

Propertisation and commercialisation

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Propertisation & Commercialisation: On Controlling the Uses of Human Biomaterials

Abstract

Until recently the one person who was not deemed to have property rights in biomaterials was the source of those materials. Third parties, such as researchers and biotech companies, can and do legally acquire property rights in these materials. They are, thus, protected by the law of property in their use of these. Recent legal cases, however, have seen a move away from this general position towards the tentative recognition of some property rights in biomaterials which vest in the source. Thus far, however, this recognition has not included any income rights. These developments prompt a re-examination of the application of property rights to biomaterials. In this article, I identify two issues which seem particularly pertinent: the interests that parties have in controlling the uses of biomaterials and the commercial interests that stem from those uses. I contend that concerns regarding the allocation of property rights to the source generally elide property rights in biomaterials with the right to derive income from the transfer of those materials. Objections to commercialisation need to be distinguished from objections to property. If this is done, then it becomes clear that propertisation does not analytically entail commercialisation. This argument notwithstanding, biotechnological advances have transformed the value of human biomaterials along numerous dimensions, including in commercial terms. Yet while researchers and biotech companies can sell tissues and cells, the practical effect of the current legal framework is that the source of those materials cannot. I, therefore, question whether, it is reasonable to protect third parties (such as researchers and biotechnology companies) with regards to income rights, while excluding the very source of the biomaterials.

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Introduction

When we say that a resource falls within the domain governed by property relations we are acknowledging a particular way of controlling that resource. This recognition consequently brings such resources within the purview and protections of existing property institutions. Those who argue that persons should be seen as having property in their separated biomaterials think that individuals ought to have this type of control therein, as well as any consequent protections in their exercise of that control. One set of responses to this takes the form of moral objections to the commercialisation and commodification of organs and tissues. Yet such objections do not go hand in hand with opposition to the donation of those self-same materials even though donation arguably involves exercising those rights of use and control that are characteristic of property. In this article I examine conflicts which have arisen with regards to biomaterials in order to illuminate the association between property and control and that

which is presumed to exist between property and sale. While it can be difficult to disentangle property from market transactions, objections to commercialisation need to be distinguished from objections to property *per se*. Drawing on the work of John Christman, J.W. Harris, and James Penner, I argue that objections to property in biomaterials generally conflate powers of control, which may include the power to transfer, with the *right to derive income* from such transfers. Recognising this allows us to admit property in bodily materials, and thus the accompanying protections and control, without necessarily having to permit the source to trade their biomaterials on the market. Nevertheless, as we will see, a market in tissue commodities already exists. Given this I question the selective moral disquiet that exists regarding the effect of the commercialisation of human biomaterials by their source.

Property & biovalue in human biomaterials

Advancing biotechnology has fundamentally altered the way we view the human body and its parts and products. We have moved from being simply the end-users of medicine and research to each of us being a potential purveyor of it. This is due, as Margaret Brazier argues, to 'the diverse means by which we ourselves may be used as medicine'¹. Human biological materials can be used to treat illness and disease.² These include blood and blood products for transfusions, organs for transplantation, and gametes and embryos for *in vitro* fertilisation (IVF) and pre-implantation genetic diagnosis (PGD). PGD coupled with Human Leukocyte Antigen (HLA) typing literally allows us to create a child whose umbilical cord blood can be life-saving for their brother or sister. Stem cells represent another avenue of potentially life-altering, if not life-saving, human medicine, and may yield treatments for a huge variety of diseases. There is a burgeoning new class of products which draw on tissue-engineering expertise, combining human biomaterials with artificial scaffolds; for example, cartilage for repairing joints,³ bladders grown from patient's own cells,⁴ and biohybrid

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¹ M. Brazier, 'Human(s) as Medicine(s)' in S. Mclean (ed.), *First Do No Harm* (Aldershot: Ashgate Publishing Ltd., 2006), 188.

² For a comprehensive overview of the use of human biomaterials see Nuffield Council on Bioethics, *Human Bodies: Donation for Medicine and Research* (Nuffield Council on Bioethics, 2011), chapter 1.

³ T. Simonite, 'Lab-grown Cartilage Fixes Damaged Knees' *New Scientist* 5th July 2006, available at <http://www.newscientist.com/article/dn9483-labgrown-cartilage-fixes-damaged-knees.html>, last accessed 11th April 2014.

⁴ R. Khamsi, 'Bio-engineered Bladders Successful in Patients' *New Scientist* 4th April 2006, available at <http://www.newscientist.com/article/dn8939-bioengineered-bladders-successful-in-patients.html>, last accessed 11th April 2014.

tracheas for transplantation.⁵ Furthermore, there are less media-worthy and exciting uses of human biomaterials, such as those used in research into the aetiology, pathology, and treatment of disease. Cells and tissues are also used for basic medical research which is not yet near clinical application. Brazier has called these diverse uses of persons and their bodies the 'notion of humans as medicines.'⁶

Significant drivers of this 'humans as medicines' enterprise are the commercial and quasi-commercial activities of medicine, scientists, pharmaceutical companies, and other industry actors.⁷ The evolving, ever increasing, and different uses of human biological materials come hand in hand with a change in the values that attach to organs, tissues, cells, and even the whole body. These values range from the emotional to the scientific and public to private; importantly these include value in biomaterials as objects of commerce.⁸ This business side to what is ostensibly a medical endeavour has been termed the 'tissue economy'.⁹ The phrase itself perhaps tells us more about the changing face of biomedicine than the most comprehensive of lists of the uses and applications of human biomaterials. Nils Hoppe uses the word 'bioequity' in talking about property in human biomaterials.¹⁰ This phrase is used idiosyncratically in his proposal for the application of the law of equity to biomaterials in order to create a new property class.¹¹ However, it also brings to mind equity in terms more usual to the financial sector; that is, bioequity as denoting the latent value that lies in our bodies and their tissues and cells. In relation to organ and tissue donation David Price has argued that '[t]his 'value' enhances the vulnerability and prospectability of our bodies and the need for donor, and indeed often community, interests to be properly protected.'¹²

Such vulnerability and prospectability is evident in the legal market in human body parts (as well as through a very lucrative illegal market which operates in tandem with, and sometimes blurs into, the legal one).¹³ Certain

⁵ A. Coghlan, 'Man Receives World's First Synthetic Windpipe' *New Scientist* 8th July 2011, available at <http://www.newscientist.com/article/dn20671-man-receives-worlds-first-synthetic-windpipe.html>, last accessed 11th April 2014.

⁶ Brazier, n 1 above.

⁷ M. Quigley, 'Property and the body: Applying Honoré' (2007) 33 *J Med Ethics* 631.

⁸ J.K. Mason and G.T. Laurie, 'Consent or Property? Dealing with the Body and its Parts in the Shadow of Bristol and Alder Hey' (2001) 64 MLR 710, 712-3.

⁹ See C. Waldby and R. Mitchell, *Tissue Economies: Blood, Organs and Cell Lines in Late Capitalism* (Durham and London: Duke University Press, 2006), 31-4. See also A. Webster, 'Stem Cell Research and Society: Lessons from Social Science' 2008. Available at http://www.bionews.org.uk/page_38010.asp. Last accessed 11th April 2014.

¹⁰ N. Hoppe, *Bioequity - Property and the Human Body* (Farnham: Ashgate Publishing, 2009), 138.

¹¹ *Ibid.* chapters 11 and 12.

¹² D. Price, *Human Tissue in Transplantation and Research* (Cambridge: Cambridge University Press, 2010), 3.

¹³ See for example the story of the theft of Alastair Cooke's thigh bones which were reportedly stolen sold to a dental implant company for \$7,000 - <http://news.bbc.co.uk/1/hi/4552742.stm>. Last accessed 11th April 2014. Further see a list

tissues and cells are not subject to the restrictions on sale which, for example, govern human organs for transplantation. This is because material removed outwith transplant purposes is not captured by the Human Tissue Act 2004 provisions on the prohibition on commercial dealings. Even then it exempts from the prohibition material which is the subject of property because of an 'application of human skill',¹⁴ as well as those which have been created outside the body such as cell lines.¹⁵ The result is that some biomaterials can be legally traded and contribute to a flourishing and lucrative global market.¹⁶ In making this observation, it should be noted that tissue handling and processing is an institutionalised activity; that is, it takes place in certain well-demarcated domains where those using cells and tissues have the requisite skills and resources. Furthermore, it only (legitimately) occurs where those involved can meet the necessary legal requirements; for example, compliance with European legislation and the licensing requirements of the Human Tissue Authority.¹⁷ The practical effect of this is that researchers and biotech companies can sell tissues and cells, but the very source of those biomaterials (you and I) cannot.¹⁸ It is this value transformation due to commercial and quasi-commercial uses, along with recent legal developments, which makes apposite a re-analysis of the notion of property as applied to human biomaterials.

Human biomaterials, property, & the law

There is no doubt that human biomaterials are seen as capable of being legitimate objects of property in the eyes of the law. Although previously governed by the 'no property' rule,¹⁹ this approach to human tissue has been

of the worth of black market body parts in A. Cheney, *Body Brokers: Inside America's Underground Trade in Human Remains* (Broadway Books, 2006), xv.

¹⁴ s. 32(9)(c).

¹⁵ s. 54(7) and Explanatory Notes, s. 10. See also the HTA's supplementary list which outlines materials which do and do not fall within the remit of the Act. Available at http://www.hta.gov.uk/db/documents/Supplementary_list_of_materials_200811252407.pdf. Last accessed 11th April 2014.

¹⁶ Although difficult to estimate the worth of the global industry due to the diverse and multiple uses of biomaterials, looking at individual sectors can give us an idea of its scale. For example, regarding cell therapies, Mason *et al.* estimate that there is now an annual turnover in excess of \$1 billion dollars. See C. Mason, D.A. Brindley, E.J. Culme-Seymour, & N.L. Davie, 'Cell Therapy Industry: Billion Dollar Global Business with Unlimited Potential' (2011) 6 *Regen Med* 265, 266.

