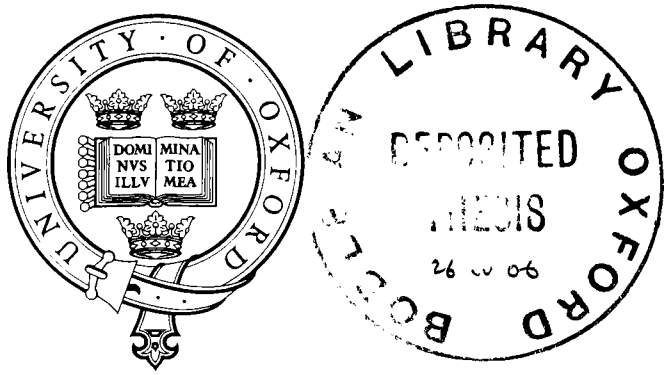
LEGAL PROTECTION OF HUMAN BIOLOGICAL MATERIALS

A thesis submitted for the degree of

Doctor of Philosophy

by

Rohan J. Hardcastle



Magdalen College, University of Oxford
Michaelmas Term, 2004 [illegible]

ABSTRACT

LEGAL PROTECTION OF HUMAN BIOLOGICAL MATERIALS

Rohan J Hardcastle
Magdalen College, University of Oxford
D Phil in Law, Michaelmas Term 2004 (i.e 2005)

Do you own your body? Advances in science and the development of genetic databases have given this question an aura of modern controversy. However, English law governing separated biological materials is in an unsatisfactory state. Despite the enactment of the Human Tissue Act 2004 UK, it is not clear, for example, what property rights or non-proprietary interests living persons can claim over their separated biological materials. The development of clear legal principles is necessary, however, to enable individuals to have effective control over such materials and to enable the efficient use of such materials in medical research.

Part I lays the theoretical foundation for the thesis. This opening part examines the nature of property and defines the theoretical position that the thesis adopts concerning property rights. Part I also sets out how English law protects property rights and the right to bodily integrity.

Part II traces the evolution of the law in England, Australia and the US in relation to the human body as well as parts removed from dead bodies and living persons. This includes an examination of the Human Tissue Act 2004. Analysis demonstrates that, although property rights and non-proprietary interests are recognized in certain limited circumstances, it is an open question in English law as to whether or not a living person can claim property rights to separated biological materials.

Part III of this thesis therefore develops and presents a principled basis in English law for the creation and legal recognition of property rights and non-proprietary interests in separated biological materials.

Number of words: 101,845.

I dedicate this thesis to:

Professor Peter Birks

And

Professor James Harris

ACKNOWLEDGMENTS

During my time at Oxford University I have been fortunate to receive guidance and inspiration from a number of people. Professor James Harris was my initial supervisor and Professor Peter Birks then took on the role as the thesis evolved into its final form. Both Jim and Peter were warm and generous individuals to whom I will always be indebted. Tragically, they were not able to supervise this thesis through to the end. I will, however, be eternally grateful for their guidance, friendship and inspiration. They brought different perspectives to this thesis and indelibly influenced its direction and shape. I am also indebted to Professor Ewan McKendrick and Professor Robert Chambers (University of Alberta) for agreeing to supervise the final stages of the project and see it through to its fruition. In a short timeframe born of difficult circumstances they provided invaluable advice.

One of the challenges provided by this project was the cross-over between medicine and the law. Professor Ian Craig (Head of Molecular Genetics Group, Oxford University) and Stephen Daley (Department of Pathology, Oxford University) ensured that I comprehended the underlying scientific principles involved in human biological materials. Dr Kathleen Liddell (Cambridge Genetics Knowledge Park) and Dr Jane Kaye (Oxford Genetics Knowledge Park) provided invaluable information in an area that refused to stand still.

Throughout my time at Oxford I have also been fortunate to collect a wonderful group of friends who read numerous drafts and debated this thesis over the last three years. I owe a particular debt to Dr Sue Gibbons, Dr Ben Kremer, Greg O'Mahoney and Danny Priel for challenging me along the way. Thank you also to Dr James Edelman, Professor Peter Handford, Professor David Ibbetson, Professor Graeme Laurie, Marjorie McDonald, Professor Stephen Munzer, Julia Paolitto, Tina Piper, Eloise Scotford and Dr James Thomson.

This project would not have been possible without the generous funding of the Menzies Foundation and Magdalen College. On a personal level, I owe a great debt to Professor Colin Tapper and Dr Katharine Grevling for their guidance during my time at Magdalen College.

Finally, I would like to thank my mother—Helen Hardcastle—for being my constant source of strength and inspiration.

TABLE OF CONTENTS

Table of Contents i
Table of Cases vi
Table of Legislation, Rules, European Instruments and Treaties xii
Definition of Terms xix

CHAPTER 1 INTRODUCTION 1

A Question 1

B Structure 4

C Biological Materials and Scientific Research 8

1 Human Tissue Collections and Genetic Databases 8

(a) Tissue Collections 9

(b) Genetic Databases 10

2 Biological Materials 14

(a) Physical Manifestations 14

(b) Genetic Information 20

D Individual Interests and Biological Materials 20

E Current Legal Status of Biological Materials 23

F Conclusion 24

PART I

CHAPTER 2 DEFINING PROPERTY 26

A Introduction 26

B Property Jurisprudence 26

1 Nature of Property Rights 27

2 Defining Property Rights 28

3 Narrow and Broad Conceptions of Property 32

4 Terminology 40

C Conclusion 42

CHAPTER 3 PROTECTING PROPERTY AND BODILY INTEGRITY 44

A Introduction 44

B Protection of Property Rights 44

1 Nature of Tortious Protection 45

2 Trespass 46

3 Conversion 47
(a) Elements 48
(b) Remedies 50
C Protection of Bodily Integrity 52
1 Autonomy and Human Dignity 53
2 Autonomy and Medical Law 55
3 Tort Law Protection 57
4 Criminal Law Protection 59
D Conclusion 60

PART II

CHAPTER 4 DEAD BODY 62
A Introduction 62
B No Property Principle 62
C Property Rights 68
1 Work or Skill Exception 68
2 Constitutional Protection 86
3 Tort of Wrongful Interference 89
4 Summary 91
D Non-Proprietary Interests 92
1 Duty to Bury 92
2 Quasi-Property Rights 100
3 Statutory Rights 104
4 Protection under Tort Law 106
5 Respect for Private and Family Life 108
6 Summary 110
E Conclusion 110

CHAPTER 5 LIVING BODY 112
A Introduction 112
B Slavery 113
C Rejection of Property Rights 114
1 *Moore v Regents of the University of California* 114
2 *Greenberg v Miami Children's Hospital* 125
3 Summary 128
D Property Rights 129

1 Biological Materials 129
(a) Statute 129
(b) Common Law 132
(c) Summary 141
2 Cell-lines 142
3 Organs 143
4 Gametes 144
(a) Statute 144
(b) Common Law 149
5 Hair Clippings 150
6 Waste Products 153
7 Summary 154
E Non-Proprietary Interests 155
1 Statute 155
2 Common Law 159
3 Summary 162
F Conclusion 162

CHAPTER 6 HUMAN TISSUE ACT 2004 164
A Introduction 164
B Human Tissue Act 2004 164
1 Consent Requirements 167
2 Exceptions to Consent Requirements 171
3 Prohibition on Commercial Dealing 176
(a) Original Clause 29 177
(b) Section 32 182
4 Non-Consensual DNA Analysis Offence 186
5 Summary 189
C Conclusion 189

PART III

CHAPTER 7 PROPERTY RIGHTS 192
A Introduction 192
B Question 194
C Transformation of Biological Materials 196
D Creation of Property Rights 198

1 Work or Skill Exception ... 199
2 First Possession ... 201
3 Specification Doctrine ... 202
(a) Background ... 202
(b) Elements ... 206
(c) Application to Work or Skill Exception ... 219
(d) General Principle ... 222
E Conclusion ... 223
CHAPTER 8 CREATING PROPERTY RIGHTS ... 224
A Introduction ... 224
B Principles ... 224
1 Detachment ... 224
2 Detachment plus Intention ... 231
(a) Judicial Support ... 231
(b) Intention ... 233
(c) Difficulties ... 235
3 Summary ... 240
C Property Theory ... 241
1 Recipient ... 243
(a) Instrumental Arguments ... 243
(b) First-occupancy ... 246
(c) Labour-desert ... 249
(d) Summary ... 252
2 Source ... 252
(a) Self-ownership ... 252
(b) Privacy ... 255
(c) Personhood ... 260
(d) Creation-without-wrong ... 262
3 Summary ... 263
D Practical Application ... 264
1 Original Biological Materials ... 266
(a) Transfer ... 266
(b) Abandonment ... 268
(c) Summary ... 270
2 Additional Biological Materials ... 271

(a) Medical and Scientific Research 271
(b) Intellectual Property 272
(c) Specification and Accession 274
(d) Application 280
(e) Summary 284
E Conclusion 284

CHAPTER 9 NON-PROPRIETARY INTERESTS 287

A Introduction 287
B Protected Interests 288
C English Law 290
1 Autonomy 291
(a) Underlying Value 291
(b) Wrongs 296
2 Emotional Distress 314
(a) Definition 314
(b) Wrongs 315
3 Summary 326
D Developing Liability 327
1 Common Law 327
(a) Protected Interests 328
(b) Conduct 329
(c) Elements 331
2 Statute 334
(a) DPA Amendment 334
(b) Statutory Tort 337
3 Summary 338
E Conclusion 338

CHAPTER 10 CONCLUSION 340

BIBLIOGRAPHY 342

TABLE OF CASES

A, Re [2001] Fam 147 (CA) 254
AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS Trust [2004] EWHC 644 (QB) ..... 44, 67, 76, 77, 78, 79, 80, 81, 82, 84, 85, 89, 90, 96, 97, 98 ..... 109, 181, 199, 205 220, 312, 313, 328
Airedale NHS Trust v Bland [1993] AC 789 (HL) 52, 55, 254
Al-Kishtaini v Shanshal [2001] EWCA Civ 264 38
Alcock v Chief Constable of South Yorkshire Police [1992] 1 AC 310 (HL) 314
Archer v Brown [1985] QB 401 315
Archer v Williams [2003] EMLR 38 ..... 301, 326
Armory v Delamirie (1722) 1 Stra 505 51
Arrow Shipping Co v Tyne Improvement Commissioners, The Crystal [1984] AC 508 (HL) 269
Attorney-General v Guardian Newspapers (No 2) [1990] 1 AC 109 (HL).. 256, 297, 300
Associated Alloys Pty Ltd v Metropolitan Engineering and Fabrications Pty Ltd (1996) 20 ACSR 205 (FCA) 211
Australian Broadcasting Corporation v Lenah Game Meats (2001) 208 CLR 199 (HCA) 294
AW v CW [2002] NSWSC 301 (NSW SC) 67, 71

Balkowitsch v Minneapolis War Memorial Blood Bank 123 NW 2d 805 (Minn SC 1965) 138
Banks v Fritsch 39 SW 3d (Ky CA 2001) 321
Bauer v North Fulton Medical Center 527 SE 2d 240 (Geo CA 1999) 88
BBMB Finance (Hong Kong) Ltd v Eda Holdings Ltd [1990] 1 WLR 409 (PC) 51
Berkley v Poulet (1977) 241 EG 911 (CA) 203
Biro v Hartman Funeral Home 669 NE 2d 65 (Ohio App 1995) 102
Blades v Higgs (1865) 11 HLC 622 238
Blagdon Cemetery, In re [2002] 3 WLR 603 (Arches Ct of Canterbury) 66, 69
Board of Regents of State Colleges v Roth 92 S Ct 2701 (1972) 86
Boardman v Phipps [1967] 2 AC 46 (HL) 3, 256
Bolitho v City & Hackney Health Authority [1998] AC 232 (HL) 58
Boothman v Canada [1993] 3 FC 381 316
Borden Ltd v Scottish Timber Products Ltd [1981] Ch 25 ..... 207, 208, 209, 214
Botta v Italy (1998) 26 EHRR 241 55
Bradley v Newsom [1919] AC 16 (HL) 269
Bristol Airport v Powdrill [1990] 1 Ch 744 37
Brotherton v Cleveland 923 F 2d 477 (6th Cir 1991) 87
Brown v Mathews Mortuary 801 P2d 371 (Idaho SC 1990) 102
Buron v Denman (1848) 2 Exch 167 46
Burnett v George [1992] 1 FLR 525 (CA) 316
Burrows v Cramley [2002] WASC 47 (WASC) 67
Butler v Board of Trade [1971] Ch 680 297

Cambridge Water Co v Eastern Countries Leather plc [1994] 2 AC 264 (HL) 330
Campbell v MGN Limited [2003] QB 633 335

Campbell v MGN Limited [2004] 2 WLR 1232 (HL).....255, 256, 296, 297, 298, 299, 300 ..... 301, 302, 303
Canary Wharf Ltd v Hunter [1997] AC 655 (HL) 304, 319, 320
Carney v Knollwood Cemetery Association 514 NE 2d 430 (Ohio App 1986) 102, 103, 106
Carrier v Bonham [2002] 1 Qd R 474 (Qld CA) 316, 317
Carter v Inter-Faith Hospital of Queens 304 NYS 2d 97 (NY Sup 1969) 139, 140
Cassell & Co v Broome [1972] AC 1027 (HL) 315, 324
Celtic Extraction Ltd, Re [2001] Ch 475 37
Chester v Afshar [2003] QB 356 311
Chester v Afshar [2004] 3 WLR 927 (HL) 55, 56, 59, 288, 310, 311, 312
Christensen v Superior Court 820 P 2d 181 (Cal SC 1990) 322
Clark v Associated Newspapers Ltd [1998] RPC 261 (Ch) 117
Clark v Canada (1994) 20 CCLT 241 (FCTD) 316, 317
Clerk v London General Omnibus Co Ltd [1906] 2 KB 648 (CA) 95
Cochrane v Moore (1890) 25 QBD 57 267
Coco v AN Clark (Engineers) Ltd [1969] RPC 41(Ch) 299, 300
Cole v Turner (1704) 6 Mod 149 60
Collins v Wilcock [1984] 1 WLR 1172 (CA) 57, 305
Community Blood Bank Inc v Russell 196 So 2d 115 (Flo Sup 1967) 139
Consolidated Company v Curtis & Son [1892] 1 QB 495 49
Costello v Chief Constable of Derbyshire Constabulary [2001] 1 WLR 1437 (CA) 50, 51
Costello-Roberts v United Kingdom [1995] 19 EHRR 112 ..... 54, 292
Coyne v Commercial Equity Corporation Ltd (1998) 20 WAR 109 (WA SC) 316
Crocker v Pleasant 727 So 2d 1087 (Fla App 1999) 88
Culpepper v Pearl St Bldg 877 P 2d 877 (Colo SC 1999) 88, 102

Dampier v Wayne County 592 NW 2d 809 (Mich App 1999) 88
Davy Offshore Ltd v Emerald Field Contracting Ltd [1992] 2 Lloyd's Reports 142 (CA) 266
Del Zio v Columbia Presbyterian Hospital (unreported US DC SDNY 1978) 150
Dewar v Dewar [1975] 1 WLR 1532 (CA) 267
Dibblee v Dr WH Groves Latter-Day Saints Hospital 364 P 2d 1085 (Ut SC 1961) ... 150
Dobson v North Tyneside Health Authority [1997] 1 WLR 596 (CA) 267
Doodeward v Spence (1908) 6 CLR 406 (HCA) 67, 68, 69, 70, 71, 135, 199, 205
Douglas v Hello! Ltd [2001] QB 967 ..... 294, 296, 300
Drane v Evangelou [1978] 1 WLR 455 (CA) 315, 324
Dulieu v White & Sons [1901] 2 KB 669 317
Durrant v Financial Services Authority [2003] EWC Civ 1746 (CA) 335

E v Australian Red Cross Society (1991) 105 ALR 53 (FC FCA) 136
E v Australian Red Cross Society (1991) 27 FCR 310 (FCA) 136
Edmonds v Armstrong Funeral Home [1931] 1 DLR 676 (Alb SC) 90, 328
Ellerman Wilson Line v Webster [1952] 1 Lloyd's Reports 179 (CA) 269
Elliff v Texon Drilling Co 210 SW 2d 558 (Tex SC 1948) 247
Enos v Snyder 63 P 170 (Cal SC 1900) 67, 100, 103
Evans v Amicus Healthcare Ltd [2004] 3 WLR 681 (CA) 146, 147, 293
Evans v Amicus Healthcare Ltd [2004] 2 WLR 713 (Fam) 146
Exelby v Handyside (Handyside's Case) (1749) 2 East PC 652 ..... 23, 65

F, Re (Mental Patient: Sterilisation) [1990] 2 AC 1 (HL) 55, 254
Fouldes v Willoughby (1841) 8 M & W 540 49
Foskett v McKeown [2001] 1 AC 102 (HL) 203
Foster v Dodd (1867) LR 3 QB 67 66
Freeman v Home Office [1984] 1 QB 524 58

General & Finance Facilities v Cook Cars (Romford) Ltd [1963] 1 WLR 644 (CA) 51
Georgia Lions Eye Bank, Inc v Lavant 335 SE 2d 127 (Ga SC 1985) 88
Gimson v Victoria Workcover Authority [1995] 1 VR 209 (Vic SC) 316
Glencore International v Metro Trading International [2001] 1 Lloyd's Law Reports 284 (QB) 214, 215, 216, 218
Goddard v Watters 82 SE 304 (Geo CA 1914) 316
Great Atlantic & Pacific Tea Co v Roch 153 A 22 (Md CA 1930) 316
Green v Commissioner 74 TC 1229 (DC 1980) 140, 141
Greenberg v Miami Children's Hospital Research Institute 264 F Supp 2d 1064 (US DC Florida 2003) 125, 126, 127, 128, 194, 226, 254
Gregson v Gilbert (1783) 3 Dougl 232 113
Gray, Re [2001] 2 Qd R 35 (Qld SC) 67
Grosse v Purvis [2003] QDC 151 (Qld DC) 294

Hamps v Darby [1946] 2 KB 311 201
Haynes's Case (1614) 12 Co Rep 113 64
Hecht v Superior Court 20 Cal Rptr 2d 275 (Cal CA 1993) 149
Hinkley v Baker 122 F Supp 2d 57 (US DC 2000) 321
Hillesden Securities Ltd v Ryjak Ltd [1983] 1 WLR 959 (CA) 51
Hollins v Fowler (1875) LR 7 HL 757 49
Houston v East 81 SW 279 (Tex SC 1904) 247
Hosking v Runting [2004] NZCA 34 (unreported 25 March 2004) (NZ CA) 294
Howard Perry Ltd v British Railways Board [1980] 1 WLR 1375 (CA) 51
Hughes v Robertson (1913) SC 394 90

IBL Ltd v Coussens [1991] 2 All ER 133 (CA) 52
Indian Oil Corporation Ltd v Greenstone Shipping SA [1988] 1 QB 345 215
Industrial Furnaces Ltd v Reaves [1970] RPC 605 301
Ingall v Moran [1944] KB 160 95
International Banking Corporation v Ferguson, Shaw and Sons 1910 SC 182 (Court of Session) 212
International News Service v Associated Press 39 S Ct 68 (1918) 102

James v United Kingdom (1986) 8 EHRR 123 38
Jaynes v Strong-Thorne Mortuary Inc 954 P 2d 45 (NM SC 1997) 322
Jarvis v Swans Tours [1973] QB 233 324
Jenkins v Tucker (1778) 1 Bl H 90 95
Johnson v Sampson 208 NW 814 (Minn SC 1926) 316

Keary v Patterson [1939] 1 KB 471 201
Kebliene, ex parte [2000] 2 AC 326 (HL) 108
Khorasandjian v Bush [1993] 1 QB 727 ..... 316, 318, 319
Kinloch Damph Ltd v Nordvik Salmon Farms Ltd (unreported 30 June 1999 Outer House) 275, 276, 277
Kirk v Gregory (1876) 1 Ex D 55 47

Kuwait Airways Corporation v Iraqi Airways Co (No 4 and 5) [2002] 2 AC 883 (HL) 47, 48
Kuwait Airways Corporation v Iraqi Airways Co (No 4 and 5) [2001] 1 WLR 1117 (CA) 51

Larson v Chase 50 NW 238 (Minn SC 1891) 100, 101
Leeds Teaching Hospitals NHS Trust v A [2003] 1 FLR 1091 (QB) 144
Les Editions Vice-Versa Inc v Aubry and Canadian Broadcasting Corporation (1998) 157 DLR (4th) 577 (SCC) 294
Lincoln Bank & Trust Co v Netter 253 SW2d 260 (Ky CA 1952) 204

Mabo v State of Queensland (No 2) (1992) 175 CLR 1 (HCA) 246
Mallette v Schullman (1996) 67 DLR (4th) 321 (Ontario SC) 334
Malone v Metropolitan Police Commissioner [1979] Ch 344 ..... 296, 327
Marq v Christie Manson & Woods Ltd (trading as Christie's) [2004] QB 286 ..... 48, 49
McDonald v Provan (of Scotland Street) Ltd (1960) SLT 231 213
McFarlane v Tayside Health Board [2000] 2 AC 59 (HL) 55, 291, 307, 308
McKeown v Cavalier Yachts Pty Ltd (1988) 13 NSWLR 303 (NSW SC) 204
McLoughlin v O'Brian [1983] 1 AC 410 (HL) 314
Meek v State 185 NE 899 (Ind SC 1933) 103
Miles v Scripps 810 F Supp 1091 (Cal DC 1993) 142 142
Mohr v Williams 104 NW 12 (Minn SC 1905) 257, 261
Monsanto Canada Inc v Schmeiser (2004) SCC 34 (CSC) 273
Moore v Regents of the University of California 249 Cal Rptr 494 (Cal App 1988) 114, 116, 117, 118, 194, 242, 253
Moore v Regents of the University of California 793 P 2d 479 (Cal SC 1990) 114, 116, 118, 119, 120, 122, 123, 124, 194, 226, 242,244, 245, 251, 253, 257
Moorhouse v Angus and Robertson [1981] 1 NSWLR 700 (NSW CA) 270
Morris v CW Martin & Sons Ltd [1966] 1 QB 716 268
Morrison v Moat (1851) 9 Hare 241 297
Mulgrave v Ogden (1591) Cro Eliz 219 49

Neeb v Hoffman [1989] OJ No 302 QL (Ont DC) 280

O'Donnell v Slack 55 P 906 (Cal SC 1899) 67

Page v Smith [1996] 1 AC 155 (HL) 314
Parker v British Airways Board [1982] QB 1004 246
Parrat v Taylor 101 S Ct 1908 (1981) 86
Pavlovic v Commonwealth Bank of Australia (1991) 56 SASR 587 (SA SC) 316
Peachdart Ltd, In re [1983] 1 Ch 131 ..... 209, 210, 211, 214
Penfolds Wines Pty Ltd v Elliot (1946) 74 CLR 204 (HCA) 46, 47, 49
Penn Centre Transport Co v New York City 438 US 104 (1978) 88
Perlmutter v Beth David Hospital 123 NE 2d 792 (NY App 1954) 137, 138
Pettigrew v Pettigrew 56 A 878 (Pa SC 1904) 103
Phillips v Washington Legal Foundation 118 S Ct 1925 (1998) 39
Pierce v Goddard 39 Mass 559 (Mass SC 1839) 87
Pierce v Proprietors of Swan Point Cemetery 14 Am Rep 465 (RI SC 1881) 100, 103
Pierson v Post 2 Am Dec 264 (NY SC 1805) 201, 237, 247
Pollok v Workman (1900) 5th Series Vol II 355 (Court of Session) 90, 328
Popowich v Letweniuk [1972] 1 WWR 641 (Sask DC) 177

Powell v Boladz [1998] Lloyd's Rep Med 116 (CA) 316
Powell v McFarlane (1979) 38 P & CR 452 42
PQ v Australian Red Cross Society [1992] 1 VR 19 (Vic SC) 137
Prince Albert v Strange (1849) 1 H & T 1 91

R (S) v Chief Constable of S Yorkshire Police; R (Marper) v Chief Constable of the South Yorkshire Police [2002] 1 WLR 3223 (CA) 160, 289
R (S) v Chief Constable of South Yorkshire Police; R (Marper) v Chief Constable of South Yorkshire Police [2004] 1 WLR 2196 (HL) 157, 160, 161, 289, 290, 302, 336
R v Bristol Coroner; ex p Kerr [1974] QB 652 ..... 94, 104
R v Broadcasting Standards Commission ex parte BBC [2001] QB 885 293
R v Brown [1994] 1 AC 212 (HL) 56, 57, 104
R v Coleridge (1819) 2 B & Ald 804 65
R v Dept of Health, Ex Parte Source Informatics Ltd [2001] QB 424 3
R v Fox (1841) 2 QB 246 94
R v Herbert [1961] JPLGR 12 ..... 24, 152
R v Human Fertilisation and Embryology Authority Ex Parte Blood [1997] 2 FLR 742 (CA) 147
R v Hunter [1974] 3 WLR 374 67
R v Kelly [1999] QB 621 ..... 23, 67, 73, 79, 84, 85, 155, 199, 200, 202, 205, 232, 235
R v Lynn (1788) 2 TR 733 66
R v Price (1884) 12 QB 247 66
R v Rolfe (1952) 36 Cr App Rep 4 59
R v Rothery [1976] RTR 550 (CA) 24, 132, 133, 196, 225
R v Scott (1842) 2 QB 248 94
R v Sharpe (1856–1857) Dears & Bell 160 ..... 66, 93
R v Stewart (1840) 12 Ad & E 773 ..... 94, 95
R v Tessling [2004] SCC 67 (Can SC) 293
R v Vann (1851) 2 Den 325 95
R v Welsh [1974] RTR 478 (CA) 24, 153, 225
R v Young (1784) 4 Wentworth Pleadings 219 66
Rahemtulla Vanfed Credit Union (1984) 29 CCLT 78 (BC SC) 316
Ramirez v Health Partners of S Ariz 972 P2d 658 (Ariz App 1998) 107
Rees v Darlington Memorial Hospital NHS Trust [2003] QB 20 307
Rees v Darlington Memorial Hospital NHS Trust [2004] 1 AC 309 (HL) ..... 53, 292, 306 ..... 308, 309
Reilly v King County Central Blood Bank Inc 492 P 2d 246 (Wash App 1972) .. 138, 139
Reinihan v Wright 25 NE 822 (Ind SC 1890) 103
Rendell v Associated Finance Pty Ltd [1957] VR 604 (Vic SC) 203
Richardson v Atkinson (1723) 1 Stra 576 49
Roche v Douglas (2000) 22 WAR 331 (WA SC) 67, 134, 135, 196, 225

