue.'<sup>168</sup> In a similar vein, we are willing to concede that the label we give to hybrid humans' rights vis-à-vis their devices – property rights, bodily rights, human rights – is far less important than the content of those rights when it comes to ensuring adequate legal protections.

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<sup>167</sup> S Hansson, 'The Ethics of Explantation' (2021) 22 *BMC Medical Ethics* 1-9. Emphasis removed.

<sup>168</sup> B Björkman and S Hansson 'Bodily rights and property rights' (2006) 32 *Journal of Medical Ethics* 209,209.