¹⁷ See, for example, the HTA guidance on 'Licensing under the Quality and Safety Regulations' (available at <http://www.hta.gov.uk/licensingandinspections/licensingunderthequalityandsafetyregulations.cfm>, last accessed 11th April 2014). This is wider than the scope of the European Union Tissue and Cells Directives (2004/23/EC, 2006/17/EC, and 2006/86/EC).

¹⁸ It is presumably conceivable that an individual possessing the right resources and skill set could process their own cells and tissues in the requisite manner required for the exception to apply. However, besides this being a tall pragmatic ask, it is also unlikely that the would-be home researcher would be able to meet the other legal requirements in terms of safety and licensing.

¹⁹ See E. Coke, *The Third Part of the Institutes of the Laws of England: Concerning High Treason, and Other Pleas of the Crown, and Criminal Causes* (London 1669), 203 (3 Co.

superseded by rulings in case law (in England and Wales and beyond) which take into account a variety of considerations.²⁰ Amongst these are rulings which permit property rights in human tissue for a variety of purposes and legal ends,²¹ including 'to facilitate prosecutions in theft, to establish legitimate entitlements to possess tissue samples for research and other ends, as a means to permitting remedial action and compensation for damage done, and, most recently, in order to permit possession of sperm for the purposes of *in-vitro* fertilisation.'²² A significant part of the impetus for including the body and biomaterials within the purview of property is the legal difficulties which arise when they are excluded from it. Such obstacles are evident when we look at some of the early cases which adhered to the 'no property' rule. Take, for example, *R v Lynn* (1788)²³ and *R v Sharpe* (1857)²⁴. In the first of these Lynn was a resurrectionist who disinterred a corpse for dissection and the charge of digging up a corpse was brought against him. A similar charge was brought against Sharpe in the latter case where the defendant disinterred the corpse of his mother in order that it be buried with that of his recently deceased father. The difficulty arises because, as Kenyon Mason and Graeme Laurie note, 'the definition of theft, or larceny as it was at the relevant time, involves the appropriation of 'property belonging to another'. If there is no property, there can be no theft.'²⁵ In both cases other charges were brought out of necessity. The judge in *Lynn*, while recognising that 'carrying away a dead body was not criminal',²⁶ nonetheless, claimed that such practices were indecent and *contra bonos mores* (against good morals).²⁷ The defendants in both cases were convicted of misdemeanours (of disinterring a body for dissection in

Inst. 203). See also the Haynes' Case (1614) 77 ER 1389. Later cases incorporating the rule include *R v Lynn* (1788) 2 T R 394, *R v Sharpe* (1857) 169 ER 959, *Foster v Dodd* (1866) LQ 1 QB 475, (1867) LR 3 QB 67, *R v Price* (1884) 12 QBD 247, and *Williams v Williams* (1881-85) All ER 840. Although the origins of the rule are uncertain and contestable. See P. Matthews, 'The Man of Property' (1995) 3 *Med Law Rev* 251-74 and 'Whose Body? People as Property' (1983) 36 *Current Legal Problems* 193-239.

²⁰ M. Quigley, 'Property in Human Biomaterials: Separating Persons and Things?' (2012) 32 *Oxford Journal of Legal Studies* 659, 660-666.

²¹ J.K. Mason and G.T. Laurie, *Mason and McCall Smith's Law and Medical Ethics*, 9th Edition (Oxford: Oxford University Press, 2013), 476.

²² Quigley, n 20 above, 661. For some relevant cases see *R v Herbert* (1961) 25 JCL 163; *R v Welsh* (1974) RTR 478; *R v Rothery* [1976] RTR 550; (1976) 63 Cr App R 231; *R v Kelly and Lindsay* [1998] 3 All ER 741; *Doodeward v Spence* 6 CLR 406; *AB and Others v Leeds Teaching Hospital NHS Trust* EWHC 644; *Moore v Regents of the University of California* 51 Cal.3d 120, *Greenberg v Miami Children's Hospital Research Institute* 264 F.Supp2d 1064 (SD Fla, 2003); *Washington University v William J. Catalona* 490 F.3d 667; *Jonathan Yearworth and Others v. North Bristol NHS Trust* [2009] EWCA Civ 37; *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.

²³ 2 T R 394.

²⁴ Dears. and Bell 159.

²⁵ J.K. Mason and G.T. Laurie 'Consent or Property? Dealing with the Body and its Parts in the Shadow of Bristol and Alder Hey' *MLR* 64 (2001) 710, 714.

²⁶ *R v Lynn* (1788) 2 TR 732, 734.

²⁷ *Ibid.*

Lynn and disinterring a body without lawful authority in *Sharpe*). Nearly twenty years later in *R v Price* (1884)²⁸ Stephen J, referring to the facts in *Lynn*, said 'the act done would have been a peculiarly indecent *theft* if it had not been for the technical reason that a dead body is not the subject of property.'²⁹

Lest we think that the need for creative rulings was a long distant problem, more contemporary cases illustrate otherwise; in particular, *R v Kelly and Lindsay*.³⁰ In *Kelly* two men were convicted of the theft of various body parts (35–40 in total) from the Royal College of Surgeons. Lindsay, a technician at the College, had removed the body parts on behalf of Kelly, an artist who made casts from them.³¹ A crucial part of the men's defence was that since body parts could not be property a prosecution pursuant to the Theft Act 1968 was not open to the court.³² This was rejected on the basis that the common law makes an exception to the 'no property' rule where *work or skill* has been applied to human materials.³³ This originates from the ruling in the 1908 Australian case of *Doodeward v Spence*,³⁴ and appears to have been accepted by the English court two years earlier in *Dobson v North Tyneside Health Authority*.³⁵ In *Kelly* it was agreed that the body parts had been subject to a great amount of work and skill (that being required to prepare the prosecutions),³⁶ and that the application of such rendered the body parts capable of being property.³⁷ The work/skill exception was subsequently reaffirmed in *AB and Others v Leeds Teaching Hospital NHS Trust*.³⁸ A key issue in these cases (historical and contemporary) is the fact that if the body and its parts were not capable of being property then prosecutions must proceed either on different bases (such as charges of indecency) or creative (and some might say dubious) ways sought to make them subject to property considerations.

While the cases noted above involve theft-related acts, other recent cases demonstrate both the challenges that biotechnological developments present to the law as applied to human biomaterials and the utility that a property framework can offer.³⁹ Of these, the case of *Jonathan Yearworth and Others v. North Bristol NHS Trust*⁴⁰ is of particular note to scholars interested in the jurisprudence of property in human tissue. The case concerns the determination of liability for damage done to stored semen

²⁸ 12 QBD 247.

²⁹ *Ibid.* 252.

³⁰ [1999] QB 621.

³¹ *Kelly*, n 22 above, 623.

³² *Ibid.* 622.

³³ *Ibid.* 630–631.

³⁴ 6 CLR 406.

³⁵ [1997] 1 W.L.R. 596.

³⁶ *Kelly*, n 22 above, 624.

³⁷ *Ibid.* 630.

³⁸ [2004] EWHC 644 (QB).

³⁹ See *Yearworth* (England), *Bazley, Edwards*, and *Re H, AE* (all Australia), n 22 above.

⁴⁰ *Yearworth*, n 22 above.

samples.⁴¹ The samples had been stored by a licensed unit at Bristol Southmead Hospital⁴² because the men were about to undergo chemotherapy treatment and it was uncertain whether they would recover their fertility afterwards. The storage system failed and their samples perished. The question at issue was upon what basis, if any, a remedy was available for damage done. In this respect, the Court of Appeal heard arguments in personal injury, property, and bailment.⁴³ The difficulty with considering such cases outside of a proprietary framework is evident when one of the other avenues explored in *Yearworth* is examined: personal injury. Counsel for the men argued that had the sperm been damaged due to injury of the scrotum this would have been a personal injury and, further, that the mere fact of ejaculation should not make a difference to such a determination.⁴⁴ This is because the samples were being kept for use at a later date and the 'intended function of the stored sperm was identical to its function when formerly inside the body, namely to fertilise a human egg'.⁴⁵ Lord Judge CJ, however, noted some anomalies that would arise from upholding a claim in personal injury, including (1) that a personal injury would still have arisen even if the sperm had been damaged after the men had recovered their natural fertility and (2) that destruction of the sperm after the statutory limit on storage had been reached would also have to be deemed an injury in this respect.⁴⁶ In making this determination, the destruction of sperm was differentiated from unwanted pregnancy which is 'a physical event within the woman's body'.⁴⁷ In the eyes of the Court, damage cannot constitute a personal injury once the substance at issue is *separated* from the body; to do so 'would generate paradoxes, and yield ramifications, productive of substantial uncertainty'.⁴⁸ An alternative approach would be to reconceptualise the notion of 'injury' in such cases.⁴⁹ Rather than conceiving of the injury in physical terms, one might look instead to the specific interests that have been interfered with; for example, the loss of the chance to be a genetic parent.⁵⁰ However, what is at issue is not simply the loss of such a chance. It is the loss of such a chance

⁴¹ For detailed analyses of the case see M. Quigley, 'Property: The Future of Human Tissue?' (2009) 17 *Med Law Rev* 457; J. Lee, 'The Fertile Imagination of the Common Law: *Yearworth v North Bristol*' (2009) 17 *TLJ* 130; S.H.E. Harmon and G.T. Laurie, '*Yearworth v. North Bristol NHS Trust*: Property, Principles, Precedents, and Paradigms' (2010) *CLJ* 69(3): 476–493, C. Hawes, 'Property Interests in Body Parts: *Yearworth v North Bristol NHS Trust*' (2010) 73 *Modern law Review* 119, and L. Skene, 'Proprietary Interests in Human Bodily Material: *Yearworth*, Recent Australian Cases on Stored Semen and their Implications' (2012) 20 *Med Law Rev* 227.