Scarpaci v Milwaukee City 292 NW 2d 816 (Wisc SC 1980) 102, 103, 107
Schloendorff v Society of New York Hospital 211 NY 125 (CA 1914) 58
Scroggan v Stewardson (1674) 3 Keb 369 151
Sharp v Lush (1879) 10 Ch D 468 (CA) 92, 93
Sidaway v Board of Governors of the Bethlem Royal and the Maudsley Hospital [1985] AC 871 (HL) 58, 59
Silsbury v McCoon 3 NY 379 (NY CA 1850) 206, 213, 214
Smith (1866) F&F 1066 60
Snyder v Holy Cross Hospital 352 A 2d 334 (Md App 1976) 101

Sommersett v Stewart (1772) Loft 1 114
St George's NHS Trust v S [1999] Fam 26 (CA) 56, 254
Stran Greek Refineries v Greece (1994) 19 EHRR 293 38
Swans, Case of (1592) 7 Co Rep 15b 201
Swift v Dairywise Farms Ltd [2000] 1 WLR 1177 (Ch) 37

Three Rivers v Bank of England (No 3) [2003] 2 AC 1 (HL) 330
Timmermans v Buelow (1984) 38 CCLT 136 (FCTD) 316
Tucker v Farm and General Investment Trust Ltd [1966] 2 QB 421 279

United Australia Ltd v Barclays Bank Ltd [1941] AC 1 (HL) 50
United States v Arora 806 F Supp 1091 (Md DC 1994) 142, 143, 271, 275
United States v Cox 428 F 2d 683 (7th Cir 1970) 152, 232, 270
United States v Garber 607 F 2d 92 (5th Cir 1979) 140
United States v General Motors 65 S Ct 357 (1945) 30

Van Marle v Netherlands (1986) 8 EHRR 483 38
V-B, Re (Abduction: Custody Right) [1999] 2 FLR 192 (CA) 99
Venner v State of Maryland 554 A 2d 483 (Md App 1976) 117, 153, 154, 270
Victorian Railways Commissioners v Coultas (1888) 13 App Cas 222 317
Von Hannover v Germany, Case of (ECHR Application no 59320/00 24 June 2004) 55, 293
Voss v Boleniius 128 SW 1 (Miss CA 1910) 316

Wainwright v Home Office [2002] QB 1334 316
Wainwright v Home Office [2004] 2 AC 406 (HL) ..... 57, 255, 294, 295, 296, 316, 317 ..... 318, 321, 325, 327
Whaley v County of Tuscola 58 F 3d 1111 (6th Cir 1995) 87
Whitehair v Highland Memory Gardens 327 S E 2d 438 (WVa SC 1985) 101, 103
Whiteley v Hill [1918] 2 KB 808 52
Wilkinson v Downton [1897] 2 QB 57 ..... 295, 315, 316
Williams v Williams (1882) 20 Ch D 659 93
Wilson v First County Trust [2004] 1 AC 816 (HL) 37, 38
Wilson v Pringle [1987] 1 QB 237 306
Winkfield, The [1902] P 42 49
Wong v Parkside Health NHS Trust [2003] 3 All ER 932 (CA) 316, 319

X and Y v Netherlands [1985] 8 EHRR 235 108

Yanner v Eaton (1999) 201 CLR 351 (HCA) 42, 201, 238
Young v Hichens (1844) 6 QB 606 201

TABLE OF LEGISLATION, RULES, EUROPEAN INSTRUMENTS AND TREATIES

ENGLAND

47 Geo III (c 36) 114

2 & 3 Will 4 (c 75) 67

3 & 4 Will IV (c 73) 114

Administration of Estates Act 1925 (c 23)

s 9 95

Anatomy Act 1984 (c 14) 67

Copyright Designs and Patent Act 1988 (c 48)

s 84(1) 261

Coroners Act 1988 (c 13)

s 8(1) 78, 104

Coroner's Rules 1984

r 9 ..... 79, 104

Criminal Justice and Police Act 2001 (c 16)

s 82 159

Data Protection Act 1998 (c 19)

s 1 ..... 156, 157

s 4 156

s 7 156

s 8 156

s 10 156

s 12A 156

s 13 156

s 14 156

Sch 1 156

Harassment Act 1997 (c 40)

s 1 320

s 3 ..... 320, 324

Human Fertilisation and Embryology Act 1990 (c 37)

s 3 144

s 4 144
s 12(e) 145
Sch 3, 2(4) 144
Human Rights Act 1998 (c 42)
s 2(1)(a) 54, 292
s 6(3)(a) 299
Sch 1 78
Human Tissue Act 1961 (c 54)
s 1(7) 78
Human Tissue Act 2004 (c 30)
s 1 ..... 167, 228
s 1(a) 169
s 1(c) 169
s 1(5)(b) 175
s 1(8) 169
s 2 167
s 2(7) 168
s 3 167
s 3(6) 168
s 3(6)(b)(2) 168
s 5 ..... 289, 330
s 6 175
s 7 172
s 9 175
s 10 175
s 11 165
s 16 166
s 26 168
s 26(2) 168
s 26(2)(j) 175
s 26(2)(l) 174
s 28(1) 168
s 28(2) 168
s 32 ..... 182, 195, 267
s 32(3)(b) 184

s 32 (6) 184
s 32 (7) 184
s 32(9)(c) 83, 199, 200, 221
s 33 ..... 182, 228
s 34 ..... 182, 228
s 44 ..... 173, 174
s 45 ..... 186, 187, 289, 303
s 45 (5) 187
s 53 166
s 53(1) 169
s 53 (2) 169
s 54 ..... 169, 183
s 54(7) 169, 183
Human Organ Transplants Act 1989 (c 31)
s 1 ..... 143, 228
Insolvency Act 1986 (c 45)
s 436 37
National Assistance Act 1948 (c 29)
s 50(1) 95
Non-Contentious Probate Rules 1987
r 22(1)(a) 95
Offences Against the Person Act 1861 (c100)
s 18 60
s 20 60
s 47 60
Patents Regulations 2000 (SI 2000/2037) 130
Public Health (Control of Disease) Act 1984 (c 22)
s 46 95
Sale of Goods Act 1979 (c 54)
s 5(3) 266
Theft Act 1968 (c 60)
s 1(1) 74
s 4(1) 37, 74
s 5(1) 74

Torts (Interference with Goods) Act 1977 (c 32)
s 1 45
s 2(1) 45
s 3(1) 50, 285
s 14 48

AUSTRALIA

Health Records and Information Privacy Act 2002 (NSW)
s 5(2) 158, 335
Human Reproductive Technology Act 1991 (WA)
s 26 148
Human Tissue Act 1983 (NSW)
s 4 131
s 6 148
s 7 131
s 9 131
s12 131
Human Tissue Act 1985 (Tas)
s 3 131
s 5 148
s 7 131
s 9 131
s 14 131
Human Tissue Act 1982 (Vic)
s 3 131
s 5 148
s 7 131
s 9 131
s 10 131
Human Tissue and Transplant Act 1979 (NT)
s 4 131
s 6 148
s 8 131
s 10 131
s 11 131

Human Tissue and Transplant Act 1982 (WA)
s 3 131
s 6 148
s 8 131
s 15 131
Infertility (Medical Procedures) Act 1984 (Vic)
s 12 148
s 14 148
Information Privacy Act 2000 (Vic)
s 3 158
Privacy and Personal Information Act 1998 (NSW)
s 4(2) 158, 335
Reproductive Technology Act 1988 (SA)
s 10 148
Transplantation and Anatomy Act 1978 (ACT)
s 4 131
s 6 148
s 8 131
s 10 131
s 15 131
Transplantation and Anatomy Act 1979 (Qld)
s 5 131
s 7 148
s 10 131
s 12 131
s 13 131
Transplantation and Anatomy Act 1983 (SA)
s 5 131
s 7 148
s 9 131
s 15 131

UNITED STATES

California Family Code 1994
§ 7613 148

Civil Rights Act 42 USC 1983 86
Colorado Statutes
§ 10-31104.7 ..... 132, 258
Florida Statutes Title XLIV Chapter 760
§ 742.11 148
§ 760.40 ..... 132, 258
Georgia Code
§ 33-54-1 ..... 132, 258
Louisiana Acts No 1418
§ 213.7 ..... 132, 258
National Organ Transplantation Act 42 USC (1994)
§ 274(e)(a) 143
New York Domestic Relations Law
§ 73 148
Ohio Rev Code
§ 2108.60 87
Oregon Genetic Privacy Act 1995
§ 4 ..... 122, 132, 244

GERMANY

Bürgerliches Gesetzbuch (German Civil Code)
§ 90 ..... 112, 225
Grundgesetz (German Federal Constitution)
art 1 291
Strafgesetzbuch (German Criminal Code)
§ 242 ..... 112, 225

ESTONIA

Human Genes Research Act 2000 (Inimgeeniuuringuteseadus) 335

ICELAND

Act on a Health Sector Database, No. 139/1998 (Lög um gagnagrunn á heilbrigðissviði) 12

INTERNATIONAL INSTRUMENTS

Charter of the United Nations

Preamble 54

Convention for the Protection of Human Rights and Fundamental Freedoms (European Convention on Human Rights, as amended)

art 8(1) 54, 108, 109

art 8(2) 109

Council Directive 1995/46/EC on the Protection of Individuals with Regard to the Processing of Personal Data and on the Free Movement of such Data [1995] OJL281156 156

Council Directive 1998/44 on the Legal Protection of Biotechnological Inventions [1998] OJL 213 ..... 130, 258, 259

Council Directive 2004/23/EC on Setting Standards of Quality and Safety of the Donation, Procurement, Testing, Processing, Preservation, Storage and Distribution of Human Tissues and Cells [2004] OJ L102 ..... 130, 131

Universal Declaration of Human Rights

Preamble 54

DEFINITION OF TERMS

The following terms are defined in this thesis and a summary is provided here for ease of reference:

Additional Biological Materials
'Additional biological materials' refer collectively to amplified DNA, cell-lines and modified biological materials.

Amplified DNA
'Amplified DNA' is defined as material created by the use of polymerase chain reaction (PCR) (or potentially, in future, Multiple Displacement Amplification (MDA)) to amplify a fragment of DNA from biological material.

Biological Materials
'Biological materials' is used in this thesis to refer principally to human tissue samples and blood utilized in scientific and medical research. More specifically, 'biological materials' is defined to include any constituent part of the human body formed by cells, while excluding body parts, waste products, hair and nail clippings and gametic materials.

Bodily Materials
'Bodily materials' is defined as a general term, to include biological materials, body parts, gametic materials, hair clippings and waste products.

Body Parts
'Body parts' are defined as differentiated parts of the human body with a capacity to perform physiological functions with an important level of autonomy.

Cell-lines
'Cell-lines' are defined as a collection of cells, which are derived from cancerous progenitor cells, and are self-replicating materials grown outside the original material.

Gametic Materials
'Gametic materials' refer to gametes, that is, male sex or reproductive cells (spermatozoa) or female sex or reproductive cells (ova).

Modified Biological Materials
'Modified biological materials' are defined as biological materials that have been altered in physical structure by the introduction of some additional biological material, such as the insertion of DNA from a different source.

Recipient
'Recipient' is defined as a person who removes or holds biological materials from a source.

Separated
'Separated' is defined as the physical detachment of bodily materials from a dead body or a living person.

Source
'Source' is defined as a living person who has had biological materials separated from his or her body.

Waste Products
'Waste products' are defined as materials that are generally discarded by human beings such as faeces and urine.

CHAPTER 1

INTRODUCTION

This thesis is about human biological materials and, more particularly, the rights that a living person has to such materials. It is an open question what legal protection currently exists in England for any alleged interference with human biological materials. This introductory chapter explains how advances in medical science have run ahead of the law's capacity to answer many of the key questions that arise. Following this introduction, Part I establishes the theoretical foundation for the thesis in property law and medical law. Part II then examines the position adopted by English law in relation to the human body and its parts before the recent, rapid expansion of genetic science. Finally, Part III considers the future direction English law should take in the light of the underlying theory, common law and statutory developments examined in Parts I and II.

A QUESTION

The rights of a living person to his or her separated biological materials raise complicated and, as yet, unresolved legal issues. Rapid medical and scientific advances involving the Human Genome Project demand that the law articulate adequate legal principles to respond to the numerous issues that arise. One question requiring particular attention concerns the legal rights that exist in 'biological materials' removed from a living person. In this thesis, the term 'biological materials' refers principally to human tissue samples and blood utilized in scientific and medical research. More specifically, 'biological materials' refer to any constituent

part of the human body formed by cells,[1] while excluding body parts,[2] waste products,[3] hair and nail clippings and gametic materials.[4]

Exponential growth in biotechnology is creating new uses for biological materials that were once presumed to have only limited value. It is, however, unclear what rights the law now recognizes in relation to biological materials for the individuals from whom they are taken (source), or those who remove and retain them (recipients). Some scholars argue that the law should recognize a source's property rights to his or her biological materials.[5] Others contend that a source's property rights are not justified at law and that the law should instead recognize a recipient's property rights.[6] As yet, no widely accepted answer to the question exists in the common law, legislation or academic literature.

Individual sources have two broad interests in biological materials removed from their bodies. The first is an interest in controlling the use and disposal of such materials. The second is an interest in the economic value of any profits that may be derived from separated biological materials (commercial participation). The central question of this thesis concerns what legal principles should apply to protect these pecuniary and non-pecuniary interests. Initially, this involves considering whether

---

1 In this definition, the term 'cells' refers to individual human cells or a collection of human cells.

2 The term 'body parts' is used in this thesis to refer to differentiated parts of the human body with a capacity to perform physiological functions with an important level of autonomy.

3 The term 'waste products' is used in this thesis to refer to material that generally is discarded by human beings such as faeces and urine.

4 The term 'gametic materials' is used in this thesis to refer to the male sex or reproductive cells (spermatozoa), female sex or reproductive cells (ova).

5 C Hammond 'Property Rights in Human Corpses and Human Tissue: The Position in Western Australia' (2002) 4 University of Notre Dame Australia Law Review 97, 113; G Dworkin and I Kennedy 'Human Tissue: Rights in the Body and its Parts' [1993] 1 Medical Law Review 291, 311; B Dickens 'The Control of Living Body Materials' (1977) 27 University of Toronto Law Journal 142, 183.

6 L Skene 'Proprietary Rights in Human Bodies, Body Parts and Tissue' (2002) 22 Legal Studies 102, 123-127.

English law does and/or should recognize that sources have property rights with respect to separated biological materials.[7] Second, the thesis asks whether the law of wrongs, including the law of tort, can protect an individual's interests in separated biological materials.[8] Although the focus of this thesis is on English law, the thesis draws on comparative material from other common law jurisdictions (such as Australia and the United States) to assist in illuminating and addressing these issues.

In considering the fundamental question of this thesis, it is important at the outset to draw a distinction between physical materials on the one hand and the genetic information derived from those materials on the other. This thesis is primarily concerned with rights pertaining to biological materials as physical objects. English law treats biological materials very differently from genetic information derived from such materials. The regulation of medical and genetic information, and the question of whether such information can be the subject of property rights, raise separate questions beyond the scope of this thesis. For example, it is not yet settled whether English law regards information as being property. The more accepted view is that information is not property.[9] Instead, the right to control the use of personal information is governed by the doctrine of confidence and the Data Protection Act

---

7 In the event that the recipient makes a profit from the wrongful use of biological materials a claim for damages could include profits made by the recipient. It is not possible for this thesis to consider the question of remedies in any detail, although the issue of remedies is noted at relevant points throughout the thesis.

8 The distinction between the law of wrongs and the law of tort within English jurisprudence should be noted. A wrong is defined as being a breach of a legal duty owed to a claimant: P Birks 'Definition and Division: A Meditation on *Institutes 3.13*' in P Birks (ed) *The Classification of Obligations* (OUP Oxford 1995) 23. The law of tort falls within the law of wrongs. The analysis in this thesis is not limited to the law of tort but analyses the broader category of the law of wrongs.

9 *Boardman v Phipps* [1967] 2 AC 46 (HL) 127-128 (Lord Upjohn). In *R v Dept of Health, ex p Source Informatics Ltd* [2001] QB 424 the Court of Appeal held that patients have no proprietary claims to prescription forms written by their doctors or to the information contained in them. For a fuller discussion of the classification of information as property see: N Palmer 'Information as Property' in N Palmer and E McKendrick (eds) *Interests in Goods* (2nd edn LLP London 1998) 3.

1998 c 28. This thesis discusses genetic information, but only to the extent that it is relevant in addressing the principal question of the thesis.

B STRUCTURE

The thesis has three parts. Part I, comprising Chapters 2 and 3, establishes the theoretical foundation for the thesis. Following this introductory chapter, Chapter 2 provides an introduction to property theory, and defines important terms such as 'property rights' and 'ownership'. The concept of property is complicated and it is therefore necessary to outline how the thesis defines property rights. Chapter 3 completes the theoretical foundation by examining how English law currently protects: (1) property rights; and (2) the right to bodily integrity. These are separate legal interests and the chapter demonstrates and explains how English law protects each one.

In Part II, Chapters 4, 5 and 6 explore how English, Australian and US jurisdictions deal with legal questions concerning bodily materials separated from the human body. 'Bodily materials' is defined here as a general term to include biological materials, body parts, gametic materials, hair clippings and waste products. Comparative analysis of these jurisdictions is valuable and necessary to develop an understanding of the legal principles that have underpinned the approaches of leading common law countries. The examination reveals a muddled jurisprudence amongst the common law and statutory regimes. The unsatisfactory state of the present law stems from a failure to identify clearly the underlying legal principles applicable to separated bodily materials. Without a clear set of guiding principles, the law encounters difficulties when faced with novel issues. In such circumstances inconsistency between cases becomes prevalent, producing an unclear

and difficult body of jurisprudence. It is in this state that English law currently finds itself with respect to separated bodily materials.

Part III, comprising Chapters 7, 8 and 9, is analytical and looks at the potential future development of English law. The thesis considers whether a more rational structure can be developed to deal with questions concerning biological materials removed from a living person. Analysis is divided into two sections. The first section, contained in Chapters 7 and 8, considers property rights; the second section, contained in Chapter 9, considers non-proprietary interests. Part III is primarily concerned with the legal status of, and rights pertaining to, biological materials separated from living persons. This focus means that two related issues are not explicitly addressed. First, Part III does not directly examine the legal status of materials separated from dead bodies. The thesis considers, however, that analysis in Chapter 4 (of the law concerning dead bodies) provides useful analogies for the development of the law in relation to living persons. Second, Part III does not directly consider separated body parts. Instead, the thesis focuses on biological materials that are utilized in medical research. The thesis does consider, however, that the general principles developed in Part III are capable of broader application to address these issues. Accordingly, the thesis notes at relevant times how the principles developed here might also apply in these different contexts.

Chapters 7 and 8 analyse the role of the law of property and, particularly, the circumstances whereby property rights can be created to biological materials separated from a living person. Property rights enable both control over and commercial participation in physical entities. Even though English law has demonstrated a continuing reluctance to recognize that individuals have property rights in separated biological materials, this thesis argues that the law can develop to accommodate property rights.

In outline, this thesis argues that two questions must be addressed: (1) how are biological materials transformed into 'things' capable of being the subject of property rights? and (2) what circumstances create property rights to biological materials? The thesis focuses on the second issue, and argues that there are three circumstances that may explain the creation of property rights to separated biological materials. In summary, property rights can be created on the basis of: (1) work or skill being performed on biological materials; (2) the detachment of biological materials; and (3) the detachment of biological materials coupled with an intention to use those materials as property.

Chapters 7 and 8 explore which of these circumstances provides the most compelling basis for explaining the creation of property rights in terms of legal principle. The thesis argues that, as a matter of legal principle, options (2) and (3) provide the basis for a coherent foundational structure. Both support the creation and allocation of property rights to the individual source from whom the biological materials were removed. The thesis also considers whether this conclusion can be supported by property theory. To conclude the analysis, Chapter 8 demonstrates how property principles can be employed in the practical context of scientific and medical research.

As noted above, the common law and statutory regimes have shown a long-standing reluctance to embrace a property regime to provide the underlying structure of legal rights. Chapter 9 explores how the law of wrongs might also protect a source's non-proprietary interests of autonomy and freedom from emotional distress. In contrast to proprietary protection, the law of wrongs provides for control of physical entities without commercial participation. Chapter 9 first considers whether English law can develop so as to protect an individual's right to autonomy and freedom from emotional distress in respect of separated biological

materials. Causes of action that protect an individual's autonomy include the duty of confidence and the torts of battery and negligence. The chapter then examines whether English law can develop so as to recognize a separate tort of non-consensual use of separated biological materials.

Ultimately, this thesis aims to present a coherent structure for the legal principles that can apply to biological materials separated from a living person. In the larger picture of private law this thesis is an exercise in exploring the external boundaries of personal property law and the law of tort, as well as the interaction between them. The inconsistent response of English law to the legal status of and rights to separated bodily materials demonstrates that these boundaries are not clearly delineated as yet.

The remainder of this introductory chapter has three sections. They address threshold issues that place the basic question of the thesis in its practical context. The first section outlines how biological materials are used for scientific research in the context of human tissue collections and genetic databases. It provides an introduction to the different physical forms of biological materials as they are used in scientific research. Even though each separate physical manifestation raises separate questions, academic commentary has often overlooked these different physical forms. It is important, therefore, to provide an introduction to the scientific principles and biological processes that explain these manifestations. The second section sets out the circumstances in which it may be significant for individuals to retain control over the use of separated biological materials. Finally, the third section presents the basic legal problem.

C BIOLOGICAL MATERIALS AND SCIENTIFIC RESEARCH

1 Human Tissue Collections and Genetic Databases

The use of the human body as a medical resource is not a new development. However, rapid scientific advancements are transforming the ability of scientific research to develop diagnostic and therapeutic products for complex diseases. Biological materials are a central part of this process, which in turn has transformed such materials into valuable commodities. During the House of Commons Debate on 15 January 2004 (when the Human Tissue Act c 30 (HTA 2004) had its Second Reading as a Bill), Mr Frank Dobson observed that:

> We cannot over-emphasise the importance of medical research on human tissues for the rest of us. For a start, such research helps us to identify specific illnesses and conditions. After such conditions are identified, the research enables professionals to understand their causes, and it is only after the causes are understood that professionals may come forward with a basis for the prevention or treatment of conditions. Medical research saves lives and relieves pain and suffering, and we must remember that it has gone on since time immemorial—from the Greeks studying anatomy to William Harvey discovering the circulation of the blood.[10]

In England, NHS hospitals are in possession of tens of thousands of organs and enormous collections of blocks and tissue slides.[11] Likewise, in the US states have stored millions of Guthrie cards[12] from newborn screening programmes over the last 40 years. It is estimated that there are over 350 million human biological materials in

---

10 *Hansard* HC Debate vol 416 col 1003 (15 January 2004).

11 M Brazier *Medicine, Patients and the Law* (3rd edn Penguin Books London 2003) 475.

12 Guthrie cards are blood samples collected from newborn children: JE McEwen and PR Reilly 'Stored Guthrie Cards as DNA Banks' (1994) 55 American Journal of Human Genetics 196, 196.

storage in the US alone.[13] Moreover, the scientific and commercial value of biological materials has grown significantly since the completion of the map of the human genome by the Human Genome Organisation and Celera in 2000.

(a) Tissue Collections

Throughout the world there are a large number of human tissue collections. These collections were not necessarily established and maintained for research purposes. Instead, the collections typically have been established by: (1) pathology laboratories conducting medical testing; (2) health authorities conducting newborn screening procedures; and (3) tissue banks holding tissue and organs for transplantation.[14] Technological developments have made these tissue collections a valuable resource for researchers. Often these biological materials were stored originally without any consent having been sought or given as to their future use. Consequently, the legal status and rights over them remain undefined.

English law does not define what collections may be classified as genetic databases. Under the Medicines and Healthcare Products Regulatory Agency Trading Fund Order, 'tissue bank' is defined as 'any place where human tissue or cells are stored or processed'.[15] This is the only definition that is provided, with terms such as 'human tissue' left undefined.

---

13 JF Merz 'On the Intersection of Privacy, Consent, Commerce and Genetics Research' in BM Knoppers (ed) *Populations and Genetics: Legal Socio-Ethical Perspectives* (Kluwer Legal International New York 2003) 257.

14 For a detailed analysis of these contexts see: Australian Law Reform Commission *Essentially Yours: The Protection of Human Genetic Information* (ALRC 96 Australian Government Publishing Service Canberra 2003) [19.7]-[19.20].