⁴² A licence was required under the provisions of the Human Fertilisation and Embryology Act 1990.

⁴³ *Yearworth*, n 22 above, 18–50.

⁴⁴ *Ibid.* 19.

⁴⁵ *Ibid.*

⁴⁶ *Ibid.*

⁴⁷ *Ibid.* 20.

⁴⁸ *Ibid.* 23.

⁴⁹ N. Priaulx, 'Managing Novel Reproductive Injuries in the Law of Tort: The Curious Case of Destroyed Sperm' (2010) 17 *European J Health Law* 81, 92.

⁵⁰ *Ibid.*

consequent on damage to the means to make this happen. The courts do not, and ought not to, compensate for each and every instance where there is loss of a chance (like not finding a suitable reproductive partner). For this reason, it is the interests that a person has in the use and control of their (reproductive) biomaterials which are key and, which we will see in section three below, are captured by the core concept of property.

Having rejected the personal injury argument in *Yearworth*, the Court held that the sperm *could* be considered as property for the purposes of the claims before them. Allowing that human biomaterials are capable of being property is not without precedent; however, the judgement in the case is notable for calling into question the work/skill exception as being the principal basis for the ascription of property rights in human tissue.⁵¹ Lord Judge CJ said 'we are not content to see the common law in this area founded upon the principle in *Doodeward*, which was devised as an exception to a principle, itself of exceptional character, relating to the ownership of a human corpse. Such ancestry does not commend it as a solid foundation.'⁵² Instead of relying on this exception the Court, drawing on A.M Honoré's conception of ownership (of which more will be said in the section 3.1 below), took the control that the plaintiffs had pursuant to the Human Fertilisation and Embryology Act 1990⁵³ as indicative of their property rights in the samples.⁵⁴ Having accepted that the sperm could be considered as property it was then a short step to examine the facts in relation to the law of bailment.⁵⁵ The Court of Appeal thus held that the men's semen samples had been bailed to North Bristol NHS Trust and that the Trust was liable for the damage done. Hence the case represents the first time that the *source* of the tissue in question was explicitly recognised as being vested with property rights in their biomaterials. In the other cases noted above, where property was conceded, the work/skill exception was unfailingly used to confer the corresponding rights on *third parties*. Furthermore, although not relating to damaged samples, three recent Australian cases, *Bazley v Wesley Monash IVF Pty Ltd*,⁵⁶ *Jocelyn Edwards; Re the estate of the late Mark Edwards*,⁵⁷ and *Re H, AE*⁵⁸ are also illustrative of the challenges presented to the law by the expanding uses of biomaterials. These cases involved applications by the wives of deceased men for the possession of their sperm samples. In the first of these, sperm samples from the deceased had been stored, prior to him undergoing chemotherapy for liver cancer, for the purpose of having children in the

⁵¹ See Quigley, n 20 above, 665-666.

⁵² *Yearworth*, n 22 above, 45(d).

⁵³ The case was decided before the amendments came into force, the amendments would not have had any material effect on the reasoning in *Yearworth*.

⁵⁴ See Quigley, n 41 above, 462-463 and S Devaney, 'Tissue Providers for Stem Cell Research: The Dispossessed' (2010) 2 *Law, Innovation, and Technology* 165, 184.

⁵⁵ *Yearworth*, n 22 above, 46-50.

⁵⁶ *Bazley*, n 22 above.

⁵⁷ *Edwards*, n 22 above.

⁵⁸ *Re H, AE* (no. 2), n 22 above.

future.⁵⁹ After her husband's death the applicant requested that the hospital continue to store the sperm.⁶⁰ In *Edwards*, the deceased and his wife had undergone tests for infertility and were due to attend the IVF clinic to discuss the results and the options.⁶¹ Before this could happen Mr Edwards was killed in an accident at work. Unlike in *Bazley*, a prior application had already been made and granted for the extraction and storage of sperm samples.⁶² The extant application was for the release of the samples to Mrs Edwards for the purposes of IVF treatment.⁶³ Similarly, in *Re H, AE* the deceased died following an accident. There were no previously stored samples, but a previous order had been granted for the removal and storage of sperm samples.⁶⁴ In *Bazley*, drawing on the decision in *Yearworth*, the samples were deemed to have been the property of the deceased so that the rights of possession passed to his personal representative after death.⁶⁵ In the latter two cases, in determining that the samples were property the courts applied the work/skill exception. Further, the decisions noted that those who preserved the samples were acting as agents of the women. Thus, the property rights created vested in the applicants.⁶⁶ If the sperm samples had not been considered as property it is difficult to imagine upon what grounds the courts could legitimately have given the women possession of them.

Prior to having the technical ability to freeze and store semen for later use in IVF treatments, it was a moot point whether or not there were any legal remedies available for damage done or whether the samples could be considered as part of a person's estate. The decisions in *Yearworth*, *Bazley*, and *Edwards* make it clear that when it comes to human tissue the 'no property' rule is outmoded⁶⁷ and that the law of property can provide a framework for considering novel dilemmas.⁶⁸ However, the challenges of advancing biotechnology are not limited to situations which have issues of

⁵⁹ *Bazley*, n 22 above, 1.

⁶⁰ *Ibid.*, 4.

⁶¹ *Edwards*, n 22 above, 9–10.

⁶² *Ibid.* 12–15.

⁶³ *Ibid.* 29.

⁶⁴ *Re H, AE*, n 22 above, 2.

⁶⁵ *Bazley*, n 22 above, 33.

⁶⁶ *Edwards*, n 22 above, 79–82, 88, and 91. *Re H, AE* (no. 2), n 22 above, 60. Another recent case from Australia also considered application to the courts from the wife of the deceased for the removal of sperm. See *Re Section 22 of the Human Tissue and Transplant Act 1982 (WA); Ex Parte C* [2013] WASC 3. However, although the judge briefly considered the jurisprudence in relation to human tissue, he did not think it necessary to provide an answer to the property question for the purposes of the application in front of him (at 11).

⁶⁷ For an analysis of the case in the context of the 'no property' rule see R Nwabueze, 'Death of the 'No-property' Rule for Sperm Samples' (2010) 21 *King's Law Journal* 561. Nwabueze also discusses the work and skill exception and the alternative explication for conferring property rights given in *Yearworth*.

⁶⁸ For recent argument which runs counter to the general interpretation of the decision in *Yearworth* see L Rostill, 'The Ownership That Wasn't Meant To Be: *Yearworth* and property rights in human tissue' (2013) 40 *Journal of Medical Ethics* 14. Rostill argues that the 'ownership' at issue in the case ought not to be interpreted being a property right.

remedial action at their core. The value transformation that commercial and quasi-commercial activities gives rise to can lead to conflicts over the use (and abuse) of human biomaterials. Disputes involving commercial interests have not yet come before the English courts, but two cases from the United States are instructive in this respect; *Moore v Regents of the University of California*⁶⁹ and *Greenberg v Miami Children's Hospital Research Institute*.⁷⁰ It is to these I now turn.

Biomaterials, control, & commercialisation

In the first of these cases, actions were brought by John Moore against five defendants including Dr David Golde (his physician), Shirley Quan (a researcher), and the regents of the University of California, Los Angeles (UCLA). In 1976 Moore had been diagnosed with hairy cell leukaemia and had been referred for treatment to Dr Golde at the UCLA medical school. There he underwent an operation to remove his spleen. For the next seven years Moore returned regularly to see Golde. He believed that these visits were necessary for his on-going treatment and care, and during the visits numerous tissue samples taken, including bone marrow, sperm, and skin samples.⁷¹ Moore later discovered that a cell-line had been created from his splenic cells and that a patent had been issued with respect to the cell-line and associated methods for producing cell products.⁷² Thirteen causes of action were alleged in the case, including an action in conversion.⁷³ This can arise where goods have been converted to a person's use in a manner which is 'seriously inconsistent with the possession or right to immediate possession of another person.'⁷⁴ Thus, the action requires that the claimant have legitimate proprietary rights (minimally consisting of a right of possession) regarding the object at issue. Moore claimed that 'he continued to own his cells following their removal from his body, at least for the purpose of directing their use'.⁷⁵ The California Superior Court considered that all thirteen causes of action hinged on whether or not there was a cause of action in conversion. It held that there was not. This was overturned by the Court of Appeal.⁷⁶ Subsequently, the Californian Supreme Court reviewed the ruling and, in addition to the case in conversion, examined other causes of action in more detail. In particular it looked at possible causes for breach of fiduciary duty and lack of informed consent.

⁶⁹ 51 Cal.3d 120 (Cal, 1990).

⁷⁰ 264 F.Supp.2d 1064 (SD Fla, 2003).

⁷¹ *Moore*, n 69 above, 125-6.

⁷² *Ibid.* 127.

⁷³ *Ibid.* 128. The full list of actions is (1) conversion; (2) lack of informed consent; (3) breach of fiduciary duty; (4) fraud and deceit; (5) unjust enrichment; (6) quasi-contract; (7) bad faith breach of implied covenant of good faith and fair dealing; (8) intentional infliction of emotional distress; (9) negligent misrepresentation; (10) intentional interference with prospective advantageous economic relationships; (11) slander of title; (12) accounting; and (13) declaratory relief.

⁷⁴ J. Murphy, *Street on Torts* (Oxford: Oxford University Press, 2007), 258.

⁷⁵ *Moore*, n 69 above, 134.

⁷⁶ *Ibid.* 128-129.