15 2003 (SI 2003/1076).

(b) Genetic Databases

Since the completion of the Human Genome Project in 2000 more specific population genetic databases have emerged. They contain collections of biological materials, information gathered from those materials and additional genetic information. These databases go by a variety of names: DNA banks, gene banks, biobanks and genetic databases.[16] They may be public or private (or involve public-private collaborations), and often they contain collections of both genetic sequence information and biological materials. Again, English law does not define what collections may be classified as population genetic databases. By way of definition, this thesis will use the term 'genetic database' to broadly refer to collections of DNA banks, gene banks and biobanks. The definition does not include blood banks or databases established for forensic purposes.[17]

Two main forms of genetic databases have emerged in the last decade. The first group focuses on research for specific diseases. In England, an example is the Acute Coronary DNA Library Project (ADLIB). ADLIB is an attempt to identify the genetic determinants of premature familial coronary artery disease. The genetic database contains a large collection of deoxyribonucleic acid (DNA) and white blood cell samples. In the US, PXE International (a disease advocacy group) has set up and maintained a privately held PXE Blood and Tissue Bank (PXE Bank), to assist research initiatives focused on the biology and genetics of pseudoxanthoma

---

16 House of Lords Select Committee on Science and Technology *Human Genetic Databases: Challenges and Opportunities* (HMSO London 2001) Ch 3.3.

17 The primary purpose of forensic databases, such as the National DNA Database maintained for the police in England by the Forensic Science Services, is to create collections of genetic profiles for use in crime prevention and investigation. The physical samples, although having an important initial function, do not play a significant role once genetic information is extracted from them. Accordingly, forensic databases fall outside the scope of this thesis.

elasticum (PXE).[18] The PXE Bank contains biological materials and is utilised as a resource of materials for ongoing scientific research into PXE. In an attempt to get around the position at common law, PXE uses contractual arrangements to create property rights in biological materials that will be used by researchers.[19] Under the terms of its contracts, PXE retains any property rights to the biological materials.[20]

The second type of database is broader in scope and is intended to serve as a source of raw material for wide-ranging research.[21] Genetics research has traditionally focused on rare disorders caused by mutations in single genes. More recently, research has expanded to search for 'normal' gene variants—polymorphisms—that increase susceptibility to common diseases.[22] Identifying these polymorphisms requires large population studies.[23] Databases exist (or are being established) on a national level in England, the US, Estonia, Iceland, Singapore, Latvia, Italy, Sweden and Tonga. Scientists in the US are attempting to secure funding for a biobank project similar to the UK Biobank project. The US National Institute of Health (NIH) wants to collect genetic and medical information on 500,000 volunteers.[24] Without detailing the forms of research, these databases can be utilized

---

18 SF Terry 'Learning Genetics' (2003) 22 Health Affairs 166, 170; SF Terry and CD Boyd 'Researching the Biology of PXE: Partnering in the Process' (2001) 106 American Journal of Medical Genetics 177, 178.

19 DM Gitter 'Ownership of Human Tissue: A Proposal for Federal Recognition of Human Research Participants' Property Rights in Their Biological Material' (2004) 61 Washington and Lee Law Review 257, 315.

20 Terry and Boyd (n 18 above) 178.

21 RJ Nederhand et al 'Logistics and Quality Control for DNA Sampling in Large Multicentre Studies' (2003) 1 Journal of Thrombosis and Haemostasis 987, 987.

22 LR Cardon and JI Bell 'Association Study Designs for Complex Diseases' (2001) 2 Nature Reviews 91, 91; A Collins, C Lonjou and NE Morton 'Genetic Epidemiology of Single-Nucleotide Polymorphisms' (1999) 96 Proceedings of the National Association Science 15173, 15173.

23 Cardon and Bell (n 22 above) 91.

24 http://www.sciencemag.org/content/vol304/issue5676/s-scope.shtml (accessed 24 June 2004).

for: (1) linkage studies; (2) association studies; (3) genetic epidemiology studies; and (4) pharmacogenetic studies. Two examples illustrate the emerging trend.

(i) Icelandic Health Sector Database

At a national level, the Icelandic genetic database is one of the first collections to utilise biological materials on a national scale. Under the Icelandic Act on a Health Sector Database (HSD),[25] the Icelandic government granted a licence to deCODE Genetics[26] in January 2000 to construct a centralized database linking medical records with genealogical and genetic information.[27] The Icelandic legislation regulates the creation and operation of a database of clinical medical information about Icelanders derived from their medical records. Separate legislation—the Icelandic Biobanks Act[28]—established guidelines for the use of biological materials in scientific research. The legislation does not, however, address the question of rights that individuals may have with respect to biological materials nor does it address the legal status of the materials in question.

(ii) UK Biobank

The UK Biobank project is a joint initiative between the Medical Research Council, Wellcome Trust, Department of Health and Scottish Executive.[29] The project differs

---

25 Act on a Health Sector Database, No. 139/1998 (*Lög um gagnagrunn á heilbrigðissviði*).

26 *Íslensk Erfðagreining ehf.*

27 HT Greely 'Iceland's Plan for Genomics Research: Facts and Implications' (2000) 40 Jurimetrics 153, 171-172; MJ Smith 'Population-Based Genetic Studies: Informed Consent and Confidentiality' (2001) 18 Santa Clara Computer and High Technology Law Journal 57, 68.

28 No 110/2000. Available at: http://brunnur.stjr.is/interpro/htr/htr.nsf/pages/Act-biobanks (accessed 24 November 2003).

29 See http://www.ukbiobank.ac.uk.

from the Icelandic HSD in that only a subset of the population will be sampled.[30] At this stage, the project proposes to support a diverse range of research, with the collection of DNA samples from 500,000 volunteers scheduled to commence in October 2005.[31] UK Biobank intends to follow the health of volunteers for a number of years, collecting and linking information on environmental and lifestyle factors to medical records and biological materials.[32] The biological materials will be stored so that they can be used for genetic analysis in the future. Importantly, the project also proposes that some original biological materials be immortalized.[33] Immortalization of human cells can be achieved through the creation of cell-lines. Cell-lines are a specific (and significant) form of biological materials and are discussed below. UK Biobank also intends that the resources (including biological materials and cell-lines) will be utilized by commercial and scientific users.

At present, there is no specific legislation governing UK Biobank. In September 2003 the UK Biobank Interim Advisory Group issued a document entitled the 'Draft UK Biobank Ethics and Governance Framework' (Draft Biobank Framework).[34] The Draft Biobank Framework sets out the intended operating principles for UK Biobank. It is not clear, however, what legal interests the Draft Biobank Framework accords individuals to separated biological materials. Its provisions stipulate that UK Biobank will be the legal owner of the data and sample collections and, further, that

---

30 For a discussion of the distinction between the Icelandic Database and UK Biobank see: J McHale 'Regulating Genetic Databases: Some Legal and Ethical Issues' (2004) 12 Medical Law Review 70, 73.

31 V Barbour 'UK Biobank: A Project in Search of a Protocol' (2003) 361 Lancet 1734, 1734.

32 FC Rawle 'UK DNA Sample Collections for Research' in BM Knoppers (ed) *Populations and Genetics: Legal and Social-Ethical Perspectives* (Kluwer Legal International New York 2003) 4-6.

33 UK Biobank *Sample Handling and Storage Protocol and Recommendations* (UK Biobank Manchester July 2004) 7, 19; Department of Health *Protocol for the UK Biobank* (Department of Health London 2002) 19.

34 Department of Health *UK Biobank Ethics and Governance Framework* (Department of Health London September 2003).

participants will not retain any property rights in the materials.[35] Individuals will, however, have a right to withdraw from participation, and their biological materials may then be destroyed.[36] Under the proposal, UK Biobank will be vested with the right to take legal action against unauthorized use or abuse of the database or materials. It will also retain the right to sell or destroy the materials.[37]

2 Biological Materials

Currently, the most widely used biological materials are derived from blood samples.[38] Such materials are utilized for various research purposes. In the future, increasing knowledge about human cells and improved means of analysis will mean that biological materials will continue to be a significant raw material in scientific research.[39]

(a) Physical Manifestations

It is important to understand the different physical forms of biological materials. To date, academic commentary has focused primarily on body parts and biological materials as they exist in their original form. This is an unfortunate oversight. Insufficient attention has been paid to additional biological materials created during

---

35 *UK Biobank Ethics and Governance Framework* (n 34 above) 18.

36 *UK Biobank Ethics and Governance Framework* (n 34 above) 13. It is still unclear whether or not UK Biobank undertakes to destroy biological materials upon participant withdrawal.

37 *UK Biobank Ethics and Governance Framework* (n 34 above) 18.

38 Nederhand et al (n 21 above) 987. For example, the proposed UK Biobank intends to use blood samples of 50 ml from 500,000 individuals: *UK Biobank Ethics and Governance Framework* (n 34 above) 3.

39 SJ Younger, MW Anderson and R Schapiro (eds) *Transplanting Human Tissue* (OUP New York 2004) 33; House of Lords Select Committee on Science and Technology (Fourth Report 1999) [3.4].

the course of medical or scientific research. Such materials have become essential tools in the development of medical therapies and diagnostics.[40]

Accordingly, this thesis considers the legal status and principles applicable to these additional materials. As a preliminary matter it is useful to provide a basic introduction to the fundamental science. Whilst a wide range of additional biological materials are used by researchers, for present purposes four forms of biological materials warrant specific attention.

(i) Original Biological Materials

The first form of biological materials meriting closer attention are biological materials as they exist in their original state, fixed and mounted. These materials are used in a variety of ways to obtain information relating to their identity and behaviour. Although biological materials often are placed onto microscope slides, there is no standardized practice for storing them.[41] Such materials are commonly fixed in solution and mounted in paraffin blocks.[42] Paraffin blocks are blocks of hard paraffin with biological materials embedded in them. Before these materials are placed in the block, they are 'fixed'. Fixing involves immersing them in preservative so that they will harden for processing.[43] The water and fat is then removed and replaced with paraffin wax.[44] On average, a paraffin block will consist of

---

40 JP Walsh, WM Cohen and A Arora 'Licensing Research Tools and Biomedical Innovation' in S Merrill, R Levin and M Meyers (eds) *Innovation in a Knowledge Based Economy* (National Academy Press Washington 2003) 289.

41 U Lehmann and H Kreipe 'Real-Time PCR Analysis of DNA and RNA Extracted from Formalin-Fixed and Paraffin-Embedded Biopsies' (2001) 25 Methods 409, 409.

42 Lehmann and Kreipe (n 41 above) 409.

43 Retained Organs Commission *Tissue Blocks and Slides: A Consultation Paper* (NHS London November 2002) 4.

44 *Tissue Blocks and Slides* (n 43 above) 4.

approximately 50 per cent biological material.[45] Microscope slides are then made by cutting shavings of biological materials from the paraffin blocks. The shaved material is then transferred to a glass slide, stained and secured by a self-hardening resin. The process of staining does not alter the physical composition of the biological materials, but instead makes the DNA structure in the materials more easily identifiable.[46]

(ii) Amplified DNA

The second form of biological materials relevant to this thesis is DNA extracted from biological materials. DNA is a physical object. Before isolating the genomic DNA (gDNA), the cells must be lysed and the DNA made available for extraction.[47] The most common source of extracted DNA is blood. Although DNA can be collected from buccal (cheek) swabs, studies have found that these cells are of limited utility because of the significant variation in yield and quality of the DNA obtained.[48] Once the DNA has been isolated, it may also be amplified. Increasingly, scientists are using polymerase chain reaction (PCR) technology[49] to amplify a fragment of DNA from the original biological material (amplified DNA). For example, PCR has been

---

45 Independent Review Group *Retention of Organs at Post-Mortem Final Report* (Edinburgh November 2001) 48.

46 JW Tung et al 'New Approaches to Fluorescence Compensation and Visualization of FACS Data' (2004) 110 Clinical Immunology 277, 278; A Orfao and A Ruiz-Arguelles 'General Concepts About Cell Sorting Techniques' (1996) 29 Clinical Biochemistry 5, 8.

47 HJ Schunemann et al 'Short-term Storage of Blood Samples and DNA Isolation in Serum Separator Tubes for Application in Epidemiological Studies and Clinical Research' (2000) 10 Ann Epidemiol 538, 538–539.

48 LC Hartley et al 'Collection of Buccal Cell DNA Using Treated Cards' (2000) 9 Cancer Epidemiol 501, 502.

49 P Rabinow *Making PCR: A Story of Biotechnology* (University of Chicago Press Chicago 1996). For a discussion of the use of this technology in forensic circumstances see: KT MacKnight 'The Polymerase Chain Reaction (PCR): The Second Generation of DNA Analysis Methods Takes the Stand' (2003) 20 Santa Clara Computer and High Technology Law Journal 95, 134—148.

successfully utilized in studying the epidemiology of Lyme disease.[50] More recently, scientists have reported the success of Multiple Displacement Amplification (MDA) in amplifying the entire DNA of a cell directly from biological materials.[51] MDA is a significant break-through in scientific research; previously PCR technology had been limited to amplification of DNA fragment.[52] The MDA technique enables large amounts of DNA to be created from small biological materials. The technology also has the potential to be applied to paraffin-embedded biological materials. Thus, if successful, this development would have significant implications for biological material collections throughout the world.[53]

(iii) Cell-lines

The third form of biological materials consists of cell-lines created from the original biological materials. Cell-lines are derived from cancerous progenitor cells, and are self-replicating materials grown outside the original material.[54] The importance of cell-lines lies in their uniformity with the original material, allowing scientists to carry out highly accurate *in vitro* comparative tests.[55] Cell-lines are therefore used in the study of biological processes and, increasingly, play a central role in testing the

---

50 DH Persing 'Detection of Borrelia Burgdorferi DNA in Museum Specimens of Ixodes Dammini Ticks' (1990) 249 Science 1420, 1421.

51 S Hosono et al 'Unbiased Whole-Genome Amplification Directly from Clinical Samples' (2003) 13 Genome Research 954, 954; RS Lasken and M Egholm 'Whole Genome Amplification: Abundant Samples of DNA from Precious Samples or Clinical Specimens' (2003) 21 Trends in Biotechnology 531, 532.

52 Previously, there was a large variation in the extent to which this technique could produce a whole DNA amplification. Techniques suffered from amplification bias, meaning that regions of the genome were lost in the process: Hosono et al (n 51 above) 955.

53 Lasken and Egholm (n 51 above) 534.

54 —'UKCCCR Guidelines for the Use of Cell Lines in Cancer Research' (2000) 82 British Journal of Cancer 1495, 1496-1498.

55 HG Drexler, Y Matsuo and RAF MacLeod 'Continuous Hematopoietic Cell Lines as Model Systems for Leukemia-Lymphoma Research' (2000) 24 Leukemia Research 881, 885.

potentially harmful effects of drugs and other compounds on living matter.[56] In particular, studies of leukaemia-lymphoma cell-lines have provided useful insights into studies of hematopoietic malignancies.[57] Blood and bone marrow materials are the most commonly used biological materials to initiate the production of cell-lines. Other liquid specimens (such as pleural effusion, ascites or cerebro-spinal fluid) and solid biological materials (lymph node, tonsil, spleen) are employed less often.[58] The success rate of creating a cell-line from biological materials is, however, relatively low. Scientific commentary cannot, as yet, explain why the cells from one tumour sample proliferate while most other attempts from the same type of tumour fail. As a result, cell-lines are valuable products and there is an increasing demand for high quality cell-lines.

(iv) Modified Biological Materials

The fourth form of relevant material consists of biological materials altered in physical structure by the introduction of additional biological materials, such as the insertion of DNA from a different source. In scientific terminology this technique is referred to as the insertion of 'foreign DNA'. Foreign DNA may be inserted into either the original biological materials or cell-lines.

Foreign DNA is usually inserted into a cell-line to create a modified cell-line consisting of the original cell-line and the foreign DNA.[59] Foreign DNA also can be

---

56 Department of Health *Human Bodies, Human Choices: The Law on Human Organs and Tissue in England and Wales* (Department of Health London 2002) [17.3].

57 For example, it is estimated that there are over 1,000 leukaemia-lymphoma cell-lines: HS Drexler and RAF MacLeod 'Leukaemia-lymphoma Cell Lines as Model Systems for Hematopoietic' (2003) 35 Annuals of Medicine 404, 405.

58 Drexler, Matsuo and MacLeod (n 55 above) 889.

59 For one of the pioneering works in this field see: KM Huttner, GA Scangos and Ruddle FH 'DNA-Mediated Gene Transfer of a Circular Plasmid into Murine Cells' (1979) 76 National Academy of Sciences USA 5820, 5821.

inserted into original (often termed primary) biological material. Commonly, viruses are used to get the foreign DNA inside the cells. Retroviruses—especially the subset of these called lentiviruses—are the most effective. The earliest example of the use of lentiviruses to introduce foreign DNA into primary human cells was reported in 1996.[60] The use of retroviruses is not yet advanced in the context of human biological materials, but, instead, the technique has developed in relation to mouse cells such that genetically-modified cells can be re-injected safely into mice.[61] Cells are removed from the mouse and then inserted with foreign DNA so as to prevent the cells from causing an immune disease. Prior to the insertion of DNA these cells have the potential to be aggressive and to attack the immune system. Importantly, when the mouse cells (which have been subjected to the insertion of foreign DNA) are reinserted into a mouse, the function of the cells changes. Specifically, the mouse cells lose the ability to cause immune system disease in the new host. Instead, the cells protect the mouse from the immune system disease. The success of this technique in the context of mouse cells is significant because the next step is to transfer its application to human biological materials. Although the technique is not currently utilized in the context of human biological materials, rapid advances in immunology over the last decade are moving in this direction. It is, therefore, increasingly important to consider the legal status of these materials.

For the purposes of this thesis, where foreign DNA is inserted into an original cell or a cell-line the resulting biological materials will be referred to as 'modified biological materials'. Typically, the creation of these modified biological materials

---

60 L Naldini et al 'In Vivo Gene Delivery and Stable Transduction of Non-dividing Cells by a Lentiviral Vector' (1996) 272 Science 263, 264.

61 S Hori, T Nomura, and S Sakaguchi 'Control of Regulatory T cell Development by the Transcription Factor Foxp3' (2003) 299 Science 1057, 1059.

will also be subject to intellectual property rights, as they may constitute 'inventions'. These materials raise difficult legal issues. For example, at what point should the law recognize that biological materials have been transformed into a different physical object? If biological materials have been transformed into new objects then different property principles will apply. As already noted, the applicable biological processes and their differing legal implications have not, as yet, been considered by English law or academic commentary. This is one of the key areas addressed in Part III below. By way of definition, this thesis will refer to amplified DNA, cell-lines and modified biological materials collectively as 'additional biological materials'.

(b) Genetic Information

As outlined above, this thesis is concerned primarily with biological materials as physical objects. But it is also necessary to provide a definition of 'genetic information' that is extracted from biological material. This term is not easy to define, as there are many different forms of genetic information. Information about an individual's skin colour or gender, for example, is arguably genetic information. More specific forms of genetic information include the results of DNA analysis. This thesis uses the term 'genetic information' to refer to information about an individual's genetic characteristics, as derived from his or her DNA, ribonucleic acid (RNA), genes and chromosomes.

D INDIVIDUAL INTERESTS AND BIOLOGICAL MATERIALS

Individuals have two broad interests in separated biological material: control (over use) and commercial participation. The previous two sections discussed the increasingly significant role that separated biological materials are assuming in

scientific and medical research. Profits have been and will continue to be made by researchers and companies that use biological materials to develop therapeutic products. Individuals who supply biological materials may wish to receive a share of profits made from the use of separated biological materials.

Individuals may also have non-economic interests in controlling separated biological materials. There are at least four situations in which having a power of control may be significant. The first situation concerns the right of individuals to determine the forms of scientific and medical research for which their biological materials are used. Empirical data establish that the general public is concerned with controlling what research is performed on biological materials.[62] There may be forms of research for which individuals do not wish their biological materials to be used. For example, strict Catholics may not want their biological materials or genetic information to be used in research pertaining to contraception.[63] Traditional Maori groups also have strong spiritual concerns over the human body and its parts.[64]

A second instance where the exercise of control may be significant arises from the use of biological materials in a commercial setting. The HTA 2004 authorizes (in specified circumstances) the selling and buying of controlled material (defined in Chapter 6).[65] For example, controlled material may be transferred from a DNA

---

62 MR Robling et al 'Public Attitudes Towards the Use of Primary Care Patient Record Data in Medical Research Without Consent: A Qualitative Study' (2004) 30 Journal of Medical Ethics 104, 105.

63 D Beyleveld and E Histed 'Anonymisation is not Exoneration' (1999) 4 Medical Law International 69, 73.

64 Traditional Maori believe that every human organism is imbued with a life spirit handed down from the ancestors. Thus, every cell contains a force that continues to exist *ex situ* and needs to be treated accordingly: Law Commission *Coroners* (New Zealand Law Reform Commission Report 62 Wellington 2000) [248]. See also: Ministry for Health *Review of the Regulation of Human Tissue and Tissue-based Therapies* (New Zealand Ministry of Health Discussion Paper Wellington 2004) 5.

65 HTA 2004, s 32.

databank for the purposes of developing commercial products. Individuals may, however, have moral, religious, philosophical or other objections to the commercial sale of separated biological material.

The third example arises where individuals do not wish separated biological materials to be immortalized. As described above, immortalization occurs through the creation of a cell-line. In the normal course of scientific research, original biological materials are analysed as part of a large collection of biological materials. No particular sample is likely to receive close individual attention or special scrutiny. In the event that a cell-line is created, however, the biological materials are likely to be the subject of a more focused and direct analysis. Individuals may not wish such immortalization to occur for a number of reasons, including moral or religious grounds.

Finally, control of biological materials may be significant for individual sources when biological materials are used to obtain personal genetic information. The protection of privacy is a matter of concern to the public, especially in the context of DNA databanks such as UK Biobank.[66] Potential threats to individual privacy arise in two contexts. First, an individual's personal genetic information may contain information about which that individual does not wish to be made aware. Such information could include, for example, his or her predisposition to a genetic disease.[67] In the context of genetics, this right has been termed the 'right not to

---

66 K Korts et al 'Genetic Databases and Public Attitudes: A Comparison of Iceland, Estonia and the UK' (2004) 8 Journal of the Humanities and Social Sciences 131, 141-142; Human Genetics Commission *Public Attitudes to Human Genetic Information – People's Panel Quantitative Study Conducted for the Human Genetics Commission* (Department of Health London 2001) 5-6.

67 Human Genetics Commission *Inside Information* (Department of Health London 2002) [3.3].

know'.[68] This right is not established in English law. However, disclosure of such information to the individual could arguably constitute an invasion of that person's privacy. A further (and perhaps more substantial) privacy concern is the unauthorized disclosure of personal genetic information to third persons. An individual may wish to prevent the disclosure of genetic information to third parties including, for example, an employer or insurance company. These examples highlight potential infringements of individual privacy stemming from the use of biological materials.

Thus, individuals have both pecuniary and non-pecuniary interests in the control of separated biological materials. There are a range of circumstances where an individual's right to control separated biological materials is important to protect legitimate interests.

E CURRENT LEGAL STATUS OF BIOLOGICAL MATERIALS

Despite the increasing utilization of biological materials in scientific research, legal uncertainty remains over what property rights exist in English law. Neither existing legislation nor the common law currently recognizes property rights to biological materials. Although English law has been guided by the 'no property' principle (the principle which declares that there is no property in corpses),[69] a small collection of court decisions classifies biological materials as property. In England, several lower courts have held that substances of the human body (such as blood and urine

---

68 Australian Law Reform Commission *Essentially Yours: The Protection of Human Genetic Information* (ALRC 96 Australian Government Publishing Service Canberra 2003) [7.24]; G Laurie *Genetic Privacy* (CUP Cambridge 2002) 264–266.

69 *Exelby v Handyside (Handyside's Case)* (1749) 2 East PC 652, 653; *R v Kelly* [1999] QB 621, 630–631; R Magnusson 'Proprietary Rights in Human Tissue' in N Palmer and E McKendrick (eds) *Interests in Goods* (2nd edn LLP London 1998) 27–29.

samples) can be classified as 'property' capable of being stolen.[70] English law has not, however, determined whether a living person can claim property rights to separated biological materials. Accordingly, legal commentators rightly point to a conceptual gap in the existing law.[71] Grubb notes that:

> In the result, there remains no clarity on the central questions. First, does excised tissue fall within the property regime at all? Second, if it does, who is entitled to claim 'property interests' in it? Is it the source or the remover?[72]

Part II of this thesis provides a detailed analysis of how the common law and statutory regimes have addressed questions concerning the human body and removed bodily materials. The conceptual lacuna in the law presents an interesting contrast with how the law has developed to ensure that each individual has control over preventing invasions of his or her own body. There is an established line of common law authority on this question in medical law, which is outlined in Chapter 3.

F CONCLUSION

This introductory chapter has sought to achieve five objectives. The first objective was to define the central question examined in this thesis. Next, it set out the structure for the consideration of this fundamental question. The third objective was to place the legal question within its practical context. Fourth, the introduction examined the circumstances in which individuals may wish to retain control over separated biological materials. Finally, in the last section, the chapter identified the

---

70 *R v Rothery* [1976] RTR 550 (CA) 552–553 (blood specimen); *R v Welsh* [1974] RTR 478 (CA) 479 (urine sample); *R v Herbert* [1961] JPLGR 12, 13 (hair sample).

71 A Grubb 'I, Me, Mine: Bodies, Parts and Property' (1998) 3 Medical Law International 299, 305; Magnusson (n 69 above) 28; JK Mason, RA McCall-Smith and GT Laurie *Law and Medical Ethics* (Butterworths London 1999) 486; D Morgan *Issues in Medical Law and Ethics* (Cavendish London 2000) 83.