Giving the decision of the Court, Panelli J was not convinced that Moore retained an ownership interest in his cells.⁷⁷ In coming to this conclusion the Court stated that a patient's control over their excised tissue was so restricted by Californian statutory law that it 'eliminates so many of the rights ordinarily attached to property that one cannot simply assume that what is left amounts to 'property' or 'ownership' for the purposes of conversion law.'⁷⁸ The Court also rejected the action in conversion on policy grounds, claiming that to allow it would unduly 'hinder research in the area by restricting access to the necessary raw materials.'⁷⁹ Interestingly, despite the fact that the Court claimed that the law afforded Moore little *continuing* control over his excised cells,⁸⁰ it stated that there was a cause of action for lack of informed consent or breach of fiduciary duty.⁸¹ The Court accepted that the plaintiff had not been told the material facts upon which to make his decision about treatment. The relevant information ought to have included the research and economic interests of his physicians.⁸² In allowing this, the Court is taking a contradictory stance. The reason for this, as I will argue in section 3.2 below, is that imposing a requirement of informed consent in relation to the subsequent *uses* of excised tissues bestows exactly the sort of potentially restrictive control which the court tried to avoid by denying that Moore had the requisite property rights. This is something that the majority decision did not seem to recognise; although Broussard J, dissenting, noted that '[i]f, as alleged in this case, plaintiff's doctor improperly interfered with plaintiff's right to control the use of a body part by wrongfully withholding material information from him before its removal, under traditional common law principles plaintiff may maintain a conversion action to recover the economic value of the right to control the use of his body part.'⁸³

The subsequent case of *Greenberg* relies on the decision in *Moore* for making a similar determination with respect to a claim in conversion. The plaintiffs in this later case included the Greenbergs and other families all of whom had children affected by Canavan disease. This is a degenerative disease of genetic origin which usually results in severe neurological symptoms and early childhood death. Having had an affected child, the Greenbergs wanted a way to identify carriers of the gene in order to facilitate pre-natal testing and so approached one of the defendants, Dr Matalon.⁸⁴ They helped to locate other affected families, and along with them, provided not only tissue samples and their medical histories, but also financial support for the research.⁸⁵ In contributing to the research effort the

⁷⁷ *Ibid.* 137.

⁷⁸ *Ibid.* 141.

⁷⁹ *Ibid.* 144.

⁸⁰ *Ibid.* 137 and 140–141.

⁸¹ *Ibid.* 148. Note that, having decided where the causes of action might lie, the case was remanded back to the Court of Appeal. However, the parties eventually settled out of court.

⁸² *Ibid.*, 131–133.

⁸³ *Ibid.* 151.

⁸⁴ *Greenberg*, n 70 above, 1066.

⁸⁵ *Ibid.* 1067.

plaintiffs claimed that they had done so on the understanding that it would be publicly available and that any consequent tests developed would be 'affordable and accessible'.⁸⁶ They later discovered that a patent had been granted on the gene responsible for Canavan disease. The plaintiffs alleged that the Miami Children's Hospital had also threatened to take action against other centres offering testing for Canavan disease. Further, the Miami Children's Hospital was 'negotiating exclusive licensing agreements and charging royalty fees', the effect of which would have been to restrict access to the test.⁸⁷ Three parts of the decision in this case are of particular note.

First, the plaintiffs' complaint of a lack of informed consent was dismissed by the Florida District Court.⁸⁸ This was consequent on an unwillingness to 'extend the duty of informed consent to cover economic interests'.⁸⁹ This seems to stand in contradistinction to the position of the Court in *Moore* regarding informed consent. If, in line with *Moore*, disclosure of materials interests *qua* economic interests and future uses is relevant to the consent question, then it is unclear why it was not considered so in this case. One might argue that the decision in *Moore* regarding informed consent can be (justifiably) distinguished from that in *Greenberg* because Moore had not given his consent for any research uses of his tissue, whereas the plaintiffs in *Greenberg* explicitly gave their consent for such uses.⁹⁰ Yet, even if this is the case, the Court in *Greenberg* did not fully engage with the important question of the legitimate limits on the use of the tissue samples, *given the conditions under which they were donated*; something which I will return to later. Secondly, an action in conversion was rejected. In making their case the plaintiffs alleged 'a property interest in their body tissues and genetic information'.⁹¹ The crux of the matter for the Court was the fact that the tissue samples had been *donated* and so denied that samples given voluntarily could give rise to an action in conversion.⁹² In coming to this conclusion the Court seemed to accept that proprietary interests in the biomaterials were vested in the plaintiffs *prior* to donation. The focus is on rights *after* the removal of the tissue. Although *Moore* is cited as support in rejecting the claim, the Florida Court notes that it was 'because the donor had no property interest at stake *after* the donation was made'.⁹³ The underlying reason for the decision is, in line with *Moore*, that allowing the plaintiffs' claim in conversion 'would cripple medical research as it would bestow a continuing right for donors to possess the results of any research conducted'.⁹⁴ As we will see in section 3.2, this is a questionable claim. The third notable aspect of the decision in *Greenberg*

⁸⁶ *Ibid.*

⁸⁷ *Ibid.*

⁸⁸ *Ibid.* 1068–1071.

⁸⁹ *Ibid.* 1070.

⁹⁰ Thank you to one of the reviewers for their thoughts in this respect.

⁹¹ *Greenberg*, n 70 above, 1074

⁹² *Ibid.*

⁹³ *Ibid.* [Emphasis added].

⁹⁴ *Ibid.* 1076.

is that, despite dismissing the action in conversion, the plaintiffs' claim of unjust enrichment was upheld.⁹⁵ Unjust enrichment claims relate to gains (unjustly) made by third parties consequent on a particular causative event.⁹⁶ The plaintiffs argued that they would not have given their biological samples if they had known of the intention to commercialise the results and tests that stemmed from the research. The Court acknowledged that the plaintiffs had, in this case, an ongoing 'research collaboration [with the defendants] that involved [them] also investing time and significant resources in the race to isolate the Canavan gene.'⁹⁷ For this reason, the defendants were found to have been 'unjustly enriched by collecting license fees under the Patent.'⁹⁸ This can be contrasted with the situation in *Moore*. Here splenic tissue and additional bodily materials were obtained, but other resources were not invested in the research effort by the plaintiff. While the tissue samples procured from the plaintiffs in *Greenberg* can be viewed as 'significant resources', the aspects of the decision in relation to informed consent and conversion suggest that the Court did not see them in the same light as other kinds of resources.

We can now see that two issues are central to both *Moore* and *Greenberg*; the interests of the parties in controlling the uses of the biomaterials and the commercial interests that flow from those uses.⁹⁹ In these cases the balance of concern tips in favour of the researchers and their institutions (albeit to a slightly lesser degree in *Greenberg*). The concern regarding control, as articulated in *Moore*, is that property claims by individuals could hamper research and its potential benefits to society 'by restricting access to the necessary raw materials.'¹⁰⁰ As we have seen, this worry was also evident in *Greenberg*.¹⁰¹ In relation to commercial interests, the unease, expressed intemperately by Justice Arabian in *Moore*, was about the *commercialisation* of human biomaterials *by the source*. He says:

Plaintiff has asked us to recognize and enforce a right to sell one's own body tissue for profit. He entreats us to regard the human vessel - the single most venerated and protected subject in any civilized society - as equal with the basest commercial commodity. He urges us to commingle the sacred with the profane. He asks much . . . The ramifications of recognizing and enforcing a property interest in body tissues are not known, but are greatly feared - the effect on human dignity of a

⁹⁵ The six causes of action brought in the case were (1) lack of informed consent; (2) breach of fiduciary duty; (3) unjust enrichment; (4) fraudulent concealment; (5) conversion; and (6) misappropriation of trade secrets. *Ibid.* 1068.

⁹⁶ P Birks, *Unjust Enrichment* (Clarendon Press: Oxford, 2005), 4.

⁹⁷ *Greenberg*, n 70 above, 1072-3.

⁹⁸ *Ibid.* 1072.

⁹⁹ This echoes concerns identified by Roger Brownsword in his discussion of the approach to property in biomaterials of 'three ethical constituencies' (human rights, utilitarian, and dignitarian). R. Brownsword, 'Property in Human Tissue: Triangulating the Issue' in M. Steinman, P. Sykora, and U. Wiesing (eds), *Altruism Reconsidered: Exploring New Approaches to Property in Human Tissue* (Aldershot: Ashgate, 2009) 93-104, 98.

¹⁰⁰ *Moore*, n 69 above, 144.

¹⁰¹ *Greenberg*, n 70 above, 1076.

marketplace in human body parts, the impact on research and development of competitive bidding for such materials, and the exposure of researchers to potentially limitless and uncharted tort liability.¹⁰²

By denying that the plaintiffs in these cases had property in their biomaterials both of the central concerns are seemingly dealt with. However, there are (at least) three difficulties with the decisions here. First, the courts overplay the implications of granting proprietary control to the source of the tissue samples (and thus the impact of claims in conversion). Secondly, and something which is more apparent in *Moore*, there is an implicit acceptance that market transactions are germane to the property question; that is, a determination of property is seen as *including* rights to income or exchanges for value. An important example of this tendency, in England and Wales, is enshrined in the Human Tissue Act 2004. As mentioned earlier, the Act exempts human material from the prohibition on commercial dealings where it has become 'the subject of *property* because of an application of skill'.¹⁰³ Thus, for the purposes of the Act the right to engage in commercial dealings comes as part and parcel of a determination of property. Although this assumption is mirrored both in the popular consciousness¹⁰⁴ and some of the academic literature,¹⁰⁵ granting control to direct the use of human biomaterials is not the same as granting the right to derive income from their use; something which will become apparent throughout the rest of this article. The third issue arising is that there is an assumption that there is something morally suspect about the *source* engaging in commercial transactions with regards to biomaterials. I will return to matters as they relate to commercialisation in section four below, but first more closely examine the issue of control and its relationship to determinations of property and the issue of consent.

Propertisation & the Control of Biomaterials

Use, control, & property

Property and property rights can be viewed as legal and political instruments serving the needs and expectations of society; as constructs that help us to conceptualise the way we should act towards the holders of property. The areas governed by property relations are diverse and can be multifaceted. They govern the use of most material things and of a wide

¹⁰² *Moore*, n 69 above, 148-149.

¹⁰³ s. 32(9)(c) [Emphasis added].

¹⁰⁴ L. Skene, 'Arguments Against People Legally 'Owning' their Own Bodies, Body Parts, and Tissue' (2002) 2 *Macquaire Law Review* 165, 165 note 2.

¹⁰⁵ See, for example, R.E. Gold, *Body Parts: Property Rights and the Ownership of Human Biological Materials* (Washington: Georgetown University Press, 1996), 2; G.G. Brenkert, 'Self-ownership, Freedom, and Autonomy' (1998) 2 *Journal of Ethics* 27, 53; and C.S. Campbell, 'Body, Self, and the Property Paradigm' (1992) 22 *Hastings Center Report* 34, 41.

variety of intangibles.¹⁰⁶ A common conception of property (at least amongst those writing on biomaterials) is as a complex bundle of rights; a bundle of normative relations which govern interactions between people regarding particular objects.¹⁰⁷ Honoré provides a comprehensive account of the elements which could be said to make up this bundle,¹⁰⁸ and sets out the rights, duties and other elements (e.g. powers, liabilities, immunities) which, when combined together, give an account of full liberal ownership; something which is defined as 'the greatest possible interest in a thing which a mature system of law recognizes.'¹⁰⁹ The elements of the bundle consist of rights to possess, use, manage, the income of the thing, the capital, security, transmissibility, and absence of term, as well as the prohibition on harmful use, liability to execution,¹¹⁰ and the incident of residuary.¹¹¹ On this account, none of the incidents are individually necessary or sufficient for ownership.¹¹² Property as a bundle of these individual elements seemingly explains the diversity and complexity of property interests and relations. The elements can be traded and re-arranged to form different clusters of property rights or different types of ownership; for example, ownership, easements, leases, and bailments. Additionally, while each stick in the bundle is sometimes referred to as a property right, individual rights are not constitutive of ownership. Thus, the bundle metaphor also appears to help us to consider the differing legal positions of the holders of a variety of (clusters of) property rights; for example, owners, tenants, leases, bailors, and so on and so forth. However, if property is a flexible bundle of normative relations, and none of the incidents are individually necessary or sufficient for ownership, how are we to identify what ownership consists of? Similarly, how are we to distinguish ownership from lesser proprietary rights and interests? I do not propose to

¹⁰⁶ Although I note, for example, Simon Douglas and Ben McFarlane's argument that intellectual property ought not to be seen as a species of property properly-conceived. See 'Defining Property Rights' in J. Penner and H. Smith (eds) *Philosophical Foundations of Property Law* (Oxford: Oxford University Press, 2013), 219-243, 237-240.

¹⁰⁷ See, for example, Quigley, n 20 above, 667. See also I. Goold, 'Sounds Suspiciously Like Property Treatment: Does Human Tissue Fit Within the Common Law Concept of Property?' (2005) 7 *UTS L Rev* 62, 67, and S. Munzer, *A Theory of Property* (Cambridge: Cambridge University Press, 1990), 17. Although I have referred positively to property as a 'bundle' in previous work, the bundle view has been debated at length in the literature and is not trouble-free. See, for example, the literature cited below, n 112.

¹⁰⁸ A.M. Honoré, 'Ownership' in A.G. Guest (ed.) *Oxford Essays in Jurisprudence* (Oxford: Oxford University Press, 1961) 107-147. For a discussion of the incidents in relation to human biomaterials see Goold n 107 above and Quigley n 7 above.

¹⁰⁹ Honoré, *ibid.* 108. This utilises Wesley Hohfeld's language of rights; see W.N. Hohfeld, *Fundamental Legal Conceptions of a Right as Applied in Judicial Reasoning* (first published 1919, Yale University Press 1966).

¹¹⁰ This recognises that liability exists for debts in respect of property.

¹¹¹ Property rights can become assigned to other parties; for example, if they expire or expire or are abandoned.

¹¹² Honoré, n 108 above, 112-113.

comprehensively answer these questions here, but raise them to indicate that the conception of property as a flexible bundle is not unproblematic.¹¹³

Honoré's own account indicates certain incidents (or clusters of incidents) are more central than others to the idea of full ownership. For example, in 'Ownership' he says that '[n]o doubt the concentration in the same person of the right (liberty) of using as one wishes, the right to exclude others, the power of alienating and an immunity from expropriation is a cardinal feature of the institution.'¹¹⁴ Elsewhere he comments that 'if the leading incidents of ownership – benefit, management, and title – are united in the same person, that person is in reality the owner of the thing'.¹¹⁵ While his analysis could be taken as giving us a particular liberal conception of ownership, his incidents are best viewed, as described himself, 'as a working institution'.¹¹⁶ His account, as highlighted by the late J.W. Harris, describes components generally found in property institutions rather than the analytic core of property.¹¹⁷ For this reason, Harris argued for the analytic separation of some elements, and separated out what he saw as the core of property and ownership (use-privileges and control-powers) from other adjunctive rules generally contained within systems of property (trespassory, property-limitation, expropriation, and appropriation rules).¹¹⁸ He maintained that '[p]rivileges and powers are intrinsic elements of ownership interests. Claim-rights, duties, liabilities, and immunities are important concomitants of ownership interests but are not analytically intrinsic to ownership interests in resources (material or ideational)'.¹¹⁹ The adjunctive rules mark out the scope and boundaries of a person's property interests by variously supporting, protecting, or altering those interests. Core property rights, encompassing use and control (termed 'control rights' by commentators such as John Christman¹²⁰), can be justified on either an

¹¹³ For debates on the contentious aspects of the bundle view see, for example, J.E., Penner, 'The "Bundle of Rights" Picture of Property' (1996) 43 *UCLA Law Review* 711; H.E. Smith, 'Property as the Law of Things' (2012) 125 *Harvard Law Review* 1693 and 'Property is Not Just a Bundle of Rights' (2011) 8 *Econ Journal Watch* 279; L. Katz, 'Exclusion and Exclusivity in Property Law' (2008) 58 *UTLJ* 275 and 'The Regulative Function of Property Rights' (2011) 8 *Econ Journal Watch* 236; and E.R. Claeys, 'Property 101: Is Property a Thing or a Bundle?' (2009) 32 *Seattle University Law Review* 617, 'Exclusion and Exclusivity in Gridlock' (2011) 53 *Arizona Law Review* 9, and 'Bundle of Sticks Notions in Legal and Economic Scholarship' (2011) 8 *Econ Journal Watch* 205.

¹¹⁴ Honoré, n 108 above, 113.

¹¹⁵ A.M. Honoré, 'Property and Ownership: Marginal Comments' in T. Endicott, J. Getzler, and E. Peel (eds), *The Properties of Law: Essays in Honour of Jim Harris* (Oxford: Oxford University Press, 2006), 137

¹¹⁶ *Ibid.* 134.

¹¹⁷ J.W. Harris, *Property and Justice* (Oxford: Oxford University Press, 2001), 128.

¹¹⁸ *Ibid.*

¹¹⁹ *Ibid.* Note that 'privilege' is Hohfeld's preferred term (n 108 above), whereas many commentators use the word 'liberty'. Here I use the terms interchangeably.

¹²⁰ See J. Christman, 'Self-ownership, Equality, and the Structure of Property Rights' (1991) 19 *Political Theory* 28, *The Myth of Property: Toward an Egalitarian Theory of Ownership* (Oxford: Oxford University Press, 1994), and 'Distributive Justice and the Complex Structure of Ownership' (1994) 23 *Phil and Pub Aff* 225.

instrumental or an expressive theory of property. As Jesse Wall notes, this is because they can be thought of as bringing about some desirable future state of affairs (instrumental justification) or because they are important for 'a person's preference satisfaction, their autonomous life or the expression of their personhood' (expressive justification).¹²¹ Harris conceptualises clusters of these privileges and powers as lying along a spectrum where they range from 'mere property' at the bottom to 'full-blooded ownership' at the top.¹²² Full-blooded ownership occurs where the owner has '*prima facie*, unlimited privileges of use or abuse over the thing, and, *prima facie*, unlimited powers of control or transmission, so far as such use or exercise of power does not infringe some property-independent prohibition.'¹²³ By contrast, while mere property entails some privileges to use and powers to control those uses, it does not necessitate the power to transfer those powers and privileges to another.¹²⁴

In setting out this view of property I am mindful of two related issues. First, it could be noted that the common law protects rights of non-interference and not a person's rights to use a particular thing. Secondly, for some, the distinctiveness of property is characterised, not by open-ended set of liberties and powers regarding particular items, but by a right to exclude which is operational against the rest of the world.¹²⁵ If I own a particular item, you (and everyone else) are under a *prima facie* duty not to interfere with my use of it. Use in this sense does not just refer to those junctures where I may want to actively engage in its use, but to any and all occasions of interference. For example, if I am away on holiday and you take my book without my permission, you have not interfered with my current use of the book (since I am not around to physically use the book). Nevertheless, you have breached your legal duty of non-interference. While this is not technically the same as having a legally protected *right to use* things, the effect is to protect the liberty/privilege to do so. It also protects the control that owners have over the uses of their items of property, including the power to exclude (or not) others from their enjoyment. Thus, the characterisation set out earlier reflects a (legal) philosophical conception of property (and ownership): use and control are the defining features (it is these use-privileges and control-powers I refer to when I use the term property rights). What is at issue when we engage in property discourse are these rights; that is, people's interests in using and controlling the uses and abuses of particular objects or resources; the full-blooded owner is 'entirely free [subject to property-independent prohibitions] to do what he will with his own, whether by use, abuse, or transfer.'¹²⁶ In this manner, the power to

¹²¹ See J. Wall, 'The Legal Status of Body Parts: A Framework' (2011) 31 *OJLS* 783, 792–797.