72 Grubb (n 71 above) 305.

uncertainty that currently exists in English law concerning the legal status of biological materials.

This chapter has therefore provided the necessary background for the thesis. The central question of the thesis is this: can a living person who has biological materials separated from them claim property rights in such materials? English law has not yet defined what underlying structure of rights exists as a matter of legal principle. It may be that English law will not recognize an individual's property rights. Failure to develop property principles should not, however, be the end of the story. Accordingly, the second question that this thesis asks is: can English law develop so as to recognize an individual's non-proprietary interests to separated biological materials?

The question of property rights to separated biological materials also raises wider questions of ethics and philosophy that this thesis cannot consider. This thesis sets out to assist in the development of a rational structure based on legal principles. Part II demonstrates how the law has failed to date to develop such a structure. Part III then seeks to develop it. The first step, however, is for the thesis to lay the theoretical foundation for the enterprise. This is the project of Part I.

PART I

CHAPTER 2

DEFINING PROPERTY

A INTRODUCTION

Chapters 2 and 3 establish the theoretical foundation for this thesis. Chapter 2 provides an introduction to property theory and establishes the position that this thesis endorses with respect to property rights. Chapter 3 then analyses the protection of property rights and the right to bodily integrity. Despite the ubiquity of property, the nature and content of property rights is fraught with ambiguity. This chapter commences by considering the nature of property rights and then outlines the position adopted here. Along the way, it defines important terms as such as 'property right', 'ownership', 'title' and 'possession'.

B PROPERTY JURISPRUDENCE

The primary focus of this thesis is the potential application of property rights to biological materials separated from a living person. An understanding and definition of property as a legal concept is therefore required. To this end, two central questions arise in property jurisprudence. The first question is concerned with the definition of a property right as a matter of legal analysis. The second asks whether there is a justification for private property, and if so, what that justification might be. This chapter is concerned with the first question, for the thesis cannot hope

to compete with property law jurisprudence that explores the second question.[1] The thesis addresses the question of the moral justification of property rights in Part III. Specifically, Chapter 8 considers whether property justifications support the allocation of property rights to separated biological materials to the living person from whom such materials are removed.

1 Nature of Property Rights

The central purpose of this section is to consider what it means to say that there are 'property rights' over an object. This inquiry involves two stages of reasoning. The first is to determine what characteristics define property rights. The second is to consider what objects can be classified as 'property' Although some commentators collapse these two questions into one, this thesis addresses each separately, for keeping these questions distinct assists in explaining the position adopted by this thesis.

There are numerous contemporary attempts to define private property rights.[2] No single theory, however, has produced a satisfactory universal or general meaning. By way of outline, this thesis argues that a property right is a right to a thing which is enforceable generally against other members of society. The following two sections explain this position in greater detail.

---

1 Several recently published texts have undertaken this monumental task. See eg: JW Harris *Property and Justice* (Clarendon Press Oxford 1996); S Munzer *A Theory of Property* (CUP Cambridge 1990); J Waldron *The Right to Private Property* (Clarendon Press Oxford 1988).

2 JE Penner *The Idea of Property in Law* (2nd edn Clarendon Press Oxford 1997) 1-6; R Posner *Economic Analysis of Law* (5th edn Aspen New York 1998) 39; Harris *Property and Justice* (n 1 above) 6-8; Munzer *A Theory of Property* (n 1 above) 15-36; Waldron *The Right to Private Property* (n 1 above) 26; LC Becker *Property Rights: Philosophical Foundations* (Routledge London 1977) 2-4.

2 Defining Property Rights

The first stage of inquiry—defining what characterizes property rights—is notoriously difficult. One of the central distinctions in private law is that between a right *in rem* and a right *in personam*. This distinction is central to an understanding of property rights. These terms arose from the classification of actions in Roman law and were transposed into a classification of rights in the common law.[3] Merrill and Smith describe the distinction between *in rem* and *in personam* as being a distinction that has 'long endured across different legal systems'.[4]

The prominence in property theory of rights *in rem* is often linked to the scholarship of Hohfeld and Honoré. Hohfeld argued that any right *in rem* should be understood as a collection of personal rights.[5] For Hohfeld, a right *in rem* was to be understood simply as a vast bundle of rights *in personam* held by the right-holder against an indefinite number of other members of society.[6] Hohfeld's position is best encapsulated in his summary:

> A paucital right, or claim, (right *in personam*) is either a unique right residing in a person (or group of persons) and availing against a single person (or single group of persons); or else it is one of a few fundamentally similar, yet separate, rights availing respectively against a few definite persons. A multital right, or claim (right *in rem*) is always one of a large class of fundamentally similar yet separate rights, actual and potential, residing in a single person (or single group of persons) but availing respectively against persons constituting a very large and indefinite class of people.[7]

---

3 B Nicholas *An Introduction to Roman Law* (Clarendon Press Oxford 1962) 99.

4 TW Merrill and HE Smith 'The Property/Contract Interface' (2001) 101 Columbia Law Review 773, 779.

5 WN Hohfeld 'Some Fundamental Legal Conceptions As Applied in Judicial Reasoning' (1913) 23 Yale Law Journal 16, 76.

6 Hohfeld (n 5 above) 717.

7 Hohfeld (n 5 above) 718.

From this statement it is evident that, under Hohfeld's approach, *in rem* means 'towards persons generally' and *in personam* means 'towards definite persons'. In a property context, Hohfeld is often cited to support the proposition that property does not refer to a thing, but is an abstract notion referring to the 'bundle of rights' held by the individual.[8] The aggregate of rights, under this approach, does not necessarily have to relate to a tangible object. Hohfeld did not adopt the metaphor 'bundle of rights'. Nonetheless, the genesis for this metaphor can be located in his discussion of how fee simple ownership can be broken down into a legal complex of jural relations.

Honoré is the other scholar typically cited in the context of the 'bundle of rights' approach.[9] In his essay entitled 'Ownership', Honoré attempts to identify the rights that constitute the bundle, identifying eleven 'standard incidents' of a 'full liberal concept of ownership'.[10] According to Honoré, these incidents overlap, allowing for the possibility of a wide variety of 'property' rights with different configurations of rights and obligations. Despite Honoré's emphasis on the 'standard incidents', it is not clear that Honoré sought to explain the incidents of ownership independent of the existence of a thing.[11] Honoré commences his essay on ownership by noting:

> I propose, therefore, to begin by giving an account of the standard incidents of ownership: ie. those legal rights, duties and other incidents which apply, in the ordinary case, to the

---

8 JE Penner 'The Bundle of Rights Picture of Property' (1996) 43 UCLA Law Review 711, 713.

9 Munzer *A Theory of Property* (n 1 above) 22-36; Becker *Property Rights: Philosophical Foundations* (n 2 above) 11-21.

10 They are: (1) the right to possess; (2) the right to use; (3) the right to manage; (4) the right to income; (5) the right to capital; (6) the right to security; (7) the incident of transmissibility; (8) the incident of absence of term; (9) the duty to prevent harm; (10) liability to execution; and (11) residuary character. For an explanation of each right see: AM Honoré 'Ownership' in AG Guest (ed) *Oxford Essays in Jurisprudence* (OUP Oxford 1961) 112-128.

11 Penner (n 8 above) 732-733.

> person who has the greatest interest in a *thing* admitted by a mature legal system.[12]

This statement suggests that Honoré appreciated the importance of a 'thing' in understanding the concept of property and, indeed, Penner argues that Honoré explains the incidents of ownership in relation to a thing.[13] The better view, therefore, may be that Honoré regarded property as concerning the bundle of rights in relation to a thing.

A combination of Hohfeld's and Honoré's scholarship forms the basis of the 'bundle of rights' approach.[14] The conception of the property relationship as a 'bundle of rights' has become the dominant metaphor in American legal discourse.[15] The standard formulation of the concept defines a property right as a bundle of different rights to a thing. In US jurisprudence, property is defined as 'legal relations between persons with respect to ... thing[s]'.[16] The US Supreme Court recently agreed with an earlier statement in *United States v General Motors*[17] that 'property ... consists of "the group of rights which the so-called owner exercises in his dominion of the physical thing", such "as the right to possess, use and dispose of it"'.[18] This formulation of the 'bundle of rights' does not exclude the notion of a thing. The focus of the 'bundle of rights' approach is on the relationship between persons and not the location of the thing. By contrast, this thesis argues that a property right is better

---

12 Honoré (n 10 above) 107.

13 Penner (n 8 above) 732.

14 Munzer *A Theory of Property* (n 1 above) 22.

15 Penner (n 8 above) 712–724.

16 American Law Institute *A Concise Restatement of Property Law* (American Law Institute Publishers Minn 2001) 1.

17 *United States v General Motors* 323 US 373; 65 S Ct 357 (1945).

18 *Phillips v Washington Legal Foundation* 524 US 156, 170; 118 S Ct 1925, 1933 (1998).

understood as a right to a thing. Despite the prevalence of the 'bundle of rights' theory in legal discourse, recent scholarship recognizes that Hohfeld's attempt to eliminate the notion of a right *in rem* has not been successful.[19] Principally, Hohfeld's failure arose from his inability to explain why, in the case of rights *in rem*, they come in bundles of rights *in personam*.

The *res* (or thing) is, therefore, pivotal to understanding the concept of an *in rem* right. The significant point is that a right *in rem*—as opposed to a right *in personam*—is a right with respect to a *res* (thing), which is enforceable against the world generally.[20] On the other hand, rights *in personam* can be 'exacted only from the person against whom they first arise'[21] or against someone standing in that person's shoes, such as an executor or trustee in bankruptcy. These are often referred to as 'personal rights'. The distinction between the two rights lies in their exigibility. That is, the question of against whom they can be demanded. Birks provides the clearest explanation of exigibility when he explains exigibility, noting:

> [A right *in personam*] will probably relate to a *res* but it will be capable of surviving the loss or disappearance of that *res*. For to exact a right *in personam* you need to find the person, not the *res* ... By contrast a right *in rem* is one whose exigibility is defined by reference to the existence and location of a thing, the *res* to which it relates. A right *in rem* cannot survive the extinction of its *res*.[22]

A right *in rem* is, therefore, demandable wherever the thing is found, and holds against anyone who wrongly interferes with the thing. A right *in personam* is demandable only with respect to the person against whom the right originally arose.

---

19 Merrill and Smith (n 4 above) 787-788; Harris *Property and Justice* (n 1 above) 120-125; Penner (n 8 above) 712.

20 P Birks *Unjust Enrichment* (OUP Oxford 2003) 162; A Pretto 'Primary Rights and Rights in Rem' in P Birks and A Pretto (eds) *Themes in Comparative Law* (OUP Oxford 2002) 74.

21 Birks *Unjust Enrichment* (n 20 above) 162.

22 P Birks *An Introduction to the Law of Restitution* (Clarendon Press Oxford 1985) 49-50.

Rights *in rem* are rights against persons rather than things (as Hohfeld contends). Nonetheless the persons who are bound are identified by their relationship to the thing. On this basis, Birks argues that the 'law of obligations is the law of rights *in personam* [and] the law of property is the law of rights *in rem*'.[23] The more satisfying position, then, is that rights *in rem* are distinct from rights *in personam* because they: (1) relate to some specific thing; and (2) are enforceable generally against other members of society.

Accordingly, a property right cannot be separated from the thing to which it relates. Put simply, a property right is a right to a thing which is enforceable generally against other members of society. Such an approach is now supported by an increasing number of academic commentators in common law jurisdictions.[24] The following section addresses the equally difficult question of determining the objects (or things) to which property rights may be extended.

3 Narrow and Broad Conceptions of Property

The preceding section set out what the thesis considers to be the nature of property rights. This section is devoted to the second inquiry: over what objects do property rights extend? By taking a right *in rem* to a thing as being the foundational basis for the definition of property rights, it is possible to discern two conceptions of property.

---

23 Birks *Unjust Enrichment* (n 20 above) 27.

24 R Chambers 'Tracing and Unjust Enrichment' in JW Neyers, M McInnes and SGA Pitel (eds) *Understanding Unjust Enrichment* (Hart Publishing Oxford 2004) 273; G McMeel 'The Redundancy of Bailment' in A Hudson (ed) *New Perspectives on Property Law, Obligations and Restitution* (Cavendish Publishing London 2004) 248; Birks *Unjust Enrichment* (n 20 above) 26; RB Grantham and CEF Rickett 'Property Rights as a Legally Significant Event' (2003) 62 Cambridge Law Journal 717, 728; S Gardner *An Introduction to the Law of Trusts* (2nd edn OUP Oxford 2002) 12; MG Bridge *Personal Property Law* (3rd edn OUP Oxford 2002) 12; Pretto (n 20 above) 79; W Swadling 'Property' in P Birks (ed) *English Private Law* (OUP Oxford 2000) [4.01]; Penner (n 8 above) 752.

The first is based on a narrow conception of property rights as rights in relation to a thing. The second is a broader conception that equates property rights with wealth.[25]

The narrower conception of property rights focuses on the existence of a thing. Within this framework, the difficult question becomes: what is a 'thing'? Does it include both tangible *and* intangible objects? Or is a thing limited to an object that has physical existence? Some academic commentators emphasize that (under the narrower conception) property rights require the existence of a physical thing.[26] Other commentators argue that a physical thing is not necessary and that the concept can include shares[27] and securities.[28] This thesis considers that the better view is not to limit the definition of a thing to physical entities. Limiting it in this way narrowly restricts the definition of a property right and unnecessarily widens the gap between the legal meaning of the term and its everyday use. The layperson conceives of ownership as a relationship of a person to a thing.[29] Although there is a need for greater precision of the term in defining property rights in legal analysis, it is not necessary to define it in such a way that distances it unnecessarily from its everyday meaning.

The difficulty next becomes how to determine what intangible objects should be included as things. Several scholars have recently addressed this difficult question. One suggestion, found in the work of Dr Arianna Pretto, is that a definition of a

---

25 Harris *Property and Justice* (n 1 above) 140. 'Wealth' is used in this thesis to refer to something which can be accorded a monetary value, such as a house, money and shares: BA Rudden 'Things as Thing and Things as Wealth' (1994) 14 Oxford Journal of Legal Studies 81, 87.

26 B Boukhart 'What is Property' (1990) 13 Harvard Journal of Law and Public Policy 775, 796.

27 FH Lawson and B Rudden *The Law of Property* (3rd edn OUP Oxford 2002) 33-36; R Pennington 'Can Shares in Companies Be Defined' (1989) 10 Company Lawyer 140, 144.

28 J Benjamin *Interests in Securities: A Proprietary Analysis of the International Securities Markets* (OUP Oxford 2000) [14.31].

29 Harris *Property and Justice* (n 1 above) 119.

thing should include incorporeal things that are capable of being located, such as copyrights and patents.[30] It is generally accepted that rights *in rem* follow things and that things are usually corporeal. In the case of corporeal things, the right *in rem* can be demanded wherever the physical thing is located. Pretto contends, however, that the capacity to locate a thing is not limited to corporeal things. She argues that in some instances it is also possible to identify the subject matter of an intangible right. Thus, although an idea is not corporeal, Pretto proposes that the idea can be located in those things which are capable of supporting it. For example, ideational ideas (including a patented idea) materialize in things which manifest the same idea such as a book or a machine. The rights in each locatable thing can, therefore, be described as rights *in rem*.[31] The physical form of copyrights and patents can be characterized as assets within the law of property. Following Pretto's approach, the definition of a 'thing' thus encompasses corporeal things and things that are capable of being located, such as in the physical form of copyrights and patents.

Pretto claims that her position builds on the approach of the late Professor James Harris by arguing that, where an ideational entity (such as a patent) can be located, it constitutes a thing.[32] In support, she refers to the following passage from Harris in *Property and Justice*:

> The law takes an intangible thing and builds around it a property structure modelled on the structure which social and legal systems have always applied to some tangible things. By instituting trespassory rules whose content restricts uses of the ideational entity, intellectual property law preserves to an individual or group of individuals an open-ended set of use-

---

30 A Pretto *Boundaries of Personal Property: Shares and Sub-Shares* (Unpublished D Phil Thesis University of Oxford 2002) 180–182.

31 Pretto *Boundaries of Personal Property: Shares and Sub-Shares* (n 30 above) 180.

32 Pretto *Boundaries of Personal Property: Shares and Sub-Shares* (n 30 above) 180.

> privileges and powers of control and transmission characteristic of ownership interests over tangible items.[33]

In this passage Harris does extend the notion of property to encompass incorporeal things. He does not, however, argue that the extension of property rights to intangibles is dependent upon the existence of a physical thing. The opening sentence of the paragraph reveals that Harris recognizes that property rights relate to intangible things. He argues that the law extends property law principles to intangible things as they have been applied to tangible things. In doing so, Harris reverts to the wider meaning of property as wealth. At a later point, he observes that property designates those items that 'are either the subject of direct trespassory protection or else separately assignable as parts of private wealth'.[34] Pretto is therefore mistaken to claim that her approach represents a continuation of Harris's approach.

There is a more substantial objection to Pretto's purported extension. Under intellectual property law, patent protection exists whether it is materialized or not. For example, an invention can be patented even before it is built. The real subject matter of intellectual property rights must be independent from any materialization. In this way, property rights cannot be dependent upon the location of the physical entity. Pretto's purported extension of the definition of a 'thing' is not substantial because the difference between corporeal things and things capable of being located is insignificant. Her position may be stronger, therefore, if she limited her definition of property rights to corporeal things.

---

33 Harris *Property and Justice* (n 1 above) 44.

34 Harris *Property and Justice* (n 1 above) 139.

Penner advances a more general definition of a 'thing' and it is his definition that this thesis adopts. He argues that all property rights are rights to things that are only contingently connected to individuals and are not intrinsic aspects of human beings.[35] Penner's definition has two components. First, the notion of 'separability' is central to understanding what objects are included in a definition of things. Harris concurs, noting that for an entity to comprise proprietary subject matter, a human subject must be distanced from it.[36] The use of an individual's talents—under Penner's definition—is not separable from the individual and therefore not capable of classification as a thing that can be subject to property rights. Similarly, it is not possible to say that we 'own our entire bodies'.[37]

The second component of Penner's definition requires that the thing in question only be contingently connected to an individual. That is, there exists no special quality in the relationship between the thing and the individual. As Penner explains, 'the relationship the next owner will have to [the thing] is essentially identical'.[38] Penner's definition is not, therefore, based on an artificial distinction between an intangible thing and its physical manifestation. For Penner, body parts are capable (at least in principle) of being characterized as 'things' because, once removed they can be regarded as contingent material possessions.[39]

The definition of a property right as a right to a thing encapsulates the narrow conception of property. Beyond this, there is a broader conception of property

---

35 Penner *The Idea of Property* (n 2 above) 111.

36 Harris *Property and Justice* (n 1 above) 332.

37 Penner *The Idea of Property* (n 2 above) 125.

38 Penner *The Idea of Property* (n 2 above) 112.

39 Penner *The Idea of Property* (n 2 above) 122. See also: Penner (n 8 above) 817.

whereby property rights become synonymous with wealth.[40] One commentator observes that 'wealth including pure value can be the subject matter of ownership in more or less the same way as a tangible thing'.[41] Examples of a broader conception are evident in several English statutes. The Theft Act 1968 c 60 provides in section 4(1) that property includes money and all other property, real or personal, including things in action and other intangible property. Section 436 of the Insolvency Act 1986 c 45 provides another example.[42] Courts have held that section 436 includes a company's interest as lessee under lease of an aircraft,[43] a milk quota[44] and a waste management licence[45] because they are transferable. A further example is contained in article 1 of the First Protocol to the European Convention on Human Rights, which is incorporated into English law through Schedule 1 of the Human Rights Act 1998 chapter 42. The article provides that each individual is entitled to the protection of his or her 'possessions'.[46] This concept of possessions is wide in scope. In *Wilson v First County Trust*,[47] for example, the House of Lords held that the definition of

---

40 S Worthington *Equity* (OUP Oxford 2003) 78-79; Lawson and Rudden *The Law of Property* (n 27 above) 21, 29, 169-170; P Jaffey 'In Rem Claims to Wealth and Surviving Value' [2002] Current Legal Problems 263, 264; Harris *Property and Justice* (n 1 above) 47-55, 58-62, 139-145; R Goode *Commercial Law* (3rd edn Butterworths London 2004) 38-39; P Matthews 'The Legal and Moral Limits of Common Law Tracing in P Birks (ed) *Laundering and Tracing* (Clarendon Press Oxford 1995) 33-35.

41 Jaffey (n 40 above) 264.

42 Section 436 defines property as including 'money, goods, things in action, land and every description of property wherever situated and also obligations and every description of interest, whether present or future or vested or contingent, arising out of, or incidental to, property'

43 *Bristol Airport v Powdrill* [1990] 1 Ch 744, 759.

44 *Swift v Dairywise Farms Ltd* [2000] 1 WLR 1177 (Ch) 1185.

45 *Re Celtic Extraction Ltd* [2001] Ch 475, 489.

46 Human Rights Act 1998 c 42, Sch 1, Pt II, article I: 'Every natural or legal person is entitled to the peaceful enjoyment of his possessions except in the public interest and subject to the conditions provided for by law and by the general principles of international law'

47 [2004] 1 AC 816 (HL).

'possessions' under article 1 of the First Protocol could include contractual rights.[48] 'Possessions' has also been held to include tangible property such as goods or land,[49] and intangible property such as money,[50] debts,[51] and good will.[52]

A broader conception of property is not without its difficulties. One difficulty lies in the task of identifying its defining characteristic. Property rights are generally transferable. Advocates of a wider conception of property sometimes suggest that transferability is a defining characteristic of property rights.[53] This proposition is often advanced by commentators who adopt a broad conception of property (namely wealth).[54] There are two objections to this viewpoint. The first is that rights *in personam* are also transferable. A contracting party may assign to a third party contractual rights which are already in existence. For example, debts are assignable by the creditor.[55] The second objection is that not all property rights are transferable. Although generally property rights are assignable, it is not necessarily the case as a matter of principle.[56] The right of usufruct is a good example of an inalienable property right.[57] Usufruct was a personal servitude that consisted in 'the right to use and take the fruits and profits of another's property, movable or immovable, without

---

48 *Wilson v First County Trust* [2004] 1 AC 816 (HL) [39] (Lord Nicholls), [107] (Lord Hope), [136] (Lord Woodborough), [168] (Lord Scott).

49 *James v United Kingdom* (1986) 8 EHRR 123, 139.

50 *Al-Kishtaini v Shanshal* [2001] EWCA Civ 264, [68].

51 *Stran Greek Refineries v Greece* (1994) 19 EHRR 293, [59].

52 *Van Marle v Netherlands* (1986) 8 EHRR 483, 491.

53 Lawson and Rudden *The Law of Property* (n 27 above) 14.

54 Worthington *Equity* (n 40 above) 79.

55 PS Atiyah *An Introduction to the Law of Contract* (5th edn Clarendon Press Oxford 1995) 363.

56 Penner *The Idea of Property* (n 2 above) 126.

57 P Stein (ed) WW Buckland *A Textbook of Roman Law from Augustus to Justinian* (3rd edn CUP Cambridge) 270; Justinian, *Institutes*, 2.4.3.

fundamentally altering its character'.[58] Under Roman law a usufruct was inalienable.[59] Any attempt to alienate the usufruct would destroy it.[60] Therefore, although alienability is the usual norm for property rights, as a matter of principle it is not strictly necessary that an asset be transferable in order for it to be the subject of property rights.

The second (and more substantial) difficulty with a broader conception of property based on wealth is that the broader conception collapses the distinction between the law of obligations and the law of property. Alienability is common to both rights *in rem* and rights *in personam*. Collapsing the distinction between property and obligations makes it difficult to identify important connections between property and obligations.[61] The result is that like cases are not necessarily treated alike.

The analysis in the preceding paragraphs demonstrates that there are competing narrow and broad conceptions of property. The question in this thesis relates to tangible objects: namely, separated biological materials. These physical materials could be included within either a narrow or broad conception of property. The thesis recognizes, nevertheless, that the conception of property adopted is important and adopts here the narrower conception of property rights, so as to clearly delineate between the law of property and the law of obligations.

---

58 Nicholas *An Introduction to Roman Law* (n 3 above) 144.

59 Nicholas *An Introduction to Roman Law* (n 3 above) 146.

60 Stein *A Textbook of Roman Law from Augustus to Justinian* (n 57 above) 270.

61 R Chambers 'Integrating Property and Obligations' in A Robertson (ed) *The Law of Obligations: Connections and Boundaries* (UCL Press London 2004) 128.

4 Terminology

It is also necessary to define important terms that are used throughout this thesis. Academic discussions of property law are often inconsistent in their use of terms such as 'property', 'property rights' and 'ownership'. Ambiguous terminology does not promote certainty in the law and the inconsistent use of terminology only heightens confusion in an already complicated area of law. Any discussion of property rights must proceed on settled definitions. This section, therefore, provides definitions for the following terms: property or proprietary rights; property; ownership; and possession.

The previous section was concerned with defining property or proprietary rights, and it expressed a preference for a narrow conception of property. 'Property rights' or 'proprietary rights' should therefore be understood as rights to things which are enforceable generally against other members of society. 'Property' should be understood as referring to things that are the subjects of property rights.