¹²² Harris, n 117 above, 64.

¹²³ *Ibid.* 30.

¹²⁴ *Ibid.* 28–9.

¹²⁵ See, for example, T. Merrill 'Property and the Right to Exclude' (1998) 77 *Nebraska LR* 730 and S. Douglas and B. McFarlane, n 105 above.

¹²⁶ Harris, n 117 above, 29. This is not to suggest that, for reasons external to the conception and/or institution of property, constraints cannot be put on the exercise of these

alienate one's property, that is, divest oneself *in toto* all of one's rights with respect to a particular object, represents the ultimate disposition of those rights. Arguably this necessarily encompasses gifting, and as such donation, as an exercise of a person's power to transfer. Yet the alienability of one's property (rights) by transfer need not include market alienability.¹²⁷ As we will see later in this article, powers of transmission need not, and do not, imply that there is a right to derive income from such transfers.

Property, consent, & restricting research

When conflicts over human biomaterials arise, determining who has property rights in or ownership of these is important. Such a determination is not a trivial matter because in allowing that certain parties can have property rights in and ownership of biomaterials, we are granting that they have *control* over those biomaterials. Additionally, in permitting ownership we are also determining who does *not* have rights of use and control over the body and its parts. Recall that a motivating factor in the decisions in *Moore* and *Greenberg* was a concern about continuing control. This was related to a disquiet regarding the potential effects on research of granting proprietary control of the biomaterials to their source. In both of these cases the claims in conversion were dismissed. As we saw earlier, in *Moore* it was denied that the plaintiff had any property rights in the biomaterials,¹²⁸ while in *Greenberg* the Court saw the source's interests with regards to their biomaterials as ceasing (or being strictly limited) after procurement has taken place, maintaining that any (property) rights had been extinguished since the tissue samples were voluntarily donated for research.¹²⁹ In this respect the reasoning in the latter case more accurately reflects the operation of the law of property. A determination of property does not confer (in and of itself) the right to *continue* to direct or restrict the uses of biomaterials once legitimately transferred. Ordinarily, my control over an item *qua* property will cease upon transfer. This is no different from other sorts of moveables.¹³⁰ Thus, recognising that the source has certain property rights over their separated materials need not 'cripple' medical research as the Court in *Moore* envisaged. Conversely, as we also saw, the a cause of action based in informed consent was sustained. This is significant because it has bearing on both the concern about restricting research and on the legitimacy of any transfers of the biomaterials in question.

In relation to the first of these, the finding regarding informed consent is inconsistent with the Court's approach regarding property. If the worry is

use-privileges and powers; that is, property-independent prohibitions. I cannot, for example, set my semi-detached house alight or stick my knife in your chest, the reasons for which (moral or legal) have nothing to do with the fact that I might own either the house or the knife.

¹²⁷ See David Price's comments in relation to the Human Tissue Act 2004: D. Price, 'The Human Tissue Act 2004' in *Modern Law Review* (2005) 68(5):798-821, 818.

¹²⁸ *Moore*, n 69 above, 137.

¹²⁹ *Greenberg*, n 70 above, 1074-5.

¹³⁰ Thank you to one of the anonymous reviewers for helping to clarify my thoughts here.

about the potential for restricting research using biomaterials, then we ought to be at least as, if not more, worried about consent for donations as we are about property. The reason for this is because, in requiring that consent be obtained, individuals are granted, at the point of donation, ultimate control over the disposition of their tissues, cells, and other products.¹³¹ Individuals can simply decide not to donate their biomaterials at all, thus potentially hampering the very research effort that the Court was concerned about. This was partially recognised in *Greenberg* since, as we have already seen, in relation economic interests the Court declined to uphold an action in informed consent, stating that to do so 'would chill medical research'¹³² and 'give rise to a type of dead-hand control [by] research subjects'.¹³³ This, however, is also unsatisfactory. The Court in this case did not make any concrete statements regarding informed consent in general. It merely came to the conclusion that Florida jurisprudence did not offer any 'clear guidance'¹³⁴ and proceeded to examine the issue specifically in respect of economic interests. The problem with this is that whether or not individuals agree to give their biomaterials for research may well depend on the uses to which they will be put, including uses for economic benefit. Thus, where individuals object to the use of their biomaterials for commercial purposes they may be deterred from giving them at all. Furthermore, although the Court in *Moore* made much of the potential restrictive effect of granting *individuals* property rights in their biomaterials, they were willing to grant them to researchers and research institutions, thereby allowing them to *restrict* access to both the raw materials and the results of the research. Indeed, the restriction of the latter was exactly the issue for the plaintiffs in *Greenberg*, who wanted to ensure the public availability and affordability of any tests developed for Canavan disease.

Although one of the things at issue in *Greenberg* was the fact that, at the time, there was little legal guidance on the matter under Florida state law, this is not the case in England and Wales. Under the Human Tissue Act 2004 it is clear that appropriate consent is required for all scheduled purposes. This includes the removal, storage, and use of materials from the deceased, and the storage and use of materials from the living.¹³⁵ The common law governs the *removal* of samples from the living, wherein individuals are protected by the law of battery and assault and, as such, consent is also the benchmark. While there are some exemptions contained within the 2004 Act,¹³⁶ the general principle of requiring appropriate consent is clear. The Human Tissue Authority's Code of Practice (CoP) on consent links appropriate consent to the notion of validity and says that, in

¹³¹ Something that was recognised in the earlier Court of Appeal judgement in this case.

See *Moore*, n 69 above, 139-140.

¹³² *Greenberg*, n 70 above, 1070.

¹³³ *Ibid.* 1071.

¹³⁴ *Ibid.* 1070.

¹³⁵ Human Tissue Act 2004, s. 1.

¹³⁶ For example, hair and nails do not fall within its provisions (s.53). In addition, material created outside the body is exempted (s. 54(7)).

order to be valid, the consent must be voluntary, informed, and given by someone with capacity.¹³⁷ Although there is no real definition of consent given in the CoP,¹³⁸ this broadly coheres with philosophical accounts of the some of the requirements for consent to be valid.¹³⁹ One implication of this is that certain occurrences will have a bearing on the potential validity of the consent given. In particular, the *initial conditions* under which the donations are made will and indeed ought to be important. These will impact on the legitimacy of the initial transfer of materials and, thus, on the lawfulness of their subsequent uses. This would seem to be the case whether or not we conceive of the materials as originally being the property of the source. If we think about donated samples free-floating from any notion of property, then the transfers done without appropriate consent will fall foul of the requirements of the 2004 Act. For example, if the materials are being collected for research purposes, the particulars of the research and the potential uses will need to be explained to the donor, including the possibility of commercialisation. However, obtaining consent only for circumscribed research projects can be restrictive since the materials cannot be used for other purposes afterwards. This is recognised by the HTA which recommends that, where possible, generic consent be sought.¹⁴⁰ If an important aspect of valid consent is that it must be informed, then this creates a problem for the very idea of generic consent, which by its nature does not specify all the potential uses for samples obtained. It might be the case that informing donors that there are unknown, and currently unknowable, future uses of these materials is enough. Yet whether or not this is correct is largely immaterial to those situations where we do know about potential uses.

Likewise, if we see the samples as property, the legitimacy of the transfer is called into question where it is not consensual or where the original consent is vitiated; for example, transfers involving deception, fraud, or coercion. Property in chattels can be transferred by deed, delivery, or sale.¹⁴¹ There must also be an intention to transfer.¹⁴² Within the current

¹³⁷ Human Tissue Authority, *Code of practice 1: Consent* (September 2009), 30–34.

Available at

<http://www.hta.gov.uk/legislationpoliciesandcodesofpractice/codesofpractice/code1consent.cfm>, last accessed 31 Oct 2013.

¹³⁸ Despite the claim in the Code that consent is defined, there is nothing that tells us what it is, only who can give it (see *ibid.* 29).

¹³⁹ Although there is not the space here to properly examine the notion and relevance of consent, I note Franklin G. Miller and Alan Wertheimer's recent argument that we need to go beyond valid consent and instead see consent as a morally transformative action between actors. See F.G. Miller and A. Wertheimer, 'Preface to a Theory of Consent Transactions: Beyond Valid Consent' in F.G. Miller and A. Wertheimer (eds) *The Ethics of Consent: Theory and Practice* (Oxford: Oxford University Press, 2010), 79–106. For a text which deals with some of the intersections between the philosophical and legal aspects of consent see S. McLean, *Autonomy, Consent, and the Law* (Routledge-Cavendish: London & New York, 2010), chs 2 and 3.

¹⁴⁰ *Ibid.* 35–36.

¹⁴¹ R.J. Smith, *Property Law* (Edinburgh: Pearson Education Ltd, 2011) 111–117; B.

McFarlane, *The Structure of Property Law* (Oxford: Hart Publishing, 2008), 168–179.

¹⁴² Smith, *ibid.* 112–113; McFarlane, *ibid.* 165–168.

system, transfer by delivery would be the most significant mode of transfer relevant to the procurement of biomaterials for research. Individuals express their intention to transfer the samples via their consent to donation and these samples are taken into the possession of the researchers or their institution. Physical possession of the samples along with the attendant property rights are thus transferred. Problems will not generally arise with the actual delivery aspect of the transaction; however, depending on how the consenting and procurement process is handled, the transfer may be avoidable.¹⁴³ If there is a fraudulent misrepresentation of the purposes for which the biomaterials will be used then the transfer of the property rights can be rescinded.¹⁴⁴ We can see why this might be pertinent to cases such as *Greenberg*. As we have already seen the plaintiffs in this case only consented to the donation of the samples on the understanding that the results of the research would not be restricted or commercialised. If a similar case were to come before the English courts and the source was deemed originally to have property rights in the samples, then they need not reach the conclusion that an individual's rights terminate upon donation. Such a conclusion would depend on whether or not there had been a legitimate transfer of the biomaterials in the first place; a claim which might not be sustainable where donors are misled or inadequately informed about potential uses of their samples. In *Moore* it was claimed that 'companies are unlikely to invest heavily in developing, manufacturing, or marketing a product when uncertainty about clear title exists.'¹⁴⁵ Despite this pronouncement, finding in favour of the plaintiff would not have resulted in any uncertainty, quite the contrary. The message from the Court would have been clear: title vests in the source and it is not acceptable for researchers, their institutions, or biotech companies to illegitimately convert their biomaterials to their own use. Further, if they do, there would be a penalty for so doing. It is not necessarily the case that this would unduly hamper medical research. Instead, recognising the initial proprietorial control of the source would simply ensure that any transfer of biomaterials (and the accompanying property rights) is done in a legitimate manner; that is, with proper consent.