It is also necessary to define other important terms including 'ownership', 'title' and 'possession'. The terms 'owner' and 'possession' often appear in the context of chattels.[62] Ownership and possession are both types of property rights, and they can be differentiated by the content of the rights they provide. The definition of property rights set out above does not enumerate the content of those rights. The terms 'ownership' and 'owner', however, do indicate the content of property rights. Ownership is a complex term and its complexity stems from the fact that ownership gives rise to a collection of rights which differ considerably in their character and

---

62 Chattels are tangible personal property. The word chattel is related to cattle and is derived from the Latin 'caput': CT Onions *The Oxford Dictionary of English Etymology* (OUP Oxford 1966) 165.

effect from one situation to another.[63] Accordingly, jurists have found it difficult to frame a precise legal definition of ownership. Blackstone described ownership as being 'that sole and despotic dominion which one man has over the external things of the world, in total exclusion of the rights of any other individual in the universe'.[64] The absolutism of this definition does not accurately reflect the relationships that exist within the detailed rules of a private property system. Turner has observed that the most that can be said is that ownership 'is such right in respect of property as law from time to time invests with the characteristic that it will endure after all other rights in respect of the same property have perished'.[65] Bridge has opined that ownership 'amounts to the best available possessory right'.[66] For the purposes of this thesis the term ownership is reserved to describe 'the greatest possible [bundle of rights] in a thing which a mature system of law recognizes', comprising a number of rights, incidents and liabilities.[67] Ownership of a thing can therefore be described as the principal property right.

'Title' is often used to denote an individual's interest to a thing. Again, however, commentators are inconsistent in their use of the term 'title'. Some use title as a synonym for ownership.[68] Others use it to refer to documentary evidence of

---

63 B Rudden 'Things as Thing and Things as Wealth' in JW Harris (ed) *Property Problems: From Genes to Pension Funds* (Kluwer Law International London 1997) 150.

64 W Blackstone *Commentaries on the Laws on England* (9th edn Oxford 1783) vol II, 2.

65 JWC Turner 'Some Reflections on Ownership in English Law' (1941) 19 Canadian Bar Review 342, 352.

66 MG Bridge *Personal Property Law* (3rd edn OUP Oxford 2002) 15.

67 AM Honoré 'Ownership' in AG Guest (ed) *Oxford Essays in Jurisprudence* (OUP Oxford 1961) 162.

68 HL Ho 'Some Reflections on "Property" and "Title" in the Sale of Goods Act' [1997] 56 Cambridge Law Journal 571, 577.

ownership.[69] A third construction proposes that title measures the strength of an individual's interest in relation to others.[70] This thesis does not use the term title often. It is used, however, in Part III, where the thesis analyses how property rights are transferred. In this case, title is used as a synonym for ownership.

It is possible to have property rights with a content of rights amounting to less than an ownership interest. Possession is one example of a lesser interest. In *Yanner v Eaton* Gummow J observed that '[o]wnership may be divorced from possession'.[71] Commentators recognize that there is a high degree of terminological inconsistency in the context of possession.[72] Different expressions that are used to express the concept of possession include actual possession, legal possession, constructive possession and rights to possession.[73] This thesis will use the simple term 'possession'. Possession consists of two elements: (1) exercise of factual control over the chattel; and (2) intention to exclude others from the exercise of factual control.[74]

C Conclusion

Defining property rights is not straightforward, and this thesis does not attempt to add to the established body of property law jurisprudence. Instead, this chapter has defined and explained the position adopted with regards to property rights. Essentially, there are two conceptions of property rights and this thesis favours the narrower construction of property over the broader conception of wealth. Herein,

---

69 Bridge *Personal Property Law* (n 66 above) 120–121.

70 R Goode *Commercial Law* (3rd edn Butterworths London 2004) 31.

71 *Yanner v Eaton* (1999) 201 CLR 351 (HCA) [85].

72 F Pollock and RS Wright *An Essay on Possession in the Common Law* (Clarendon Press Oxford 1888) 3, 28.

73 Pollock and Wright *An Essay on Possession in the Common Law* (n 72 above) 26–28.

74 *Powell v McFarlane* (1979) 38 P & CR 452, 471 (Slade J).

then, a property right is defined as a right to a thing which is enforceable generally against other members of society. This definition maintains the important division between the law of property and the law of obligations. The next chapter demonstrates how these two pillars of law interact. Chapter 3 is concerned, in particular, with how English law protects property rights and the non-proprietary interest of bodily integrity.

CHAPTER 3

PROTECTING PROPERTY AND BODILY INTEGRITY

A Introduction

The remit of Chapter 3 is to set out the remainder of the theoretical foundation for the thesis and examine applicable legal principles. In the context of separated biological materials, there are two potential legal interests that the law may protect: (1) property rights; and (2) the individual right to bodily integrity. With respect to the former, the first section of this chapter describes how English law protects property rights. In respect of the latter, the right to bodily integrity requires the consent of an individual before his or her physical security can be compromised. The second section of this chapter examines how English law protects the right to bodily integrity. Analysis demonstrates that English law protects both property rights and non-proprietary interests through the law of wrongs.

B Protection of Property Rights

In the recent case *AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS Trust*, Gage J considered the potential application of the tort of conversion to the removal of bodily materials from cadavers.[1] This aspect of *AB* raises an important legal issue:

---

1 [2004] EWHC 644 (QB) [152]. *AB* is considered in detail in Chapter 4. See notes 60-84 of Chapter 4 and accompanying text.

when separated bodily materials are characterized as property, how does the law protect the associated property rights? This section details how property rights are protected in English law by common law and statute. In short, the common law protects property rights through the torts of trespass and conversion. Statutory protection exists under the Torts (Interference with Goods) Act 1977 c 32 (TIWGA).

1 Nature of Tortious Protection

The common law does not have a direct action for the recovery of chattels. Instead, interference with chattels is dealt with by the law of tort. The tortious action focuses on interference with the claimant's right to possess the chattel. In contrast, under the Roman claim for vindication a plaintiff could make a direct assertion of his ownership of the asset in question: 'That cow, Buttercup, is mine!'[2] There is, however, no equivalent action in the common law.

There are currently two torts in English law that protect property rights to chattels: trespass and conversion. Historically there were three causes of action, but the tort of detinue was abolished by the TIWGA.[3] The TIWGA attempted to create a united regime for all interferences with goods through section 1, which provides that the collective phrase 'wrongful interference with goods' covers trespass, conversion, negligence and any other tort that results in damage to goods. The TIWGA has not, however, created a new tort of 'wrongful interference' in English law. The Act simply groups the common law torts together. Hence, the question of whether there

---

2 WW Buckland *A Textbook of Roman Law from Augustus to Justinian* (3rd edn CUP Cambridge 1963) 675.

3 TIWGA, s 2(1).

has been a 'wrongful interference' in any given case remains a matter for the common law.[4]

Broadly speaking, trespass is the direct interference with actual possession of goods, while conversion is the repudiation of the claimant's right to possession by the use of, dealing in, dealing with, or destruction of goods. Detinue was the failure to return a claimant's goods on demand. The next section begins with an outline of trespass, followed by a more detailed account of conversion, the latter being the more legally significant tort in the context of separated biological materials.

2 Trespass

In considering whether a trespass is committed, two questions arise. The first is what type of behaviour constitutes a trespass; the second is who is entitled to sue in a case of trespass. In terms of required behaviour, a trespass to chattels is the wrongful interference with the possession of another person's goods.[5] There is no need to demonstrate material damage in such cases.[6] Thus it follows that the subject matter of an action for trespass may be any goods which are capable of lawful possession.[7] Although there is some overlap between trespass and conversion,[8] trespass concerns the direct interference with actual possession, while conversion involves a more substantial interference with property and represents a repudiation of the claimant's right to possession.

---

4 A Tettenborn 'Wrongful Interference with Goods' in AM Dugdale (ed) *Clerk and Lindsell on Torts* (18th edn Sweet & Maxwell London 2000) 726.

5 *Penfolds Wines Pty Ltd v Elliot* (1946) 74 CLR 204 (HCA) 214 (Latham CJ).

6 *Penfolds* (n 5 above) 214 (Latham CJ).

7 *Buron v Denman* (1848) 2 Exch 167, 187; 154 ER 540, 459.

8 Law Reform Committee *Conversion and Detinue* (18th Report Cmnd 4774, 1971) 7.

The second condition for an actionable trespass is that the claimant must be entitled to sue. At common law the person able to sue is the possessor of the chattel at the time of the interference.[9] An action in trespass requires actual possession and not just a right to possession. If the claimant can establish a wrongful interference with his or her goods, and prove his or her possession of them then the claimant may recover damages in an action for trespass.[10]

Interference with separated biological materials will not simply concern interference with possession. Often, the interference by a third party will be a more substantial interference—such as the use of the biological materials in scientific research. Although such acts may constitute a trespass, the interference also may found a claim under the tort of conversion.

3 Conversion

The common law tort of conversion is the most useful vehicle for protecting property rights to chattels. Conversion is not, however, easily defined in the law.[11] A good starting point for delineating the tort is provided by Tettenborn, who describes conversion as 'an act of deliberate dealing with a chattel inconsistent with another's right whereby the other is deprived of the use and possession of it'.[12] The following paragraphs outline its elements and consider what remedies the common law and statute provide.

---

9 *Penfolds* (n 5 above) 214 (Latham CJ), 221 (Starke J), 224-226 (Dixon J), 234 (McTiernan J), 242 (Williams J).

10 *Kirk v Gregory* (1876) 1 Ex D 55; 34 LT 488.

11 *Kuwait Airways Corporation v Iraqi Airways Co (No 4 and 5)* [2002] 2 AC 883 (HL) 1084 (Lord Nicholls).

12 Tettenborn (n 4 above) 729.

(a) Elements

As with the tort of trespass, the application of the tort of conversion raises two principal questions. The first concerns the level of interference with goods that is required for a claim in conversion. The second question lies in determining who is entitled to bring an action based on the tort of conversion.

For the tort of conversion to be actionable, it is necessary that the claimant be denied the use and possession of the property in question.[13] The TIWGA defines 'goods' in section 14 as including 'all chattels personal other than things in action and money' Tangible things that are not classified by the law as 'property' cannot be converted.[14] For example, conversion does not lie in respect of wild animals since they are classified in the law as *res nullius* and no-one has a right to possession of a wild animal.[15] As Part II of this thesis will demonstrate, the common law also considers that cadavers are not normally regarded as 'things' for the purposes of property law and so are not normally capable of being converted. There are circumstances, however, where the law recognizes that separated bodily materials can be classified as 'things' which are, consequently, capable of conversion. These circumstances are explored in Part II. For now, it is sufficient to note that, if an object is classified as a 'thing', the question then becomes whether the claimant has been denied the use and possession of it. Common law authority has established that conversion will lie where a defendant: (1) takes possession of goods with no

---

13 *Marq v Christie Manson & Woods Ltd (trading as Christie's)* [2004] QB 286, 298 (Tuckey J); *Kuwait Airways* (n 11 above) 1084 (Lord Nicholls), 1104 (Lord Steyn), 1106 (Lord Hoffmann).

14 J Davies 'Tort' in P Birks (ed) *English Private Law* (OUP Oxford 2000) 503.

15 Tettenborn (n 4 above) 745.

intention of returning them;[16] (2) refuses to hand over goods;[17] (3) delivers the goods into the hands of a third party;[18] (4) uses the goods in a manner inconsistent with the claimant's title;[19] or (5) destroys the goods.[20]

These forms of conversion are all potentially applicable in the context of separated biological materials. The fourth form is potentially the most significant where separated biological materials are used for research without consent. For this category of conversion, the important legal issue is what degree of interference is required before the law will say that there has been a conversion. Common law authority treats the alteration of goods as conversion. Examples of conversion include a miller grinding corn into flour;[21] water poured into wine;[22] and seals cut from a deed.[23]

The second question in the context of conversion lies in determining who is entitled to sue. To bring a claim for conversion, the claimant must have had possession or a right to immediate possession of the goods.[24] The Law Reform Committee (which was charged with preparing the materials for the TIWGA) recognized the breadth of rights that can found an action for conversion, including ownership and possession. That committee noted that 'not only actual possession (or a right to immediate possession) at the material time, but also other interests in a

---

16 *Fouldes v Willoughby* (1841) 8 M & W 540, 549; 151 ER 1153, 1157.

17 *Marq* (n 13 above) 304.

18 *Consolidated Company v Curtis & Son* [1892] 1 QB 495, 498.

19 *Mulgrave v Ogden* (1591) Cro Eliz 219, 219; 78 ER 475, 475.

20 *Richardson v Atkinson* (1723) 1 Stra 576, 576; 93 ER 710, 711.

21 *Hollins v Fowler* (1875) LR 7 HL 757 (Blackburn J).

22 *Penfolds* (n 5 above) 229 (Dixon J).

23 *Penfolds* (n 5 above) 229 (Dixon J).

24 *Penfolds* (n 5 above) 229 (Latham CJ); *The Winkfield* [1902] P 42 (CA) 55.

chattel, whether present or future, possessory or proprietary ... should constitute sufficient title to sue'.[25] In *Costello v Chief Constable of Derbyshire Constabulary*,[26] the Court of Appeal emphasized the possession-based nature of the action. *Costello* concerned the seizure of a car by the police under statutory authority. The police believed that the car had been stolen and they refused to return the car to the claimant following the expiration of the statutory period for detention. The claimant brought an action in conversion and sought the return of the vehicle. The Court of Appeal upheld the claim and held that the common law protects possession even where it has been obtained by theft or other unlawful means, as well as in the usual case of chattels lawfully obtained.[27]

(b) Remedies

If a claim for conversion can be established, under the TIWGA the claimant then may seek an order for delivery up of goods (at the court's discretion) and consequential damages; an alternative order for delivery of the goods or damages, plus consequential damages; or damages only.[28] Damages may be awarded on the basis of either the claimant's loss or the defendant's gain. In *United Australia Ltd v Barclays Bank Ltd*,[29] the House of Lords established that the quantification of damages can proceed on either of these two measures.[30] Compensatory damages for conversion aim to award compensation for loss suffered. An award of damages is,

---

25 Law Reform Committee *Conversion and Detinue* (18th Report Cmnd 4774, 1971) 43.

26 [2001] 1 WLR 1437 (CA).

27 *Costello v Chief Constable of Derbyshire Constabulary* [2001] 1 WLR 1437 (CA) 1450.

28 TIWGA, s 3(2).

29 [1941] AC 1 (HL).

30 J Edelman *Gain-Based Damages* (Hart Publishing Oxford 2002) 122-128.

therefore, intended to represent the value of the chattel as at the date of the conversion.[31] The value of a chattel generally will be determined by reference to a market (assuming one exists).[32] Under section 3(2)(c) of the TIWGA, money remedies for a 'wrongful interference with goods' are referred to as 'damages'. Similarly, common law authority often refers to an award of 'damages'.[33] The use of such general terminology may, however, mask a distinction between the types of damages that are awarded.

Damages can include a claim based on a defendant's gain. Such awards are commonly referred to as restitutionary (and sometimes disgorgement) damages.[34] These damages operate to strip profits made as a consequence of the wrong in question. An award of damages under the TIWGA can include damages in respect of a defendant's gain.[35]

In addition to damages, a court may order the specific delivery of a chattel. Specific delivery is available under section 3 of the TIWGA. At common law, an order for specific delivery is dependent on the nature of the object being delivered. The common law draws a distinction between ordinary commercial objects and objects which are irreplaceable or peculiar in nature.[36] In the former case, the court is

---

31 *BBMB Finance (Hong Kong) Ltd v Eda Holdings Ltd* [1990] 1 WLR 409 (PC) 412 (Lord Templeman); *General & Finance Facilities v Cook Cars (Romford) Ltd* [1963] 1 WLR 644 (CA) 649 (Diplock J).

32 *Armory v Delamirie* (1722) 1 Stra 505.

33 *Costello* (n 27 above) 1452 (Lightman J).

34 Edelman *Gain-Based Damages* (n 30 above) 122.

35 *Hillesden Securities Ltd v Ryjak Ltd* [1983] 1 WLR 959 (CA) 963 (Parker J). Referred to with approval in *Kuwait Airways Corporation v Iraqi Airways Co* [2001] 1 WLR 1117 (CA) 1257 (Brooke LJ).

36 *Howard Perry Ltd v British Railways Board* [1980] 1 WLR 1375 (CA) 1382.

likely to make an award of damages based on the market value of the thing.[37] The TIWGA has not altered the common law position that a court will order specific delivery where the goods are unique or of some special value.[38]

C PROTECTION OF BODILY INTEGRITY

The other interest that arises in the context of separated biological materials is the right to bodily integrity. Despite a reluctance to recognize property rights in separated biological materials, the common law has provided individuals with legal protection to prevent invasions of the human body for centuries. Blackstone argued that there exists an absolute right to personal security vested in each person:

> [The] right of personal security consists in a person's legal and uninterrupted enjoyment of his life, his limbs, his body, his health, and his reputation.[39]

English law recognizes that each individual has an innate right to bodily integrity, encompassing the right to exclusive possession and use of one's own body as against everyone else. This section examines, first, how the right to bodily integrity is grounded in notions of autonomy and human dignity and second, how the right to bodily integrity is protected by the law of tort and the criminal law.[40]

---

37 A Burrows *Remedies for Torts and Breach of Contract* (3rd edn OUP Oxford 2004) 578.

38 *IBL Ltd v Coussens* [1991] 2 All ER 133 (CA) 139 (Neill LJ). For common law authority prior to the enactment of the TIWGA see: *Whiteley v Hill* [1918] 2 KB 808, 819.

39 W Blackstone *Commentaries on the Laws on England* (9th edn Oxford 1783) vol I, 129.

40 *Airedale NHS Trust v Bland* [1993] AC 789 (HL) 891 (Lord Mustill).

1 Autonomy and Human Dignity

The right to bodily integrity derives from the concept of autonomy,[41] which is generally depicted as being the capacity that individuals have to act independently. The word 'autonomy' is derived from the ancient Greek for 'self' and 'law' and means literally 'the having or making of one's own laws'.[42] The concept of autonomy is also linked to the concept of human dignity.[43] Indeed, Lord Millett recently observed that autonomy is an important component of human dignity.[44]

The relationship between autonomy and human dignity is not straightforward and is the subject of extensive philosophical debate. Although this thesis does not engage with the philosophical debate, a brief introduction to the concept of human dignity is necessary. In Roman times the original meaning of dignity (*dignitas*) referred to an acquired social and political status, implying important personal achievements and moral integrity.[45] It thus represented a manifestation of personal authority. The transformation of human dignity into its modern conceptual usage was a gradual process, in which the work of Kant added an important dimension. Kant defined dignity as being a quality of intrinsic and absolute value.[46] Hence in Kantian terms, human dignity signifies the intrinsic worth of the autonomous individual.

---

41 I Kennedy and A Grubb *Medical Law* (3rd edn Butterworths London 2000) 575.

42 J Feinberg *The Moral Limits of the Criminal Law* (OUP Oxford 1986) vol 3, 27.

43 D Feldman 'Human Dignity as a Legal Value—Part II' [2000] Public Law 61, 67.

44 *Rees v Darlington Memorial Hospital NHS Trust* [2004] 1 AC 309 (HL) 349 (Lord Millett).

45 DP Simpson *Cassell's Latin Dictionary* (5th edn Continuum London 1987) 190.

46 I Kant *Foundations of the Metaphysics of Morals* LW Beck (tr) (2nd edn Prentice Hall New Jersey 1989) 39.

The recognition of the concept of human dignity as a fundamental right first occurred in international law through its inclusion in several international instruments, including the Preamble to the Charter of the United Nations[47] and the Universal Declaration of Human Rights.[48] Despite the elusive nature of the concept of human dignity and widespread disagreement over its proper definition and ambit, it is today an established general principle recognized in human rights law.

Human dignity remains a malleable concept that is not amenable to precise definition as a legal term.[49] Although English law has yet to develop the concept of human dignity in a substantial way, the concept may well assume an increasingly elevated role following the incorporation of article 8 of the European Convention on Human Rights (ECHR) into English law. Article 8 provides (inter alia) that each person has 'the right to respect for his private and family life'. The approach of the European Court of Human Rights (ECtHR) to article 8 is important due to the potential impact that the ECHR and ECtHR's jurisprudence may have on the development of English law.[50] In broad terms, the ECtHR has held that the right to respect for private and family life protects both physical and moral integrity.[51] Moral integrity is related to human dignity; the ECtHR recently noted that the protection of moral integrity is intended to ensure the development 'of the personality of each

---

47 (signed June 26 1945) USTS 993.

48 (adopted 10 December 1948 UNGA Res 217 A(III)).

49 D Feldman 'Human Dignity as a Legal Value—Part I' [1999] Public Law 682, 682.

50 Section 2(1)(a) of the HRA requires English courts to take relevant ECtHR jurisprudence into account when determining any question arising in connection with an ECHR right.

51 *Costello-Roberts v United Kingdom* [1995] 19 EHRR 112, [49].

individual in his relations with other human beings'.[52] The ECtHR therefore considers dignity to be an important aspect of article 8.

Drawing on Kant, the international instruments and the ECtHR jurisprudence, this thesis defines 'human dignity' as the respect that the law accords to the intrinsic worth of an individual. 'Autonomy' is defined in this thesis as being the capacity (and entitlement) that individuals have to act independently. The remaining issue for the thesis is thus to define the relationship between autonomy and human dignity. This thesis adopts the position expressed by Lord Millett in *McFarlane v Tayside Health Board* that autonomy is an aspect of the broader concept of human dignity.[53] Following this view, the protection of autonomy can also be seen as the protection of human dignity.

2 Autonomy and Medical Law

In the context of medical law, bodily integrity is the foundational principle that protects an individual's autonomy.[54] The doctrine of consent is the basic principle by which the law protects an individual's right to act independently, and the House of Lords has recognized the central role of consent in a number of leading medical law cases.[55] Even in cases raising difficult moral questions, the common law has reinforced a living person's right to autonomy. As Lord Steyn recently observed in *Chester v Afshar*:

---

52 *Case of Von Hannover v Germany* (ECHR Application no 59320/00 24 June 2004) [50]; *Botta v Italy* (1998) 26 EHRR 241, [32].

53 *McFarlane v Tayside Health Board* [2000] 2 AC 59 (HL) 114 (Lord Millett).

54 *Re F (Mental Patient: Sterilisation)* [1990] 2 AC 1 (HL) 72 (Lord Goff).

55 *Chester v Afshar* [2004] UKHL 41; [2004] 3 WLR 927 (HL); *Airedale* (n 40 above); *Re F* (n 54 above).

> The starting point is that every individual of adult years and sound mind has a right to decide what may or may not be done with his or her body. Individuals have a right to make important medical decisions affecting their lives for themselves: they have the right to make decisions which doctors regard as ill advised.[56]

In *St George's NHS Trust v S*,[57] the Court of Appeal endorsed the independent action of an individual even where such action carried the risk of bodily harm. *St George's Trust* concerned a woman who refused to undergo a Caesarean section—a decision that endangered both her life and that of the unborn child—because she wanted a natural birth. The hospital applied for a declaration to dispense with the legal requirement of consent. The Court of Appeal held that the woman was entitled to refuse medical treatment even though such refusal threatened her own life. It found that this right derived from the 'autonomy of each individual and the right of self-determination'.[58]

Nevertheless, the common law has established that there are limits to individual autonomy. In *R v Brown*,[59] for example, the House of Lords held that legislation which criminalized unlawful wounding and assaults occasioning bodily harm applied to the masochistic practices of consenting adult men. The majority (Lord Templeman, Lord Jauncey and Lord Lowry) found for the prosecution on the ground that all harms to the person—going beyond the merely transient and trifling—are, in English law, the proper subject of legal intervention.[60] Lord

---

56 *Chester* (n 55 above) [14].

57 [1999] Fam 26 (CA).

58 *St George's Trust* (n 57 above) 43.

59 [1994] 1 AC 212 (HL).

60 *Brown* (n 59 above) 236–237 (Lord Templeman), 246 (Lord Jauncey), 255 (Lord Lowry).

Templeman rejected the absolutist proposition that 'every person has the right to deal with his body as he pleases'.[61]

3 Tort Law Protection

Tort law is the main mechanism by which English law protects an individual's right to bodily integrity. Interference (or threatened interference) with another person's bodily integrity without his or her consent may amount to trespass to the person or negligence. Trespass is not a cause of action but a form of action,[62] and includes assault and battery.[63] The tort of battery is the most relevant for the purposes of this thesis, and is defined as a wrong 'which is committed by intentionally bringing about a harmful or offensive contact with another person's body'.[64] In contrast, assault is an action that requires an immediate intention to commit a battery and the action is parasitic on the tort of battery.[65]

Battery is a tort that is actionable per se. Accordingly, it is not necessary to establish that physical injury has in fact resulted. As Robert Goff LJ observed in *Collins v Wilcock*,[66] '[t]he fundamental principle, plain and incontestable, is that every person's body is inviolate. It has long been established that any touching of another person, however slight, may amount to a battery'.[67] Thus, any intentional touching of a person is unlawful and may amount to the tort of battery unless justified by

---

61 *Brown* (n 59 above) 235 (Lord Templeman).

62 *Wainwright v Home Office* [2004] 2 AC 406 (HL) 417 (Lord Hoffmann).

63 FA Trinidade 'Intentional Torts: Some Thoughts on Assault and Battery' (1982) 2 Oxford Journal of Legal Studies 211, 211.

64 J Fleming *The Law of Torts* (9th edn LBC Sydney 1998) 29.

65 *Wainwright* (n 62 above) 1355.

66 [1984] 1 WLR 1172 (CA).