Commercialisation & commodification: Lines in the sand?

Objections to property in biomaterials are infrequently objections to transfer *per se*, but instead to the possibility of the sale of those materials. Further, as we saw in relation to Justice Arabian's comments in *Moore*,¹⁴⁶ objections to the sale of biomaterials tend not to be blanket objections to such a practice, but to the possibility that the source of the biomaterials could engage in market transactions with respect to their tissues and cells. There are two aspects to this which warrant further scrutiny. The first is the

¹⁴³ McFarlane, *ibid.* 150-152.

¹⁴⁴ *Ibid.*, 150.

¹⁴⁵ *Moore*, n 69 above, 146.

¹⁴⁶ *Moore*, n 69 above, 148-149. See section 2.2 above.

relationship between property and market transactions and the second, is the (misplaced) worry regarding the sphere of activity of the source in relation to their biomaterials.¹⁴⁷

Let us presume for the time being that we agree with the thrust of the objection in *Moore*; that, for whatever reason, it is morally unsavoury to permit individuals to sell their own biomaterials. If we accept property as including the right to income, we might be tempted to deny that individuals can have property in their separated tissue in order to guard against the possibility of sale. This was the approach in *Moore*: recall that the Supreme Court ruled that the plaintiff's tissues were not his property (although, as we have already seen, here it was also the case that the Court wanted to deny the plaintiff the control over the tissue that property endows). Denying that there is property (for the source) in human biomaterials would also be the favoured approach of some commentators. For example, Sean Cordell and colleagues maintain that decisions, such as the one in *Yearworth*, when given in terms of property and ownership 'can encourage us to think of parts of people as things to be exchanged, sold and used all with the accompanying market rhetoric.'¹⁴⁸ One response to this line of reasoning is to note that property rights have never been unfettered. There are limitations on the use of the objects of property even on more traditional conceptions. For this reason, one might allow that a person can have property rights in their biomaterials, but deny that the right to income is one of the sticks in their property bundle. An example of this can be seen in the way that Stephen Munzer addresses the issue. He allows that some of the rights we have with respect to our bodies and their parts can be property rights and subdivides them into weak and strong property rights. The former protects gratuitous (free) transfers and the latter transfers for value;¹⁴⁹ the donation of a kidney for transplantation would be an example of gratuitous transfer, while, at least in the context of the United States, the sale of blood and semen would represent transfers for value.¹⁵⁰ Contrariwise, in the United Kingdom the sale of blood and semen does not take place; therefore, any proprietary rights, from the perspective of the source, would be construed as weak rights.¹⁵¹ Conceiving of things in this

¹⁴⁷ Russell Korobkin argues that 'the true importance of *Moore* is that it establishes a "no compensation" default rule for transactions in human tissues for research use' (2). In creating this default he argues that compensation is still permitted, but that altruistic donations are encouraged. This he sees as the 'underlying wisdom of *Moore*' (27). There is certainly merit in this view, but it is also clear that, if this underlying wisdom is to be found, it was not the tenor of Justice Arabian's comments, for example. R. Korobkin. "No Compensation" or "Pro Compensation": *Moore v. Regents* and Default Rules for Human Tissue Donations' (2007) 40 *J Health Law* 1.

¹⁴⁸ S Cordell, F Bellivier, H Widdows, and C Noiville, 'Lost Property? Legal Compensation for Destroyed Sperm: A Reflection and Comparison Drawing UK and French Perspectives' (2011) 37 *J Med Ethics* 747, 749.

¹⁴⁹ Munzer, n 107 above, 49.

¹⁵⁰ *Ibid.* 52.

¹⁵¹ Instead individuals may be compensated for their time and effort in donating samples such as sperm and ova. A recent report from the Nuffield Council recommended allowing payments for human eggs for research. Should such a scheme be implemented, at least in

manner accepts that gratuitous transfers (gifts) are properly part of the law of property. This is appropriate not only from the position of the common law of property, which encompasses the law of gifts,¹⁵² but also philosophically. If, as outlined earlier, a key part of the core of property is powers of control and transmission, then this will include the power to make gratuitous transfers. However, while gifting involves the exercise of property rights, there is more to the story when it comes to sales.

According to Munzer, '[s]upport [for this weak/strong distinction] lies in the thought that property is pre-eminently something that can be bought and sold in a market.'¹⁵³ We can see why he says this; it can be difficult to disentangle property from market transactions. As Harris noted 'bargaining and contracting in most situations take property for granted'.¹⁵⁴ Furthermore, '[i]n modern legal systems, the majority of contracts presuppose property. The contractor on one side at least offers to transmit something over which he has ownership privileges and powers, especially money.'¹⁵⁵ Yet it does not follow from the general marriage of property and contract that the right to make either legally or morally binding agreements is part of the *core* of property. This is both an analytical legal claim and a normative philosophical one. Regarding the first of these, although some kind of property is a pre-requisite for many contracts, as Penner observes, having property does not necessarily entail the right to trade or enter into contractual agreements with other individuals or organisations.¹⁵⁶ Transactions of this sort involve two separate (and separable) areas of law: property and contract. Hence, he usefully describes the right to sell as a 'hybrid *power*' in which the power to make contracts includes the power to make contracts concerning the power to dispose of property.'¹⁵⁷ We can see why this ought to be the case by looking at the normative arguments regarding the justifications for property rights and income rights.

Crucially, the underlying justification for the right to receive income is different from that underpinning the recognition of property rights. The right to income is, according to Christman, 'composed of two separate rights . . . the right to transfer and the right to retain goods received in trade'.¹⁵⁸ There are two main reasons why this is the case.¹⁵⁹ First, transactions which result in the accrual of value are both dependent on, and

relation to ova, we might be said to have strong property rights (on Munzer's nomenclature). See Nuffield Council on Bioethics. *Human Bodies: Donation for Medicine and Research* 2011, 184 (Available at http://www.nuffieldbioethics.org/sites/default/files/Donation_full_report.pdf. Last accessed 11th April 2014).

¹⁵² Smith, n 141 above, 112–117.

¹⁵³ Munzer, n 107 above, 50.

¹⁵⁴ Harris, n 117 above, 50.

¹⁵⁵ *Ibid.*

¹⁵⁶ J.E. Penner, *The Idea of Property in Law* (Oxford: Oxford University Press, 1997), 91–92.

¹⁵⁷ *Ibid.* 153 [Emphasis added].

¹⁵⁸ Christman, *Myth of Property*, n 120 above, 129–130.

¹⁵⁹ *Ibid.* 132–135. See also Christman, 'Self-ownership and Property Rights', n 120 above, 30–35.

the cause of, the pattern of resource distribution in society. When an owner engages in market exchanges or trades, the income that accrues to him is dependent on the distribution of resources in the economy at that particular time. Yet, it is also the case that this exchange plays a part in determining the subsequent downstream distribution of resources.¹⁶⁰ This 'dual-causal connection'¹⁶¹ is illustrated by Wall who gives the example of kidneys and blood:

[I]f kidneys and blood were both tradable commodities, the income received for the sale of a kidney would be higher than for the equivalent amount of blood because of the scarcity of the resource and the willingness of purchasers to pay for the organ . . . The recognition of income rights in kidneys would lead to a different (for better or worse) allocation of kidneys in society since they could be freely exchanged as a commodity.¹⁶²

The second reason why income rights should be conceived as distinct from property rights is also linked to considerations of distribution and is related to the benefits that society derives from permitting trades. According to Christman, income rights are consequent on the very existence of a market and the market creates surpluses which are a net benefit to society; it does this through 'efficiencies of stability, information transfer, and economies of scale'.¹⁶³ If this is correct, then these extra benefits exist because of the *system as a whole* rather than individual property-holders; in which case no one individual can be said to have a prior claim to control the surplus. In such a situation, society, perhaps through the state, can decide to redistribute any surpluses and, thereby, determine the income rights to be recognised.¹⁶⁴ Thus, income rights are tied to considerations of distributive justice in a manner that rights of use and control are not.¹⁶⁵ This is not to claim that control rights do not have *any* distributive implications. The extent to which owners are permitted to accumulate income consequent on the use and control of their property, they become, as Harris put it, agents of wealth-distribution.¹⁶⁶ However, this dual function of governing the use of things and allocating items of social wealth does not detract from the fact that these functions are separable and rest on different justifications.

¹⁶⁰ *Ibid.* 128.

¹⁶¹ Wall, n 121 above, 791.

¹⁶² *Ibid.* Wall also adopts Christman's distinction between control rights and income rights. However, he draws on Guido Calabresi and Douglas Melamed's view of property and liability rules to argue that the latter are more apt for protecting control rights. For Calabresi and Melamed's account of property, liability, and inalienability rules see G. Calabresi and D. Melamed, 'Property Rules, Liability Rules, and Inalienability: One View of the Cathedral' (1972) 85 *Harv L Rev* 1089.

¹⁶³ Christman, 'Self-ownership, Equality, and the Structure of Property Rights', n 120 above, 32.

¹⁶⁴ *Ibid.* 32-33.

¹⁶⁵ *Ibid.* 31.