67 *Collins* (n 66 above) 1177.

consent or other means. In the context of medical law, English courts often invoke the statement of Cardozo J in *Schloendorff v Society of New York Hospital*:

> Every human being of adult years and sound mind has a right to determine what shall be done with his own body; and a surgeon who performs an operation without his patient's consent commits an assault, for which he is liable in damages.[68]

Examination of the case law reveals only a limited number of battery cases in the context of invasions of a person's body.[69] English courts have demonstrated a marked reluctance to expand the tort of battery in medical cases.[70] Where the patient is informed in broad terms of the procedure—and gives his or her consent—no cause of action lies in battery.[71] Rather, English law has developed the tort of negligence in cases concerning the non-disclosure of information. This shift coincided with the emergence of negligence in the twentieth century as the dominant tort in private law.[72]

Whilst the tort of battery focuses on the knowledge and understanding of the patient, the tort of negligence focuses on the conduct of the doctor.[73] It is well established in English law that a doctor is under a duty of care not to perform negligent acts.[74] English law also requires doctors to obtain valid consent to perform

---

68 211 NY 125 (NY CA 1914) 126.

69 See for example: *Michael v Molesworth* [1950] 2 British Medical Journal 171 (different doctor performed the operation).

70 *Sidaway v Board of Governors of the Bethlem Royal and the Maudsley Hospital* [1985] AC 871 (HL) 882 (Lord Scarman).

71 *Freeman v Home Office* [1984] 1 QB 524, 537 (McCowan J); A Grubb 'Consent to Treatment: The Competent Patient' in A Grubb (ed) *Principles of Medical Law* (2nd edn OUP Oxford 2004) [3.95].

72 T Weir 'The Staggering March of Negligence' in P Cane and J Stapleton (eds) *The Law of Obligations* (Clarendon Press Oxford 1998) 98.

73 For a discussion of the relationship between the two torts see: TK Feng 'Failure of Medical Advice: Trespass or Negligence' (1987) 7 Legal Studies 149, 150-155.

74 *Bolitho v City & Hackney Health Authority* [1998] AC 232 (HL).

lawful acts. A doctor must ensure that a patient receives sufficient information concerning the risks that any given procedure carries with it. As a result, the tort of negligence has assumed a central role in protecting an individual's bodily integrity. *Sidaway v Board of Governors of the Bethlem Royal and the Maudsley Hospital*[75] remains the leading English authority. Despite a divergence in the opinions of the majority, *Sidaway* reaffirmed that a doctor must pass on to the patient such information as is thought appropriate according to a respected body of medical opinion.[76] Although some commentators are critical of *Sidaway*,[77] nonetheless the decision represents the current state of English law.[78] It is beyond the scope of this thesis to challenge the appropriateness of the *Sidaway* standard.

4 Criminal Law Protection

The criminal law also protects bodily integrity through its prosecution of the crimes of murder, manslaughter, battery, assault and rape. Academic commentary has suggested that the crime of battery is likely to be the same as the tort of battery, though it has yet to be argued before an English court.[79] A person commits the crime of battery where he or she intentionally or recklessly touches another person without the consent of the person and without lawful excuse.[80] English law applies Blackstone's observation that:

---

75 [1985] AC 871 (HL).

76 *Sidaway* (n 75 above) 893-894 (Lord Diplock), 900 (Lord Keith), 895 (Lord Bridge), 904-905 (Lord Templeman).

77 Grubb (n 71 above) [3.145].

78 *Chester v Afshar* [2004] UKHL 41; [2004] 3 WLR 927 (HL) [51] (Lord Hope).

79 I Kennedy and A Grubb *Medical Law* (Butterworths London 2000) 578.

80 Offences Against the Person Act 1861 (24 & 25 Vict c100) ss 18, 20 and 47; *R Rolfe* (1952) 36 Cr App Rep 4, 5.

> [T]he law cannot draw the line between different degrees of violence, and therefore totally prohibits the first and lowest stage of it; every man's person being sacred, and no other having a right to meddle with it, in any the slightest manner.[81]

As a result, unlawful bodily contact includes touching of any kind;[82] including, for example, the act of spitting.[83] In a statutory context, unlawful contact may also constitute a crime of assault (as amounting to wounding or causing grievous bodily harm) under sections 18, 20 and 47 of the Offences Against the Person Act 1861 c 100. The criminal law therefore reinforces tort law protection of the right to bodily integrity.

D Conclusion

The foregoing analysis completes the theoretical foundation and introduction to relevant property and tort law principles. Chapter 2 addressed the difficult question of defining property rights. It established the position adopted in the thesis and defined the important terms, including 'property rights', 'property', 'ownership', 'title' and 'possession'.

Chapter 3 has examined the scope of protection that English law provides for property rights and the non-proprietary interest of bodily integrity. The protection of property rights encompasses both a right of control over use and a right to commercial participation. In contrast, the protection of bodily integrity encompasses a right to prevent or control invasions of one's body. It is important to keep these two legal interests separate. For (as the forthcoming analysis in Part II illustrates)

---

81 W Blackstone *Commentaries on the Laws on England* (9th edn Oxford 1783) vol III 120.

82 *Cole v Turner* (1704) 6 Mod 149, 149; 87 ER 907, 907.

83 *Smith* (1866) F&F 1066, 1067; 176 ER 910, 910.

failure to do so results in the development of an inconsistent and conceptually incoherent body of jurisprudence.

PART II

CHAPTER 4

DEAD BODY

A INTRODUCTION

The law is increasingly required to consider the legal status of, and rights pertaining to, separated bodily materials. Part II lays the foundation for Part III of this thesis by analysing how the English, Australian and US common law and statutory regimes have evolved to address specific legal questions concerning the status of, and rights to, cadavers, cadaveric specimens, biological materials, body parts, gametes, hair clippings and waste products. This chapter concerns common law and statutory protection of cadavers and body parts removed from cadavers. Chapter 5 then considers common law and statutory protection of bodily materials separated from a living person. Chapter 6 considers the most recent developments in English law as enacted under the Human Tissue Act 2004 c 30 (HTA 2004).

This chapter is divided into three sections. The first section traces the development and influence of the 'no property' principle. The second section analyses the circumstances in which the law has recognized property rights in body parts separated from dead bodies. The final section examines non-proprietary protection employed by the law.

B NO PROPERTY PRINCIPLE

Questions concerning the legal status of the human body first arose in the common law when the practice of grave-robbing began in the late seventeenth and early

eighteenth centuries. During this period, corpses acquired monetary value once they were recognized as being a useful tool for medical training.[1] The legal status of cadavers, and rights to them, are not simply issues of historical significance. These issues have gained prominence in the UK following a number of high profile inquiries into post-mortem practices at the Bristol Royal Infirmary, the Royal Liverpool Children's Hospital (Alder Hey) and other NHS hospitals during the late 1980s and early 1990s.[2] These inquiries focused upon the removal and retention of body parts and biological materials following stillbirths and abortions. They highlighted the unsatisfactory development of the common law with respect to rights concerning human bodies and separated body parts.[3]

The starting point for any analysis of the common law's protection of buried and unburied bodies is the line of English authority that establishes the principle that there is 'no property' in human corpses (the 'no property principle'). Despite the antiquity of the no property principle, analysis of the early English authorities suggests that early judicial support for the principle primarily took the form of obiter dicta. Further, it has been suggested that the rule itself arose from deficient

---

1 R Richardson *Death, Dissection and the Destitute* (Phoenix Press London 2001) 52.

2 Bristol Royal Infirmary Inquiry *Report of the Royal Liverpool Children's Inquiry* (January 2001) (available at http://www.bristol-inquiry.org.uk/index.htm); Redfern Inquiry into the Royal Liverpool Children's NHS Trust-Alder Hey (January 2001) (available at http://www.rlcinquiry.org.uk); Independent Review Group *Retention of Organs at Post-Mortem in Scotland* (January 2001) (available at http://www.show.scot.nhs.uk).

3 Advice from the Chief Medical Officer *The Removal, Retention and use of Human Organs and Tissue from Post-mortem Examination* (Department of Health London 2001); Chief Medical Officer *Report of a Census of Organs and Tissues Retained by Pathology Services in England* (Department of Health London 2001). These documents are available at: http://www.doh.gov.uk.

reporting.[4] In England, the earliest common law authority is *Haynes's Case*,[5] where Haynes was charged with petty larceny and felonious taking in respect of certain winding sheets. It remains questionable, however, whether this decision in fact supports the no property principle. The significance of the case lay in its determination of the person in whose name the charges should be laid. The court observed that the corpse did not have property rights in the sheets. This observation seems to have been misunderstood by later commentators as meaning that a corpse itself is not capable of being property.[6] Blackstone, for example, states in his *Commentaries on the Laws of England* that: 'stealing the corpse itself, which has no owner, though a matter of great indecency, is no felony, unless some of the gravecloths be stolen with it'.[7]

If *Haynes's Case* is not authority for the no property principle, the earliest appearance of the principle may have been in Sir Edward Coke's *The Institutes of the Laws of England*.[8] Coke claims that the no property principle is self-evident through a simple exercise in etymology: a corpse cannot constitute property because the word 'cadaver' is an acronym for the Latin phrase *caro data vermibus*, meaning 'flesh given to worms'. Coke's reasoning, too, is questionable. Indeed, his research into the origins of the word cadaver appears to have been flawed. The *Oxford English Dictionary* notes that it was introduced into the English language as an adoption of

---

4 P Matthews 'Whose Body? People as Property' (1983) 36 Current Legal Problems 193, 197-200; RS Magnusson 'Proprietary Rights in Human Tissue' in NE Palmer and E McKendrick (eds) *Interests in Goods and Services* (2nd edn LLP London 1998) 10.

5 (1614) 12 Co Rep 113; 77 ER 1389.

6 Matthews (n 4 above) 197-198.

7 W Blackstone *Commentaries on the Laws on England* (9th edn Oxford 1783) vol IV, 2.

8 E Coke *The Third Part of the Institutes of the Laws of England* (4th edn London 1669) vol III, 203.

the French version *cadaver*. This, in turn, was derived from the verb *cad-ere*, meaning 'to fall'.[9]

Despite these weak foundations, *Exelby v Handyside (Handyside's Case)*[10] gave explicit judicial recognition to the no property principle. That case was, however, never officially reported and first appeared in *East's Pleas of the Crown* (1803). *Handyside's Case* concerned an action in trover brought against a doctor for the bodies of two children joined by a birth defect. East claims that Willes CJ dismissed the action and held that it would not lie because no person has any property in corpses.[11] Historical research establishes that the case was settled while the jury was out.[12] As Magnusson suggests, this may explain why Sir John Willes CJ is reported as saying that the action *would* not lie rather than that it *did* not lie.[13]

On the basis of the no property principle ecclesiastical courts had exclusive jurisdiction in matters relating to human corpses, including (but not limited to) the disposal of corpses by burial. Ecclesiastical jurisdiction was recognized in *R v Coleridge*[14] where an application to the King's Bench was refused because the court considered that the mode of burial was a question for the Ecclesiastical Court.[15]

---

9 JA Simpson and ESC Weiner (eds) *The Oxford English Dictionary* (2nd edn Clarendon Press Oxford 1989) vol II, 757.

10 2 East PC 652.

11 *Handyside's Case* (1749) 2 East PC 652.

12 Matthews (n 4 above) 208–210; R Hardiman 'Toward the Right of Commerciality: Recognising Property Rights in the Commercial Value of Human Tissue' (1986) 34 UCLA Law Review 207, 225.

13 Magnusson (n 4 above) 28.

14 (1819) 2 B & Ald 804; 106 ER 559.

15 *Coleridge* (n 14 above) 805; 560.

Because ecclesiastical courts prevented unwarranted interference with cadavers[16] there is little English academic writing on the topic.

By the middle of the nineteenth century the common law had established and developed some jurisdiction over buried corpses. Common law jurisdiction evolved because the courts increasingly had to consider questions concerning corpses buried in unconsecrated ground which were not protected by ecclesiastical law.[17] The no property principle became commonly invoked and its application meant that cadavers could neither be owned nor stolen.[18] Unauthorized exhumation was not, therefore, technically a crime of theft. Prosecution for a felony only occurred if a portion of the grave clothes or coffin was stolen with the body.[19] In response, the common law developed other means of protecting cadavers. *R v Lynn*[20] held that an unlawful disinterment was an offence that was 'cognizable in a Criminal Court, as being highly indecent and contra bonos mores'.[21] Later authorities supported the criminal offence.[22] Other common law crimes developed to cover unburied corpses, including preventing the burial of a dead body[23] and conspiring to prevent burial.[24]

---

16 R Burn *Ecclesiastical Law* (9th edn Sweet & Stevens Dublin 1842) vol I, 271a.

17 Land becomes consecrated when the bishop of a diocese signs a document that separates an area of land and dedicates it to the services of Almighty God; *In re Blagdon Cemetery* [2002] 3 WLR 603 (Arches Ct of Cant) 607. Unconsecrated ground is not set apart and is not, therefore, within the ecclesiastical jurisdiction.

18 Despite these legal developments a number of members of the community—anatomists, artists, physicians, surgeons and their suppliers—treated cadavers as commodities that could be bought and sold: Richardson *Death, Dissection and the Destitute* (n 1 above) 71-72.

19 Blackstone *Commentaries on the Laws on England* (n 7 above) vol IV, 235. See also: JB Bailey *The Diary of a Resurrectionist* (Swan Sonnenschein & Co London 1986) 90.

20 (1788) 2 TR 733; 100 ER 394.

21 *Lynn* (n 20 above) 734; 395.

22 *R v Sharpe* (1856-1857) Dears & Bell 160, 163; 169 ER 959, 960; *R v Price* (1884) 12 QB 247, 252; *Foster v Dodd* (1867) LR 3 QB 67, 77.

23 See unreported case *R v Young* (1784) 4 Wentworth Pleadings 219 referred to in *R v Lynn* (1788) 2 TR 733; 100 ER 394.

Statutory intervention also purported to regulate the use of corpses, but the statutory regime did not create property rights to cadavers.[25] English common law therefore started from the no property principle and initially invoked the criminal law to provide protection.

In modern times, the no property principle has been affirmed by the Court of Appeal in *R v Kelly*[26] and, more recently, in *AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS Trust*.[27] Both of these cases are analysed in the next section. Moreover, the recently enacted HTA 2004 (which is discussed in Chapter 6) does not alter the common law no property principle.[28] The no property principle is also recognized in Australia and the US. Although it is a matter of debate whether ecclesiastical law applies in Australia, Australian courts have generally deferred to the English no property principle.[29] Similarly, although not influenced by ecclesiastical courts, US courts have frequently invoked the no property principle.[30] Thus, the no property principle has taken hold in England, Australia and America despite conspicuously dubious historical origins.

---

24 *R v Hunter* [1974] 3 WLR 374 (CA).

25 The original Anatomy Act 1832 2 & 3 Will 4, c 75 was passed as a reaction to the unregulated practice of body snatching. Under the Anatomy Act 1832 donations were permitted by persons in lawful possession of the corpse, or by the deceased prior to his of her death. The Anatomy Act 1832 was replaced by the Anatomy Act 1984 c 14.

26 [1999] QB 621, 630.

27 [2004] EWHC 644 (QB) [135].

28 HC Standing Committee G, col 215 (3 February 2004) (Dr Ladyman). See also: Department of Health *Proposals for New Legislation on Human Organs and Tissues* (Department of Health London 2003) 2.

29 *Burrows v Cramley* [2002] WASC 47 (WA SC) [15]; *AW v CW* [2002] NSWSC 301 (NSW SC) [15]; *Re Gray* [2001] 2 Qd R 35 (Qld SC) 138; *Roche v Douglas* (2000) 22 WAR 331 (WA SC) 338; *Doodeward v Spence* (1908) 6 CLR 406 (HCA) 414.

30 *Enos v Snyder* 63 P 170 (Cal SC 1900) 171; *O'Donnell v Slack* 55 P 906 (Cal SC 1899) 907.

C PROPERTY RIGHTS

On the basis of the no property principle, the general position at common law is that dead bodies and body parts separated from them cannot be the subject of property rights. Exceptions to the general principle, however, are found in English law and US jurisprudence.

1 Work or Skill Exception

The work or skill exception, as originally formulated in the Australian case of *Doodeward v Spence*,[31] represents the most significant common law recognition of property rights to body parts separated from dead bodies. The discussion here begins by analysing *Doodeward* and then explores the development of the exception in English law.

In *Doodeward*, the High Court of Australia held that 'a human body, or a portion of a human body, is capable in law of becoming the subject of property'.[32] *Doodeward* arose after a doctor had preserved the corpse of a pair of stillborn conjoined twins in a jar. Following the doctor's death the preserved corpse was sold to the plaintiff; it was then confiscated by a police inspector (defendant) because the plaintiff was exhibiting the corpse in public. The plaintiff requested that the exhibit be returned, and, although the bottle and preservation liquid were returned, the defendant refused to give back the corpse. Consequently, the plaintiff sued for the return of his property and at first instance in the District Court the matter was dismissed. The

---

31 (1908) 6 CLR 406 (HCA).

32 *Doodeward* (n 31 above) 414.

NSW Supreme Court dismissed the appeal and held that because a human body was not property it could not be the subject of a proprietary action.[33]

The High Court of Australia allowed the appeal and Griffith CJ delivered the leading judgment. He commenced by observing that an unburied corpse awaiting burial is *nullius in rebus*. However, Griffith CJ considered that this principle did not mean that a corpse was 'incapable of becoming the subject of ownership'.[34] For, by analogy, the dead body of an animal *ferae naturae* is not the property of anyone and can be appropriated by the finder.[35] The question for consideration was whether the 'continued possession of a human corpse unburied is *in re ipsa* unlawful'.[36] Griffith CJ considered possession to be unlawful where it proved injurious to the public welfare. If possession was not injurious to the public welfare, he held that the law should protect such possession by appropriate remedies. After noting the collections of anatomical and pathological specimens maintained by scientific bodies, Griffith CJ found that such possession was not unlawful where preservation could 'afford valuable or interesting information or instruction'.[37] The property rights, in such cases, arose from the lawful exercise of work or skill:

> [A] human body or a portion of a human body is capable by law of becoming the subject of property. It is not necessary to give an exhaustive enumeration of the circumstances under which such a right may be acquired, but I entertain no doubt, that when a person has by the lawful exercise of work or skill so dealt with a human body or part of a human body in his lawful possession that it has acquired some attributes differentiating it

---

33 *Doodeward v Spence* (1907) 24 NW (NSW) 189 (NSW SC) 190.

34 *Doodeward* (n 31 above) 411.

35 *Doodeward* (n 31 above) 411.

36 *Doodeward* (n 31 above) 411.

37 *Doodeward* (n 31 above) 414.

> from a mere corpse awaiting burial, he acquires a right to retain possession of it.[38]

Griffith CJ did not explain why (as a matter of legal principle) such work or skill creates property rights, and it is unclear whether the other judges supported this proposition. Barton J, the other majority judge, restricted the reasoning in his decision to stillborn infants. He did, however, concur with the reasons of Griffith CJ.[39] Importantly, Barton J did not question the general rule that an unburied corpse is not the subject of property. On the facts, however, Barton J found that the foetus 'never existed independently of the physical attachment to its mother. It was never alive in the ordinary sense of human life'.[40] Barton J thus concluded that the law could not characterize a stillborn foetus as an unburied corpse.

Higgins J dissented, considering the threshold question to be whether property could exist in a dead human body. He opined that, without property rights, there could be no action of detinue or trover. In this respect, Higgins J relied on the established line of English authority that no one can have property in another person.[41] In *Doodeward*, as the body was not wanted for burial, Higgins J concluded that it could not be protected.[42]

Nevertheless, *Doodeward* represents the starting point of the work or skill exception and warrants closer analysis. Three qualifications are discernible from Griffith CJ's judgement. The first is that the person claiming the property rights must have lawful possession of the body or body part. Second, that person must perform

---

38 *Doodeward* (n 31 above) 414.

39 *Doodeward* (n 31 above) 417.

40 *Doodeward* (n 31 above) 416.

41 *Doodeward* (n 31 above) 422.

42 *Doodeward* (n 31 above) 424.

the work or skill on the body or body part. Third, that person does not obtain an ownership right in the body or body part but a lesser possessory interest. A possessory interest gives the possessor the right to retain the body against all the world except the person who is entitled to bury the body.

The precise nature of the interest that an individual obtains to separated body parts under the exception is not clear from Griffith CJ's judgment. At one point he referred to 'a right to retain possession of it'.[43] At another point he referred to 'a permanent right to possession'.[44] He also noted that 'a human body, or a portion of a human body is capable by law of becoming the subject of property'.[45] On the basis of these statements, the right recognized in *Doodeward* might best be described as simply a right to possession.

Significantly, Griffith CJ did not state that the acquisition of different attributes is necessary for property rights to arise. He noted that it was not necessary to 'give an exhaustive enumeration of the circumstances under which such a [property] right may be acquired'.[46] This left open the possibility that property rights could be created without any physical change to the separated body part. More recent Australian authority has not been required to consider the work or skill exception, but simply has noted the existence of the exception established in *Doodeward*.[47]

Dobson v North Tyneside Health Authority[48] presented the first modern opportunity for the English common law to consider the no property principle. In

---

43 *Doodeward* (n 31 above) 414.

44 *Doodeward* (n 31 above) 414.

45 *Doodeward* (n 31 above) 414.

46 *Doodeward* (n 31 above) 414.

47 *AW v CW* [2002] NSWSC 301 (NSW SC) [15].

48 [1997] 1 WLR 596 (CA).

Dobson, the deceased's next-of-kin (claimants) brought medical negligence proceedings against the North Tyneside Health Authority (first defendant) for failing to diagnose brain tumours, and the Newcastle Area Health Authority (second defendant) for failing to preserve the brain of the deceased. The deceased had collapsed at work and was initially diagnosed with generalised epilepsy. The deceased later became unwell and further investigations revealed two brain tumours, though she died before an operation could be performed. The coroner requested a post-mortem examination and during the autopsy the deceased's brain was removed and fixed in paraffin. The deceased's body (without the brain) was subsequently returned to the deceased's family for burial. The claimants sued the first defendant in negligence for failing to detect the brain tumours. It is difficult to discern from the particulars of claim what cause of action was pleaded against the second defendants. The statement of claim against the second defendants alleged that they were 'gratuitous bailees' and were not entitled to destroy, lose or otherwise wrongfully interfere with the brain of the deceased pending further investigation. Although no cause of action was pleaded, Peter Gibson LJ concluded that the primary claim must have been for conversion.[49]

The case came before the Court of Appeal after the District Court struck out the claim against the second defendant. Peter Gibson LJ delivered the leading judgment and dismissed the appeal, with Thorpe LJ and Butler-Sloss LJ agreeing. Peter Gibson LJ's judgment is relevant for its discussion of the legal status of corpses generally and of cadaveric specimens specifically. At the outset, Peter Gibson LJ noted that there are two qualifications to the general principle that there is no property in a

---

49 *Dobson* (n 48 above) 602.

corpse. First, as discussed in the next section, there is a right of possession for burial or disposition of the body. The second qualification asserts that body parts separated from a body may attain proprietary status following the application of human skill.[50]

In relation to the first qualification, Peter Gibson LJ observed that 'the executors, administrators and others charged by law with the duty of interring the body have a right to the custody and possession of it until it is properly buried'.[51] He found, however, that the rule did not apply in *Dobson* because the administratrix was not appointed until after the deceased was buried.

Regarding the second qualification, the Court of Appeal accepted that a body part may be subject to rights of possession if a person lawfully in possession of it does work or exercises skill such that the body part acquires attributes differentiating it from a corpse. It is not apparent from Peter Gibson LJ's judgment if he was referring to an ownership interest or simply 'rights to possession'. In acknowledging these rights in English law for the first time, Peter Gibson LJ accepted the classic statement of principle enunciated by Griffith CJ in *Doodeward*. On the facts, however, Peter Gibson LJ found that the work or skill exception did not apply because the preservation of the brain was not a sufficient exercise of work or skill.[52]

The work or skill exception arose again for consideration in *R v Kelly*.[53] The question in *Kelly* was whether 40 human body parts taken by Kelly and Lindsay (appellants) from the Royal College of Surgeons (College) were capable of being

---

50 *Dobson* (n 48 above) 600.

51 *Dobson* (n 48 above) 600.

52 *Dobson* (n 48 above) 601.

53 [1999] QB 621.

stolen under the Theft Act 1968 c 60. Kelly had persuaded Lindsay (a technician employed by the College) to remove the specimens for £400. There were between 35 and 40 specimens, all of which had been preserved or fixed by College staff involving hours and, in some cases, weeks of skilled work.[54] Kelly made use of the body parts in his work as an artist and used some of the parts to make casts, which were exhibited in an art gallery.

The appellants were charged with theft under section 1 of the Theft Act 1968. Section 1(1) of the Act defines 'theft' as the dishonest appropriation of 'property' belonging to another with the intention of permanently depriving the other of it. 'Property' is defined in section 4(1) to include real and personal property including choses in action and other intangible property. Section 5(1) sets out that property is regarded as belonging to a person having possession or control of it, or having a proprietary right or interest in it.

At trial, the defence submitted that the charge should be dismissed because body parts were not property and therefore were not capable of being stolen. The trial judge rejected this submission and ruled that a body part could be capable of becoming property, in accordance with *Doodeward*. Kelly and Lindsay were both convicted, and they appealed.

On appeal, the appellants argued that the jury's verdict was unsafe on two main grounds. First, they argued, the body parts were not property and could not be stolen. Second, they claimed that the College was not lawfully in possession of the body parts by virtue of provisions in the Anatomy Act 1932. Their appeal was dismissed. Rose LJ delivered the judgment of the Court of Appeal (Ognall and

---

54 *Kelly* (n 53 above) 623.

Sullivan JJ agreeing) and observed that, despite the no property principle's questionable origins, only Parliament could now change the law because of its entrenched nature.[55] He held that since *R v Sharpe*, 'it has been express or implicit in all the subsequent authorities and writings to which we have been referred that a corpse or part of it cannot be stolen'.[56] Rose LJ found, nevertheless, that parts of a corpse are capable of becoming property within section 4 of the Theft Act if they have 'acquired different attributes' through the application of skill (such as dissection or preservation techniques) for exhibition or teaching purposes.[57] He cited *Doodeward* in support and observed that the Court of Appeal did not dissent from that case in *Dobson*.

Rose LJ did, however, note the flexible nature of the common law and predicted that a future court might hold that there could be property in unaltered body parts in different circumstances. As he observed:

> [T]he common law does not stand still. It may be that if, on some future occasion, the question arises, the courts will hold that human body parts are capable of being property for the purposes of s 4, even without the acquisition of different attributes, if they have a use or significance beyond their mere existence. This may be so if, for example, they are intended for use in an organ transplant operation, for the extraction of DNA or, for that matter, as an exhibit in a trial.[58]

This view has been criticized, with Grubb suggesting that this would 'in effect rewrite the "no property" rule itself such that it became; "there is property in corpses (excluding excised body parts)"'.[59] Rose LJ's obiter dictum is significant as it

---

55 *Kelly* (n 53 above) 630–631.

56 *Kelly* (n 53 above) 631.

57 *Kelly* (n 53 above) 631.

58 *Kelly* (n 53 above) 631.

59 A Grubb 'I, Me, Mine: Bodies, Parts and Property and Parts' (1998) 3 Medical Law International 299, 312.

suggests a different basis (which does not require the application of work or skill) for the creation of property rights. Surprisingly, it has been the subject of little academic scrutiny. According to Rose LJ, body parts are capable of a proprietary characterization where they have a use beyond their mere existence. Rose LJ's suggestion is examined in greater detail in Chapter 8.

AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS Trust[60] is the most recent common law case to examine the work or skill exception. *AB* raises several important issues in the context of separated body parts, including property rights to cadaveric specimens and the potential for a tort of wrongful interference. Whilst these issues are addressed in later sections of this chapter, it is useful at this point to present the background of the case. The *AB* litigation arose following inquiries at the British Royal Infirmary and Alder Hey Hospital, which exposed the long-term practice of retaining body parts and biological materials from children who had died. The proceedings were collectively known as the National Organ Group Litigation (NOGL) and at the time of the decision there were 2,140 claims on the NOGL register.[61] The court was asked to consider three lead actions brought by Karen and David Harris, Susan Carpenter and Denise Shorter. The lead claimants alleged that their children's body parts had been removed, retained and disposed of without their knowledge. To assist in the resolution of the other registered claims, the parties also requested the court to decide four preliminary issues concerning the use of removed organs for research, based on an agreed factual matrix. The factual matrix is not relevant for the present discussion concerning rights of possession but it is addressed in the last section of this chapter.

---

60 [2004] EWHC 644 (QB).

61 *AB* (n 60 above) [3].

The central question in *AB* was whether the removal and retention of body parts from children during post-mortems was unlawful. The claimants alleged that the defendants: (1) committed the tort of wrongful interference; (2) were negligent, causing psychiatric injury; and (3) breached the Human Rights Act. The claimants sought general and special damages arising from the psychiatric injury that they suffered. They also claimed exemplary and aggravated damages. Gage J concluded that there was no tort of wrongful interference at law, and that a negligence claim was prima facie available against the hospitals. Only in Shorter's case, however, did he make an award for psychiatric injuries suffered.[62] In Harris's case, Gage J found that the psychiatric injury was not reasonably foreseeable,[63] and in Carpenter's case he held that the discovery of organ retention did not materially contribute to Carpenter's psychiatric illness.[64]

For now, the tort of wrongful interference is the relevant cause of action meriting analysis. The defendants argued that property rights to separated body parts vested in them. Their submission was based on two propositions: first, that the removal of body parts was authorized under statute and common law as post-mortem procedures; and second, that the application of work or skill upon body parts had created property rights that were allocated to the defendants. It follows to consider each proposition separately.

The question of whether the removal of body parts was lawful hinged on what may lawfully be done in the context of post-mortems. There are two forms of post-mortems: hospital post-mortems (HPMs) (relevant in the lead cases of Harris and

---

62 *AB* (n 60 above) [267].

63 *AB* (n 60 above) [259].

64 *AB* (n 60 above) [278].

Shorter) and the coroner's post-mortem (CPM) (relevant in the lead case of Carpenter). An HPM is conducted so that relatives may know the cause of death. Section 1 of the Human Tissue Act 1961 c 54 (HTA 1961)[65] (since repealed by the HTA 2004) required that before such a procedure could be carried out, the persons responsible must reasonably have believed that the deceased's relatives would not object. At common law, the hospital's possession of the body remained lawful throughout the post-mortem process, so long as the parents had not objected in accordance with the HTA 1961.[66]

In contrast to the hospital HPM, coroners have a statutory duty to conduct an inquest whenever they have reasonable cause to suspect that the deceased may have died a violent or unnatural death.[67] If the coroner directs a post-mortem examination, he or she will appoint a pathologist to carry it out. Gage J found that the removal of organs was lawful for the HPMs and the CPM.

If the possession of the body and removal of the body parts is lawful, the issue then becomes what rights subsist in the separated body parts following the post-mortem. A post-mortem that is properly carried out inevitably includes the retention of material.[68] In *AB*, Gage J found that the removal of the body parts was lawful and the remaining question thus became what rights existed following their removal. The statutory regimes concerning post-mortems do not address this issue. For example, under the applicable rules the coroner can preserve materials that bear on

---

65 9 & 10 Eliz 2.

66 s 1(7).

67 Coroners Act 1988 c 13, s 8(1).

68 Closing Submissions (Defendants) *AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS Trust* (High Court No HQ 0101462 12 February 2004) (copy on file with author) [213].

the cause of death for such a period as he or she thinks fit.[69] It is not settled at English law how long the coroner's authority over the body or any of its parts endures or what happens once this authority concludes.[70]

The defendants contended that property rights to the removed body parts were allocated to them at common law on the basis of the work or skill exception identified in *Kelly*. Two aspects of the defendants' argument are significant for present purposes: (1) the degree of skill necessary for the work or skill exception to attach; and (2) the nature of the interest conferred. In relation to the latter, the defendants submitted that it was not necessary for the court to consider whether the possessory rights amounted to an ownership interest.[71] They argued that the possessor must at least have a right to permanent possession and that the right to possession may differ little in substance to the right of an owner.[72]

The other substantive question concerned the degree of work or skill necessary for the exception to apply. In *AB*, the defendants submitted that there was a sufficient exercise of skill through the pathological processes of selection, preservation and dissection of biological materials and the creation of tissue blocks.[73] The defendants noted that '[t]he fixation process irreversibly changes the tissue at the molecular level via the operation of the formaldehyde, and enables subsequent staining reactions (during the creation of slides) to develop in a predictable way'.[74] It is not clear, as a matter of scientific principle that the defendants' analysis is correct.

---

69 Coroner's Rules 1984, r 9.

70 *AB* (n 60 above) [23]. See also: C Dorries *Coroners' Courts* (2nd edn OUP Oxford 2004) 121.

71 *AB* Closing Submissions (Defendants) (n 68 above) [233].

72 *AB* Closing Submissions (Defendants) (n 68 above) [237].

73 *AB* Closing Submissions (Defendants) (n 68 above) [247].

74 *AB* Closing Submissions (Defendants) (n 68 above) [247].

The defendants' use of the phrase 'irreversibly changes' implies that there has been an exchange of material at the molecular level. In fact, the fixation process preserves the cells essentially in their original size, shape, and position within the tissue by cross-linking its proteins to each other and those of its neighbouring cells. The fixed biological materials retain the original protein constituents and, therefore, the materials maintain their molecular shape as they existed in their original form.[75] Although it is unnecessary to engage in detailed scientific analysis, an understanding of the relevant scientific principles is important. This thesis returns to analyse the applicable scientific principles and biological processes in Part III. For present purposes, the important factor is that in *AB* some qualifying work or skill was performed by technicians on the separated biological materials.

Gage J accepted that the work or skill exception has long been an established principle in English law. He noted that 'part of a body may acquire the character of property' where that part 'has been the subject of skill such as dissection or preservation techniques'.[76] Gage J applied the exception and found that sufficient skill had been employed:

> [F]ollowing the post-mortem, the hospital acquired proprietary and possessory rights to the organs. Once the pathologists had by their work and skill removed the organs and prepared blocks and slides for histological examination those organs and the blocks and slides came within the *Doodeward* exception.[77]

In this way, the application of the work or skill exception to tissue blocks represents a further extension of the common law exception. *Kelly* concerned the preservation of body parts. *AB* extended the principle to biological materials. It is

---

75 See: http://www.ncbi.nlm.nih.gov/entrez.

76 *AB* (n 60 above) [148].

77 *AB* (n 60 above) [257].

unclear, however, whether Gage J considered that an ownership interest in the body parts and biological materials was allocated to the hospitals. In the statement above he referred to 'proprietary and possessory rights'. Later he noted the 'rights to possession'[78] and that the hospital had 'lawful possession of the organs'.[79] Because Gage J accepted the defendants' submission that a right to possession was sufficient, he was not required to resolve whether the hospital had an ownership interest.

Gage J found that there was no cause of action in tort for wrongful interference, and the defendants were entitled to claim property rights in the separated body parts on the basis of *Doodeward*. Gage J did not, however, leave the matter there. Significantly, he suggested that in some circumstances, a cause of action based on conversion might lie. At the conclusion of his analysis, Gage J opined:

> If, on the other hand, a parent or parents when consenting to a post-mortem specifically ask for the return of an organ I can see in certain circumstances it might be arguable that a cause of action based on conversion exists, if conversion is what is being alleged in this group action.[80]

This statement is surprising. As he recognized, the starting point at common law is the no property principle. The previous section demonstrated that it is not possible to possess a dead body as 'property' at law. Dead bodies are not things capable of ownership and so are not protected by the tort of conversion. Yet in the passage quoted above Gage J appears to endorse a possible application of conversion. There are three possible interpretations of Gage J's observation. The first is that his statement was simply an oversight and was not intended to deviate from

---

78 *AB* (n 60 above) [160].

79 *AB* (n 60 above) [257].

80 *AB* (n 60 above) [161].

the no property principle. This interpretation is unpersuasive as it must be assumed that Gage J's deliberate statement represents more than a mere oversight or error.

Secondly, Gage J may have considered that parents could be allocated property rights at the time their children's body part is removed, such that they might request its return. Two factors militate against this conclusion. Gage J explicitly recognized that a dead body is not a thing at common law.[81] Moreover, he was acutely aware that separated body parts are capable of becoming things at common law only where they have acquired different attributes.[82] Gage J's statement could not properly be based on an assertion that the parents gain property rights at the time body parts are separated because at the time of separation, a body part has not acquired different attributes through the application of work or skill.

A third (and sounder) interpretation of Gage J's statement is that a body part is recognized as property at common law only once it has acquired different attributes. For example, a body part acquires different attributes at the time when the pathologist fixes and hardens it. The difficulty with this third interpretation lies in explaining how it is that the *parents*—and not the pathologists—are entitled to protection of property rights through the tort of conversion. This problem may be illustrated by constructing a scenario based on Gage J's dictum. The scenario assumes that the parents permit the removal of an organ from the body of their child during a post-mortem. At that time they ask for the organ to be returned to them once it has been used. The pathologist then takes the organ and proceeds to fix and harden it. This work is sufficient to fall within the work or skill exception. Under the third interpretation of Gage J's approach, property rights would not be allocated to

---

81 *AB* (n 60 above) [135].

82 *AB* (n 60 above) [155].

the pathologist but instead in the parents, because they asked for the body part to be returned. If the property rights were allocated to the pathologist, then the parents would have no cause of action in conversion. Arguably, a form of bailment would exist such that the pathologist would hold the body part as a bailee for the parents as bailors. An action in conversion might lie if the pathologist failed to return the body part or acted inconsistently with the parents' property rights.

If the third interpretation of Gage J's statement is correct, it is still not clear why, simply by asking for the return of the body part, the parents are allocated property rights. *Kelly* establishes that the work or skill exception allocates property rights to the person who performs the work or skill. Gage J's application is inconsistent with the exception. Gage J's statement is incongruous and, viewed in the light of the above scenario, demonstrates the common law's ongoing failure to identify the correct legal principle underlying the work or skill exception. This failure is regrettable because the exception has assumed broader application under the HTA 2004. The HTA 2004 adopts the exception and extends it to cover biological materials separated from a *living* person.[83] Chapter 6 critically examines the new legislation.

Thus, the nature and contours of the common law exception are not clearly established. Analysis of the relevant English cases demonstrates that difficult questions have not yet been addressed adequately by the case law. Five key questions remain unanswered. First, must there be an intention to create a novel item, or is it sufficient that work or skill of some sort is carried out on separated body parts? *Kelly* suggests that an intention to create a novel item is required because the court in that case required that the body part should be altered for a

---

83 HTA 2004, s 32(9)(c).

special purpose.[84] Second, will work alone suffice or must there be an exercise of skill? *Kelly* referred to skill.[85] In *AB*, Gage J referred to skill by itself and then to 'work and skill'.[86] Moreover, if an application of skill is required to enliven the exception, it is not clear what standard of skill is required. In *Kelly*, Rose LJ talked of dissection and preservation techniques, but such formulations do not provide a standard capable of general application.[87] In *Dobson*, Peter Gibson LJ suggested that the fixing of a body part in paraffin would not be sufficient to activate the exception.[88]

The third unresolved question concerns the nature of property rights recognized by the common law. Is it simply a right to possession, or instead property rights such as the law recognizes with respect to normal chattels? *AB* mentions proprietary and possessory rights.[89] One commentator has argued that separated body parts seem to be 'the subject of property in the ordinary way'.[90] Fourth, to whom should the property rights be allocated? There are several possibilities, including the source (in the case of a living person), the family of the deceased, the person who alters the body parts and the employer of the person who alters the body parts. *Kelly* held that property rights should be allocated to the person (or authority) who performed the work or skill. In *AB*, Gage J would appear

---

84 A Grubb 'Theft of Body Parts: Property and Dead Bodies' (1998) 6 Medical Law Review 247, 250.

85 *R v Kelly* [1999] QB 621, 631.

86 *AB* (n 60 above) [257].

87 *Kelly* (n 85 above) 631.

88 *Dobson v North Tyneside Health Authority* [1997] 1 WLR 596 (CA) 601.

89 *AB* (n 60 above) [161].

90 A Tettenborn 'Wrongful Interference with Goods' in AM Dugdale (ed) *Clerk & Lindsell on Torts* (18th edn Sweet & Maxwell London 2000) [14-45].

to suggest that, in certain circumstances, property rights could be acquired by (or transferred to) a family member.[91]

Finally, is the common law exception confined to body parts separated from dead bodies, or does it also apply to body parts separated from living persons? In *Kelly*, Rose LJ simply referred to 'human body parts'.[92] At one point in *AB* Gage J also indicated that 'part of a body may acquire the character of property'.[93] Nevertheless, both these comments were made in the context of body parts removed from dead bodies and it is likely that the principle at common law is currently confined to body parts removed from dead bodies. Yet there is no reason in principle why the common law exception should be limited to bodily materials separated from cadavers.

These inconsistencies and unresolved questions demonstrate that the legal principle underpinning the work or skill exception has not been adequately identified or articulated. Without a clear underlying principle the exception cannot develop in a coherent and principled manner. Academic commentators have suggested that the exception represents an invocation of the 'first possession' principle.[94] Part III of this thesis contends that this explanation is not sustainable. The thesis argues in Chapter 7 that the specification doctrine provides a more logical explanation of the work or skill exception.[95] Specification, as derived from the Roman law principle of *specificatio*, is the principle that applies where a new thing is

---

91 *AB* (n 60 above) [161].

92 *Kelly* (n 85 above) 631.

93 *AB* (n 60 above) [148].

94 Nuffield Council on Bioethics *Human Tissue: Ethical and Legal Issues* (Nuffield Council on Bioethics London 1995) [9.11]; A Grubb 'I, Me, Mine: Bodies, Parts and Property and Parts' (1998) 3 Medical Law International 299, 312.

95 See notes 109-114 of Chapter 7 and accompanying text.

brought into existence.[96] Part III considers the respective strength of the first possession and specification doctrines as contending legal principles underlying the work or skill exception.

2 Constitutional Protection

In contrast to English law, US courts have recognized property rights to protect dead bodies and body parts removed from them. The creation of property rights in US jurisprudence is not, however, dependent on the application of work or skill to transform the separated body part. Instead, the corpus of American authority has developed out of the unauthorized removal of organs and the potential protection afforded by the Due Process Clause contained in the Fourteenth Amendment of the US Constitution.

The Fourteenth Amendment protects an individual's right to property against deprivation by the state without due process. Any person alleging a deprivation by the state of any property right without due process possesses a civil cause of action under section 1983 of the Civil Rights Act.[97] To assert a section 1983 claim, a party must establish two elements: (1) that the alleged deprivation was committed by a person acting under colour of state law; and (2) that the deprivation infringed upon a right, privilege or immunity guaranteed by the US Constitution.[98] The question of whether an interest amounts to a 'property right' for the purposes of a section 1983 suit is a matter of state law.[99]

---

96 B Nicholas *An Introduction to Roman Law* (Clarendon Press Oxford 1962) 136.

97 42 USC 1983.

98 *Parrat v Taylor* 451 US 527 (1981) 535; 101 S Ct 1908 (1981) 1913.

99 *Board of Regents of State Colleges v Roth* 408 US 564 (1972) 577; 92 S Ct 2701 (1972) 2709.

The US Court of Appeals for the Sixth Circuit has held that, under the Due Process Clause, family members do have property rights in separated body parts. In *Brotherton v Cleveland*,[100] the court considered the constitutional validity of an Ohio statute that permitted a coroner to remove corneas from a deceased person provided the coroner was not aware of any objections from close family members.[101] During an autopsy procedure a man's corneas had been removed against the wishes of his wife. The court reviewed the authorities dealing with analogous issues and noted that a majority of cases ruled that 'quasi-property' rights can exist in dead bodies. The US concept of 'quasi-property' is considered in the next section. In this case, the court held that the 'aggregate of rights' given to a spouse under common law and the Uniform Anatomical Gift Act were sufficiently proprietary for constitutional purposes.[102] These rights included the right to possess the body and to control its disposal.

In *Whaley v County of Tuscola*,[103] the Sixth Circuit Court of Appeals considered the validity of a Michigan statute. This case also concerned the removal of eyes from the deceased without consent, and the court held that the next-of-kin had a 'constitutionally protected property interest' in the dead body of a relative. In explaining the next-of-kin's interest, the court opined that the existence of a constitutionally protected property right does 'not rest on the label attached to a right granted by the state but rather on the substance of the right'.[104] In this way,

---

100 923 F 2d 477 (6th Cir 1991).

101 Ohio Rev Code, § 2108.60.

102 *Brotherton v Cleveland* 923 F 2d 477 (6th Cir 1991) 483.

103 58 F 3d 1111 (6th Cir 1995).

104 *Whaley* (n 103 above) 1114.

both *Brotherton* and *Whaley* emphasized that the rights of the family members should be viewed as a bundle of rights in a proprietary sense.

The position adopted by the Sixth Circuit Court of Appeals has not, however, been widely embraced by other circuit courts or state courts. In *Georgia Lions Eye Bank, Inc v Lavant*,[105] the Georgia Supreme Court held that a statute permitting corneal removal was consistent with the US Constitution because dead bodies are not constitutionally protected property. The court considered that the common law concept of 'quasi-property' did not have any constitutional dimension.[106] This decision has been followed by a substantial body of jurisprudence that does not support the Sixth Circuit Court of Appeals' approach.[107] Such judicial reluctance can be explained at least in part by the attitude of US courts to the Takings Clause in the Fifth Amendment. This clause provides that private property should not be taken for public use without just compensation. Similar issues arise in an environmental context in relation to tradable pollution rights under the emissions trading regime.[108] US courts have been reluctant to classify tradable pollution rights as capable of constitutional protection. Again, this reluctance may be best explained as judicial concern over the consequences of applying the Fourteenth Amendment.[109] The decisions in *Brotherton* and *Whaley* do not, therefore, represent the more widely accepted position in current US jurisprudence. In general, US courts have not

---

105 335 SE 2d 127 (Ga SC 1985).

106 *Georgia* (n 105 above) 128.

107 *Bauer v North Fulton Medical Center* 527 SE 2d 240 (Geo CA 1999) 244; *Culpepper v Pearl St Bldg* 877 P 2d 877 (Colo SC 1999) 880; *Crocker v Pleasant* 727 So 2d 1087 (Fla App 1999) 1089; *Dampier v Wayne County* 592 NW 2d 809 (Mich App 1999) 818.

108 JE Holloway and DC Guy 'The Utility and Validity of TDRs under the Takings Clause (2002) 11 Pennsylvania State Environmental Law Review 45, 57.

109 *Penn Centre Transport Co v New York City* 438 US 104 (1978) 122.

recognized that property rights are created following the separation of a body part from a dead body.

3 Tort of Wrongful Interference

There is no English authority supporting a tort of wrongful interference with a dead body. The question of whether the tort should be recognized has been the subject of academic debate. Matthews has suggested that if a person has the right to possession of unburied human remains, then he or she may bring an action in trespass for unlawful interference.[110] Others have not endorsed the tort.[111] A potential tort of wrongful interference (based on an underlying property right) was recently pleaded in *AB*. The claimants submitted that the elements of the tort were twofold. First, they claimed that they had the right to possess their deceased children's bodies, such a right being associated with their duty to effect disposal of the bodies.[112] Second, the claimants submitted that the defendants had interfered with that right by retaining or disposing of body parts without lawful authority.[113] It is unclear from the pleadings whether the cause of action was in trespass or conversion. Given that, at trial, counsel for the claimants argued that 'it was probably a species of conversion',[114] it is appropriate to consider the potential tort in this section.

---

110 P Matthews 'Whose Body? People as Property' (1983) 36 Current Legal Problems 193, 218.

111 IM Kennedy 'Further Thoughts on Liability for Non-Observance of the Provisions of the Human Tissue Act 1961' (1976) 16 Medicine, Science and Law 49, 50.

112 Particulars of Claim *AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS Trust* (High Court of Justice No HQ 0101462 February 2004) [25].

113 *AB* Particulars of Claim (n 112 above) [26].

114 *AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS Trust* [2004] EWHC 644 (QB) [152].

The lack of English authority led the claimants to draw on comparative material from Canada and Scotland. In *Edmonds v Armstrong Funeral Home*,[115] the Alberta Supreme Court considered the legality of a post-mortem undertaken against the widow's wishes. Harvey CJ held that the plaintiff had the right to control the deceased's body and that any unauthorized interference with that right provided a cause of action.[116] It is not clear however, what formed the basis of this cause of action. Academic commentary in Canada has subsequently classified the decision as an example of intentional infliction of nervous shock.[117] The claimants also invoked two Scottish authorities where courts held that the performance of post-mortem examinations and retention of organs without the requisite authorisation might amount to an actionable wrong at common law: *Pollok v Workman*[118] and *Hughes v Robertson*.[119] Again, the basis of an actionable wrong in these cases is elusive. As with the Canadian authority, these decisions are arguably better classified as examples of the tort of negligence.[120] These Canadian and Scottish cases do not, therefore, establish a clear line of authority. Moreover, they are not premised on the existence of property rights. In *AB*, Gage J noted that the decisions cited were cases of unauthorized post-mortems.[121] On the facts of *AB*, Gage J held that the removal of organs and subsequent possession of them was lawful.

---

115 [1931] 1 DLR 676 (SC).

116 *Edmonds* (n 115 above) 680.

117 GHL Fridman *The Law of Torts in Canada* (Carswell Toronto 2002) 81; AM Linden *Canadian Tort Law* (5th edn Butterworths Toronto 1993) 51.

118 1900 5th Series Vol II 355 (Court of Session).

119 1913 SC 394.

120 JK Mason, RA McCall-Smith and GT Laurie *Law and Medical Ethics* (6th edn Butterworths London 2002) 437; DM Walker *The Law of Delict in Scotland* (2nd edn Green & Son 1981) 500.

121 *AB* (n 114 above) [155].

By concluding that the defendants' possession of the removed organs was lawful Gage J avoided the more difficult question of whether the claimants' right to 'possession' of a corpse could be a sufficient interest to found a claim in conversion. This thesis considers that the 'right to possession' of a corpse does not constitute a property right (as defined in Chapter 2) because it does not concern a 'thing'. The 'right to possession' cannot therefore be protected by the tort of conversion. Instead, this thesis argues that 'the right to possession' is better characterized as a non-proprietary interest and its scope is therefore considered in the next section.

Gage J's conclusion is not necessarily the end of the story. Indeed, a tort of wrongful interference does not have to be linked to property rights, or to rights of possession. It could, for example, be based on an interference with an individual's autonomy or respect for human dignity. Such a wrong would provide protection without requiring any underlying property rights. The potential development of such a wrong in English law is addressed in Chapter 9.

4 Summary

The common law has recognized that property rights can be created in body parts separated from dead bodies. In England and Australia property rights are created where sufficient work or skill is performed on separated body parts or biological materials. As *Dobson*, *Kelly* and *AB* illustrate, the doctrinal underpinnings and external boundaries of the exception demand further consideration and urgent clarification.