¹⁶⁶ Harris, n 117 above, 26 and 47.

In addition to resting on different justificatory bases, the manner in which property (control) rights generally operate can be substantially distinguished from the way income rights function. There is some overlap, but, as Christman puts it, the latter are conditional or contingent on other persons for their exercise in a way in which control rights need not be.¹⁶⁷ In order for a person to engage in exchanges or trades for value, someone else must also engage in the transaction. An owner can neither transfer her property for value nor accrue any net benefit or income from this if no-one is willing to trade with her. No-one has a duty to engage in market transactions for the benefit of another.¹⁶⁸ As such, no right to income can be enjoyed in isolation from others. By contrast there are many use-privileges and control-powers that can be exercised over a resource that are not dependent on others for that use and control. Consider, for example, a book. One can read it, refrain from reading it, burn it, use it to prop up a table, etc.; engagement with others in the market or elsewhere is not necessary in order to exercise such use and control. One could contend that this element of contingency is not just relevant to transfers for value, but to all transfers and, hence to instances of gifting and donation.¹⁶⁹ This strikes me as broadly accurate at a one-to-one interpersonal level, however, exchanges within a market seem crucially different from gratuitous transfers (or even simple exchanges). The 'level of contingency' involved in market transactions is greater than these other types of transaction.¹⁷⁰ As noted earlier, it is the very existence of markets which creates surplus value and, therefore, income rights. A market system is "contingent on the existence of stable rules of cooperation which govern the exchanges in question."¹⁷¹ This requires that our relations with others to be organised on a scale that is not necessary for simpler transactions. Of course, we can, and often do, conduct market transactions between only two actors. However, even in situations where I sell you my pen in a direct transaction we are dependent on the existence of the market at large, something which is not the case if I just give the pen to you. The market will influence, and perhaps set, the price at which I sell you the item in question. Furthermore, our tokens of exchange (money) are only available to us because of the market. Thus, as well as having different underlying justifications, there is seemingly an operational gap between the property rights and any income rights arising from their transfer. In relation to biomaterials, when income rights are seen as separate from the core use-privileges and control-powers which might govern them, we avoid conflating the power to transfer with any right to accrue value from that transfer.

Separating the powers of control from the right to income as just outlined allows us to admit property, without necessarily having to permit

¹⁶⁷ See generally Christman, 'Self-ownership, Equality, and the Structure of Property Rights', 33–4 and *The Myth of Property*, 131, n 120 above.

¹⁶⁸ *Ibid.*

¹⁶⁹ Thank you to Søren Holm for this point.

¹⁷⁰ Christman, *The Myth of Property*, n 120 above, 131.

¹⁷¹ Christman, 'Self-ownership, Equality, and the Structure of Property Rights', n 120 above, 33

biomaterials to be traded on the market (tout court). However, there is, as we saw earlier, a flourishing global market in tissues, cells, and other biomaterials.¹⁷² Despite this, there is sometimes selective moral disquiet about the effect of the commercialisation of human biomaterials by their *source*. Concerns of this ilk imply that permitting individuals a portion of the income rights for their tissues is to wrongfully commodify those tissues or the individuals themselves.¹⁷³ The conceptual terrain with regards to commodification claims is complex. There are a multitude of interrelated concepts at play and commentators focus on differing and diverging aspects of these in their attempt to bring some clarity to the issue.¹⁷⁴ There is not space here for a thorough-going analysis of all of the varied aspects of the debate, but one worry which seems to cut across a number of enquires¹⁷⁵ is that treating as things that which ought not to be treated as such or which are something else.¹⁷⁶ Expressions of concern of this type convey a conceptual divide between subject (person) and object (thing), something which can be seen in writing on property and the body.¹⁷⁷ For those who would support such a division, caution needs to be exercised when it comes to considering commodification. We ought not to elide moral concerns about our treatment of separated biomaterials with those regarding our

¹⁷² See section 2 above.

¹⁷³ This was the crux of the concern in *Moore*, for example (*Moore*, n 69 above, 148). See also Wall, n 120 above, 799–800 who articulates a similar concern.

¹⁷⁴ For example M. Cathleen Kaveny offers a tripartite characterisation, arguing that commodities generally have a price, are fungible, and are of instrumental rather than intrinsic value (M.C. Kaveny, 'Commodifying the Polyvalent Good of Health Care' 24 (1999) 207, 209) Wilkinson follows suit, drawing a distinction between proper commodities and wrongful commodities (S Wilkinson, 'Commodification' in R.E. Ashcroft, *et al* (eds) *Principles of Health Care Ethics* (Chichester: John Wiley and Sons, 2007) 285–91, 286). Others focus on the connection between commodification (or objectification) and the notion of thinghood (see M. Nussbaum, 'Objectification' 24 (1995) *Phil & Pub Aff* 249, 257 and M.J. Radin and M. Sunder, 'Introduction: The Subject and Object of Commodification' in M.M. Ertman and J.C. Williams (eds), *Rethinking Commodification: Cases and readings in Law and Culture* (New York and London: New York University Press, 2005), 8–29, 8, and M.J. Radin, *Contested Commodities* (Cambridge and London: Harvard University Press, 2001). See especially chapters 1, 2, 7, and 8). Yet others examine the issues from the viewpoint of whether and how selling could alter the way we experience 'thing' (S Altman, '(Com)Modifying Experience' (1991) 65 *S Cal L Rev* 293), from concerns relating to coercion and corruption (I.G. Cohen, 'The Price of Everything, the Value of Nothing: Reframing the Commodification Debate' (2003) 117 *Harv L Rev* 689), or from the perspective of dignitarian concerns (See *Moore*, n 69 above, 148; Wall, n 120 above, 168; J.C. Williams and V.A. Zelizer, 'To Commodify or Not to Commodify' in M.M. Ertman and J.C. Williams (eds), *Rethinking Commodification: Cases and readings in Law and Culture* (New York and London: New York University Press, 2005), 362–382, 372–373).

¹⁷⁵ See the articles and chapters referred to above.

¹⁷⁶ For an in-depth analysis of this see S. Wilkinson, *Bodies for Sale: Ethics and Exploitation in the Human Body Trade* (London: Routledge, 2003). See also Nussbaum, n 174 above, 257 and S Wilkinson, 'Biomedical Research and the Commercial Exploitation of Human Tissue' 1 (2005) 27, 34–35.

¹⁷⁷ See, for example, Penner, n 156 above, 111; Harris, n 117 above, 332; M.J. Radin, *Reinterpreting Property* (University of Chicago Press, 1993) 41; J. Herring and P-L. Chau, 'My Body, Your Body, Our Bodies' (2007) 15 *Med L Rev* 34; 43; and R. Rao, 'Property, Privacy, and the Human Body' (2000) 80 *Boston University Law Review* 359, 455.

treatment of persons. When we speak of separated biomaterials we cannot think that those items are wrongly commodified in and of themselves; that they are not capable of being objects or things in the relevant sense. Third parties can, and do acquire these materials, whereupon they are treated as things and are subsumed into the market. They are, thus, commodified. Even so, the commodification of biomaterials does not necessarily imply commodification of the person.

If arguments from commodification are to have any bite then the relevant moral objection must centre on cases where the person from whom the particular biomaterial has originated is somehow *wrongfully* commodified. As Wilkinson observes 'one of the main ways in which we fail to treat (autonomous, competent) people as ends is by doing things to them (or that involve them) without requiring their valid consent'.¹⁷⁸ We can see why this would be the case. Consent is a means of respecting the autonomy of persons. If this is done in a substantive sense, we do not use persons as mere means since we are acting in line with their autonomous goals and interests. The implication of this is that we wrongfully commodify persons, and treat them as a mere means, where we permit third parties to *non-consensually* acquire either use or income rights (or both) in biomaterials, while denying them to the source of those materials. We cannot coherently worry about the commodifying effect of recognising property and income rights in the source, while protecting those self-same rights in third parties.

Concluding Thoughts

Permitting property rights to be exercised with regards to biomaterials recognises a particular way of controlling their use. Further, it brings them within the purview and protection of existing property institutions; thus providing a framework for allowing remedies for wrongs done (e.g. *Yearworth*). Protections and remedies are important given the value transformation in those materials which has occurred with biotechnological advances and innovations. Treating these materials within an existing framework makes them subject to a variety of legal rules which function to protect, curtail, or alter the requisite proprietary interests. Yet the propertisation of human biomaterials need not entail their commercialisation. A person's powers of transmission (as part of their use-privileges and control-powers) with regards to particular objects ought to be seen as different to, and separate from, their income rights in this respect. The reason for this is because the recognition of each rests on different justifications. As such, full ownership does not analytically demand the right to contract to the transfer of property in exchange for income or some other value in kind. If we are to oppose commercial activities relating to human biomaterials, it ought not to be on the basis that they are not the

¹⁷⁸ Wilkinson, n 174 above, 290. See also J. Harris, 'Law and Regulation of Retained Organs: The Ethical Issues' (2006) 22 *Legal Studies* 527, 530.

appropriate objects of property. We already engage in activities, such as tissue donation, which arguably rely on them being such. Nevertheless, if we do *not* want to allow those income rights to also attach to the source in this respect, we need to question why they ought to be permitted to attach to third parties (e.g. researchers and biotech companies). The effect of the Human Tissue Act 2004 is that third parties can acquire the right to sell human biomaterials. Additionally, where the courts decline to protect the economic interests that individuals might have in their biomaterials, such as in *Moore* and *Greenberg*, they strengthen the protection of those same interests held by researchers and their institutions. If, per Justice Arabian's words in *Moore*, we ought not to use the human vessel as a base commercial commodity, then should this prohibition not also extend to third parties? For those who are tempted to respond in the negative to this suggestion, there remains the challenge of adequately explaining why permitting income rights is *wrongful* commercialisation (and/or commodification) in one instance, but not in the other.