English law has not as yet embraced a tort of wrongful interference based on conversion. In contrast, the US Sixth Circuit of Court of Appeals has granted constitutional protection to the next-of-kin. Its decisions do not, however, represent

strong authority. The majority of US circuit and state courts have declined to find that property rights can be created in separated body parts. Thus, the more substantial authority in the common law world for the creation of property rights is located in – and confined to – the work or skill exception.

D NON-PROPRIETARY INTERESTS

The law has also recognized non-proprietary interests over dead bodies and body parts removed from them. Most notably, this form of protection exists in the right to possession afforded under English and Australian law. After considering this protection, the section will outline the development in US jurisprudence of a 'quasi-property' right. At first impression, it may seem that these authorities should have informed the discussion in the previous section. It will be suggested, however, that actions based both on possessory rights and quasi-property concepts are better classified as protecting non-proprietary interests. The section will conclude by contrasting English and American protection afforded to cadavers and body parts removed from them under the law of tort.

1 Duty to Bury

English common law recognizes duties to bury corpses and concomitant rights of possession over corpses. *Sharp v Lush*[122] was the first English case to consider an executor's rights over an unburied corpse. It held that burial expenses fell within the meaning of 'executorship expenses' because '[i]t is part of his [the executor's] official

---

122 (1879) 10 Ch D 468 (CA).

duty to bury the deceased, so that he is liable to pay the funeral expenses without an order' [123]

The executor's right to possession of unburied corpses was also considered in the oft-cited case of *Williams v Williams*.[124] There, the deceased (Crookendale) directed the plaintiff (Williams) by a codicil to burn his body, with the executors directed to reimburse the plaintiff for the costs he incurred. On Crookendale's death, the deceased's widow and one of his sons obtained the body and had it buried in unconsecrated ground. The plaintiff fraudulently obtained a licence from the Home Secretary to disinter the body on the ground that it was to be interred in the consecrated ground of another cemetery. The plaintiff then sued the executors to recover the costs of the cremation. Kay J found against the plaintiff and in doing so drew upon the no property principle derived from the decision of Erle J in *R v Sharpe* (*Sharpe's Case*).[125] Surprisingly, Kaye J did not distinguish the facts before him from those in *Sharpe's Case*, on the basis that whereas this case involved an unburied corpse, *Sharpe's Case* concerned a buried corpse. The failure to make this distinction is relevant, for whilst it could follow from *Sharpe's Case* that nobody has any right to possession of a buried corpse, it does not necessarily follow that the no property principle also applies to unburied corpses. Kay J also noted that upon death, it was the deceased's executors who had a right to possession of the body (although they had no property in it).[126] In support of this finding he referred to *Williams on*

---

123 *Sharp v Lush* (1879) 10 Ch D 468 (CA) 472.

124 (1882) 20 Ch D 659 (CA).

125 (1856-1857) Dears & Bell 160; 169 ER 959.

126 *Williams* (n 124 above) 664.

Executors,[127] Blackstone[128] and *R v Fox*.[129] Kay J regarded the executor's right as being exclusive and relied upon it as a further reason to explain why the plaintiff could not lawfully enforce the deceased's wishes. In this way, Kay J used both the no property principle and the executor's right to possession as the twin grounds to defeat the claim.

The right to possession recognized in *Williams v Williams* flows from the duty to dispose of the deceased's body, which is considered in the nature of a public duty. In *R v Stewart*,[130] Lord Denman observed that '[w]e have no doubt, therefore, that the common law casts on someone the duty of carrying to the grave the dead body'.[131] The public duty carries with it an enforceable right to possession of the body.[132] An executor's enforceable right to possession of a body was affirmed in *Dobson v North Tyneside Health Authority*.[133] There, Peter Gibson LJ referred to the general principle that 'persons charged by the law with interring the body have a right to the custody and possession of it until it is properly buried'.[134]

Judicial recognition of the right to possession was also extended to recognize a coroner's prior right to possession of a body when required for the purpose of coronial inquiries.[135] English common law therefore initially allocates the right to possession of the body for burial to the executor of the will of the estate, and not in

---

127 (6th edn Stevens & Sons London 1867) 906.

128 W Blackstone *Commentaries on the Laws on England* (9th edn Oxford 1783) vol II, 508.

129 (1841) 2 QB 246.

130 (1840) 12 Ad & E 773; 113 ER 1007.

131 *Stewart* (n 130 above) 778; 1009.

132 *R v Fox* (1841) 2 QB 246, 247; 114 ER 95, 96; *R v Scott* (1842) 2 QB 248, 249; 114 ER 97, 97.

133 [1997] 1 WLR 596 (CA).

134 *Dobson* (n 133 above) 600.

135 *R v Bristol Coroner; ex p Kerr* [1974] QB 652, 659.

the surviving spouse or next-of-kin. The right of possession enables the executor to maintain a civil action prior to burial.

If no will exists, then it is not settled in English law what class(es) of other persons, including the relatives of the deceased, will be under a duty to arrange the disposal of, and thereby have a right to possession of the body. Under English law, when a person dies without a valid will his or her property is allocated to the Public Trustee until the court appoints an administrator. Thereafter all property is allocated to the administrator.[136] The administrator derives title from the court appointment and cannot act until the appointment.[137] Before an administrator is appointed, there are four potential categories of other persons who may have a right to possess the deceased's body for the purpose of disposal: the person entitled to letters of administration;[138] relatives of the deceased;[139] occupiers of the premises where the deceased passed away;[140] and the local authority.[141]

The potential conflict between the rights of the occupier of the premises where the deceased passed away and the deceased's relatives was considered most recently in *AB*. This section is concerned with determining what rights of possession associated with the duty to bury English law recognizes. Prior to *AB*, common law authority was limited. Although courts identified a right to possession, the content

---

136 Administration of Estates Act 1925 c 23, s 9.

137 *Ingall v Moran* [1944] KB 160, 168.

138 Non-Contentious Probate Rules 1987 (SI 1987/2024) r 22(1)(a): App 2. For example, the first three persons with priority, in order, are the deceased's spouse; children; and mother and father.

139 *Clerk v London General Omnibus Co Ltd* [1906] 2 KB 648 (CA) 663-664; *R v Vann* (1851) 2 Den 325, 326; 169 ER 523, 524; *Jenkins v Tucker* (1778) 1 Bl H 90, 93; 138 ER 55, 57.

140 *R v Stewart* (1840) 12 Ad & E 773; 113 ER 1007.

141 Public Health (Control of Disease) Act 1984 c 22, s 46; National Assistance Act 1948 c 29, s 50(1).

of this right—in terms of its nature and scope—received little judicial attention. *AB* presented an opportunity to further consider the duty to bury. Questions concerning the nature of the right to possession arose from the claimants' argument that English law should recognize a tort of wrongful interference with a human body. The specific argument for a tort of wrongful interference was analysed in the previous section; the argument is considered here for what it says about the right to possession.

The first limb of the tort of wrongful interference (as argued by the claimants in *AB*) was that the claimant must establish a right and corresponding duty to possess the body of their child.[142] The argument addressed two parts of the right: (1) when does the right to possession start and when does it finish? and (2) what is its substantive content? The claimants argued that the common law duty and right to bury a child arises on the death of the child.[143] Flowing from the duty was a right to possession of the child's body in a state that 'was as anatomically complete as was reasonably practicable in the circumstances'.[144] In support, the claimants drew an analogy with possession of a car. They argued that such possession encompasses a right to each individual part of the vehicle. Unauthorized removal of the engine would accordingly constitute conversion.[145]

The defendants conceded that a right to possession existed but argued that it did not constitute a freestanding right. Rather, they submitted that such a right

---

142 *AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS Trust* [2004] EWHC 644 (QB) [128].

143 Closing Submissions (Claimants) *AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS Trust* (High Court No HQ 0101462 12 February 2004) (copy on file with author) [9].

144 *AB* Closing Submissions (Claimants) (n 143 above) [27].

145 *AB* Closing Submissions (Claimants) (n 143 above) [32].

would be dependent on the duty to bury. Importantly, the defendants argued that the right only arises when it is reasonably practicable for parents to perform the duty to bury, taking into account: '(i) their means (ii) the state of the body and (iii) their knowledge of the location of the body and any tissue or organs separated from the body'.[146] On this approach, the right did not arise immediately at the time of death because without knowledge, there could be no intention to possess, and such intention is necessary to establish a right to possession. As to the substantive content of the right, the defendants claimed that the duty to bury only extended to the body itself and not to any parts of the body lawfully removed from it.[147] To this end, the parents only had a right to bury the 'recognizable body'.[148] On the basis of these propositions the defendants submitted that there had been no interference with the claimants' right to possession for the purposes of burial.

Gage J adopted the defendants' approach in relation to the duty and the corresponding right to bury,[149] accepting that the common law duty was limited and should be construed in the light of the no property principle at common law. Following Gage J's approach, the rights that parents can claim at common law extend only to those rights necessary to ensure that they do not breach the parents' duty to bury. The duty does not arise immediately and, if a person dies in hospital, 'the hospital has the legal right to possess the body at least initially'.[150] At common

---

146 Closing Submissions (Defendants) *AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS Trust* (High Court No HQ 0101462 12 February 2004) (copy on file with author) [183].

147 *AB* Closing Submissions (Defendants) (n 146 above) [183].

148 *AB* Closing Submissions (Defendants) (n 146 above) [208].

149 *AB* (n 142 above) [135].

150 *AB* (n 142 above) [139].

law, parents lose any right to possession for burial once the body has been buried.[151] As to the content of the duty, Gage J held that it is not necessary that the body be buried in a complete state.[152] Thus, the scope of the right to possession at common law is narrow. It is not equivalent to property rights existing over normal chattels. Accordingly, the analogy the claimants drew with the possession of a car was flawed. Gage J's analysis is correct because the car (as a chattel at common law) is recognized as a 'thing' in property law, unlike a dead body. The car is therefore capable of being the object of property rights.

The foregoing analysis of the case law is important because it demonstrates that English law protects the right to possession of a body, at least for the purposes of burial. Significantly though, common law protection is not extended any further because the duty to bury is not linked to property rights. The 'right to possession' over a dead body is not a property right that the common law recognizes with respect to normal chattels. As Chapter 3 discussed, for the law of conversion to apply the object in question must be a thing that is capable of being the subject of property rights.[153] The common law does not, however, consider a corpse to be a thing capable of being the subject of property rights. In this way it is thus not capable of being protected through the tort of conversion. The 'right to possession' is instead limited to the specific purpose of lawfully disposing of the dead body.

Accordingly, the terminology of 'rights to possession' that courts employ is misleading. Such phraseology should be reserved for property rights. An analogy may be drawn with parents who seek the return of abducted children. In the law,

---

151 *AB* (n 142 above) [296].

152 *AB* (n 142 above) [158].

153 See notes 13-16 of Chapter 3 and accompanying text.

parents do not rely on property rights to children for their recovery.[154] Instead, the court's primary considerations are the right of custody and the best interests of the child.[155] This thesis considers that the right recognized by English law over dead bodies may be better described as a right to 'custody' of the body for the purposes of burial.

If property rights do not underpin the conferral of a right to possession for burial, then the question arises as to what interest the law does protect. The common law still seeks to ensure that dead bodies are protected from unwanted interference by third parties, and therefore confers on executors and the next-of-kin rights of control over dead bodies. The underlying interest that the law protects is not clear from the case authority, although there are two possibilities. The first (and the more openly acknowledged view) is that the duty to bury arises from considerations of public health and safety. On this view it is in the interests of society to ensure that dead bodies are buried and, accordingly, that someone is allocated a right to control a dead body to ensure that the role is performed.

A second (and equally plausible) explanation for the duty and right to bury stems from the respect for human dignity that the law accords to individuals. Respect for the dead has long been recognized as an important factor in how the law addresses the disposal of bodies.[156] The fact that it is forbidden for cadavers to be disturbed (except in exceptional circumstances) reflects the respect that the law provides for individuals. The law recognizes that the dignity of individuals is important even after their death; further, the law entrusts the duty to those who are

---

154 C Barton and G Douglas *Law and Parenthood* (Butterworths London 1995) 22.

155 *Re V-B (Abduction: Custody Right)* [1999] 2 FLR 192 (CA).

156 *In re Blagdon Cemetery* [2002] 3 WLR 603 (Arches Ct of Cant) 608.

considered most intimately connected with the deceased including the executor, administrator and next-of-kin. These persons are most likely to afford the deceased due respect through the provision of a proper funeral. At the very least, it is likely that the interests underlying the right to possession of a cadaver are a combination of respect for the human dignity of the deceased as well as the more instrumental public concerns of health and safety.

2 Quasi-Property Rights

The legal protection of cadavers in the US was initially secured through recognition at common law that individuals had a 'quasi-property' right to the possession of a deceased's body. In *Pierce v Proprietors of Swan Point Cemetery*,[157] the deceased was buried in a plot that he had bought during his lifetime. At his death, the plot passed to his daughter. The deceased's widow bought herself a plot in the same cemetery and disinterred her husband's body and reburied it without the daughter's consent. The daughter asked the court to restore the deceased to the original plot.

The Rhode Island Supreme Court ordered the restoration of the deceased's remains to the original plot. Potter J observed that there were no property rights to a dead body. He did consider, however, that a form of 'quasi-property' arose from the duty and right to protect a human corpse from violation.[158] US courts consider that quasi-property rights are allocated, first, to the surviving spouse,[159] and, then, to the next-of-kin.[160] Again, the underlying basis for protecting these rights is not clear.

---

157 14 Am Rep 465 (RI SC 1881).

158 *Pierce* (n 157 above) 676-677.

159 *Larson v Chase* 50 NW 238 (Minn SC 1891).

160 *Enos v Snyder* 63 P 170 (Cal SC 1990) 172.

Some US courts have suggested that the quasi-property rights stem from a public duty of decent disposal and others with an interest in the body.[161]

Although the basis for the protection of such rights is unclear, US courts have emphasized that the quasi-property notion should not be considered akin to commercial ownership. Rather, quasi-property rights have been couched in more general language. In *Larson v Chase*, the court observed that the fact that an individual has exclusive control over a body for burial leads 'necessarily to the conclusion that it is his property in the broadest and most general sense of that term'.[162] Such broad terminology does not assist in defining the interest underlying the rights or the scope of the rights that the courts are seeking to protect.

Some guidance as to the content of quasi-property rights was provided in *Whitehair v Highland Memory Gardens*.[163] In that case, an individual brought an action seeking damages for the mishandling and loss of several bodies during a process of relocating a cemetery due to highway construction. Miller J outlined the content of the rights as follows:

> The quasi-rights of the survivors include the right to custody of the body; to receive it in the condition in which it was left, without mutilation; to have the body treated with decent respect, without outrage or indignity thereto; and to bury or otherwise dispose of the body without interference.[164]

Miller J's extrapolation suggests that the rights arise out of the need to respect the dignity of the deceased. Despite the emergence of quasi-property rights in the context of cadavers, 'quasi-property' is not a legal classification that has filtered into

---

161 *Snyder v Holy Cross Hospital* 352 A 2d 334 (Md App 1976) 341.

162 *Larson* (n 159 above) 239.

163 327 SE 2d 438 (WVa SC 1985).

164 *Whitehair* (n 163 above) 441.

other areas of US common law. The US Supreme Court has only used the term 'quasi-property' in one case—*International News Service v Associated Press*.[165] There, the Supreme Court held that information constituting news must be regarded as quasi-property.[166] There may not, therefore, be any great significance in labelling an interest as quasi-property.

More recently, some US courts have questioned such 'quasi-property' protection. In *Culpepper v Pearl Street Building Inc*,[167] the Colorado Supreme Court reasoned that a quasi-property theory does not protect a true ownership interest because it redresses emotional harm rather than physical injury. The court held that such cases are not about the injury to the body itself, but whether the improper actions caused emotional or physical pain or suffering to the surviving family members.[168] This reasoning has been followed in other US jurisdictions, and some US courts are shifting the basis of protection of corpses from 'quasi-property' to the law of tort (which is considered below).[169]

This analysis highlights significant inconsistencies over the protection of cadavers in different US jurisdictions. In part, these inconsistencies are explicable because the courts are uncertain as to what interest is being protected: is it proprietary, based on the dignity of the deceased, or linked to the emotional harm suffered by close family relatives? This thesis suggests that the use of 'quasi' is a

---

165 248 US 215; 39 S Ct 68 (1918).

166 *International News* (n 165 above) 241-242; 73.

167 877 P 2d 877 (Colo SC 1994).

168 *Culpepper* (n 167 above) 880.

169 See for example: *Biro v Hartman Funeral Home* 669 NE 2d 65 (Ohio App 1995) 72; *Brown v Mathews Mortuary* 801 P2d 371 (Idaho SC 1990) 374; *Carney v Knollwood Cemetery Association* 514 NE 2d 430 (Ohio App 1986) 434-435; *Scarpaci v Milwaukee City* 292 NW 2d 816 (Wisc SC 1980) 820-821.

fiction. 'Quasi' describes something in terms of something else, which it is not. Some US courts have recognized the fiction.[170] Other US courts have not recognized property rights in body parts removed from cadavers but have nevertheless sought to invoke the protection and the effects that a property classification provides.[171] The use of the qualifier 'quasi' demonstrates that the law is protecting something that is not property, which is a dangerous exercise.[172] In these cases the courts are not really invoking property rights. Rather, they are using the concept of property as an instrumental means to protect the dead body.

The overview of US authority above reveals that such cases are primarily concerned with situations where the law considered that the wrong person was exercising control over separated body parts from cadavers. The courts have sought to ensure that such control is exercised instead by a more appropriate person. The underlying interest that the courts are protecting in these cases is not proprietary; rather it is the maintenance of the dignity of the deceased and protection of family members from the infliction of emotional distress.[173] This thesis has already suggested that these non-proprietary interests may be more appropriately labelled a right to 'custody' of the body for the purposes of burial.

---

170 *Carney* (n 169 above) 434; *Scarpaci* (n 169 above) 820-822; *Pettigrew v Pettigrew* 56 A 878 (Pa SC 1904) 879.

171 *Enos v Snyder* 63 P 170 (Cal SC 1990) 172; *Whitehair* (n 163 above) 441; *Meek v State* 185 NE 899 (Ind SC 1933) 901.

172 P Birks *An Introduction to the Law of Restitution* (Clarendon Press Oxford 1985) 22.

173 See particularly: *Carney* (n 169 above) (Ohio App 1986) 434-435; *Pierce* (n 157 above) 681; *Reinihan v Wright* 25 NE 822 (Ind SC 1890) 824-825.

3 Statutory Rights

In addition to the common law, non-proprietary interests also exist under statute. The discussion here is not intended to provide a detailed overview of these relevant statutory regimes. Instead, the analysis demonstrates simply that certain statutes have created limited rights to possession of cadavers. While this section focuses on English law, an examination of the recently enacted HTA 2004 is reserved for Chapter 6.

The first example in English law of a statutory right to possession is the coroner's right to retain the body for a lawful inquest. Under the Coroners Act 1988 c 13 the coroner has a statutory duty to hold an inquest where he or she has reasonable cause to suspect that the deceased died from a violent or an unnatural death, or died a sudden death of which the cause remains unknown.[174] The coroner's right to retain the body and its parts arises under the Coroners Act once the decision is made to hold the inquest and ceases at the conclusion of the inquest.[175] The common law right to possession of a dead body is thus subject to the coroner's statutory right. What is not clear, however, is what control the coroner retains over separated body parts or biological materials once the duty to hold an inquest has been discharged. The Coroners Act is silent on this question. Under the Coroners Rules, a person making a coroner's post-mortem examination can preserve material which bears upon the cause of death 'for such period as the coroner thinks fit.'[176] There is no legal requirement under either the Coroners Act or Rules to destroy the materials. Despite authorising the removal of bodily materials, the Coroners Act

---

174 Coroners Act 1988, s 8(1).

175 *R v Bristol Coroner; ex p Kerr* [1974] QB 652, 659.

176 Coroners Rules 1984, r 9.

does not classify removed materials as property. Instead, their legal status, and any rights attaching to them, remains undefined.

A second example of a statutory right to possession was located in the HTA 1961. This Act was passed with the intention of removing any doubt about the legitimacy of using removed body parts for medical education and research.[177] The HTA 2004 has repealed the HTA 1961. Under section 1 of the HTA 1961, where certain conditions were met, the 'person lawfully in possession' of the body of a deceased person could authorize the removal of its parts for therapeutic purposes, or for the purposes of medical education or research. The HTA 1961 extended to 'parts of the body', including biological materials. In most cases, the 'person lawfully in possession' was the hospital authority.

The HTA 1961 did not make clear whether 'lawfully in possession' had the same meaning as 'right to possession'.[178] Despite the ambiguity surrounding the term 'lawfully in possession', Dworkin and Kennedy note that the HTA 1961 provided 'little support for the existence of property rights in the cadaver, or parts of it: references are to persons "lawfully in possession" of the body'.[179] Once a body part was removed, the statute did not, however, confer legal protection for that possession. The HTA 1961 therefore created limited rights to possession and control in respect of cadavers and parts removed from them. The legislation did not create property rights to body parts following separation.

---

177 *Hansard* HC Deb vol 632 col 1232 (20 December 1960).

178 During the second reading debate the Minister for Health observed that defining who was 'lawfully in possession' was a difficult matter because 'in law there is no property in a dead body': *Hansard* HC Deb vol 632 col 1254 (20 December 1960).

179 G Dworkin and I Kennedy 'Human Tissue: Rights in the Body and its Parts' [1993] 1 Medical Law Review 291, 298.

4 Protection under Tort Law

Throughout the twentieth century some US state courts moved away from the notion of 'quasi-property' rights to a dead body, instead favouring the award of damages to the next-of-kin who had suffered emotional distress from the improper treatment of their relative's corpse.[180] One commentator has suggested that US common law now recognizes five distinct causes of action in tort in this area: (1) intentional infliction of emotional distress; (2) intentional mishandling of a dead body; (3) abuse of a dead body; (4) negligent infliction of emotional or mental distress; and (5) negligent or wrongful interference with a dead body.[181] The first three causes of action are similar and require the plaintiff to show outrageous, wilful or wanton conduct by the defendant. These requirements are not easily established.

The American Law Institute's *Second Restatement on Torts* (Restatement) purports to condense tort and quasi-property forms of action into a single cause of action in tort. It provides:

> [O]ne who intentionally, recklessly or negligently removes, withholds, mutilates or operates upon the body of a dead person or who prevents its proper interment or cremation is subject to liability to a member of the family who is entitled to disposition of the body.[182]

The commentary to the Restatement notes that the 'technical basis' of the cause of action is 'interference with the exclusive right of control of the body'.[183] Even

---

180 *Carney v Knollwood Cemetery Association* 514 NE 2d 430 (Ohio CA 1986).

181 R Nwabueze 'Biotechnology and the New Property Regime in Human Bodies and Body Parts' (2002) 24 Loyola of Los Angeles International and Comparative Law Review 19, 29.

182 American Law Institute *Second Restatement on the Law of Torts 2d* (American Law Institute Washington 1965) § 868; US Congress Office of Technology Assessment *New Developments in Biotechnology: Ownership of Human Tissue and Cells – Special Report* (US Government Printing Office Washington DC 1987) 73.

183 *Second Restatement on the Law of Torts 2d* (n 182 above) [868], [275].

though this right has been called a 'property' or 'quasi-property' right by certain courts, the Restatement notes that these rights do not easily fit within the law of property.[184] A tortious cause of action is based on a personal right rather than the property rights of the survivor. Under tort theory, damages reflect the emotional harm suffered by relatives instead of compensation for a forced transfer of property rights to a human body. In *Scarpaci v Milwaukee County*,[185] for example, the court observed that Wisconsin law clearly provides that the family of the deceased has a legally recognized right to entomb the deceased's remains with respect for his integrity and without mutilation.[186] The court held that the basis for recovery of damages should not be found in the property rights to a dead body, but in the personal right of the family of the deceased to bury the body.[187] Following this approach, the law should be concerned primarily with any improper actions and whether such actions caused emotional or physical harm to the surviving relatives.

Section 868 of the Restatement is not a statutory provision and does not therefore bind the courts. As a result, US courts still require plaintiffs to prove the requirements under the separate causes of action identified above. Courts have, for example, declined to follow section 868 in the context of organ donation.[188] Further, causes of action in tort are not without their difficulties. The major obstacle faced by plaintiffs is that in most cases courts have held that plaintiffs must have suffered physical harm or physical loss. That is why in America plaintiffs often have sought

---

184 *Second Restatement on the Law of Torts 2d* (n 182 above) [868], [275].

185 292 NW 2d 816 (Wisc SC 1980).

186 *Scarpaci* (n 185 above) 820.

187 *Scarpaci* (n 185 above) 820.

188 *Ramirez v Health Partners of S Ariz* 972 P2d 658 (Ariz App 1998) 665-667.

alternative recourse through the doctrine of quasi-property.[189] The quasi-property doctrine does not require the plaintiff to show wilful or wanton misconduct by the defendant or to establish physical or pecuniary loss.[190]

These developments in US tort law are nonetheless significant, and provide fertile ground for the future protection of non-proprietary interests in separated biological materials under English law. Part III returns to the potential development of a tort analogous to the American tort of intentional infliction of emotional distress.

5 Respect for Private and Family Life

A separate cause of action potentially exists under the Human Rights Act 1998 c 42, which incorporates the substantive rights provisions of the European Convention on Human Rights (ECHR)[191] into English law. Inter alia, article 8(1) of the ECHR provides that each individual has a right to respect for his or her private and family life. It is well established in ECtHR jurisprudence that the concept of 'private life' includes a person's physical and moral integrity.[192]

In English law, the protection potentially afforded by article 8 was addressed in *AB* in relation to the hypothetical factual matrix. The parties hoped that judicial guidance on the three issues of law raised by the factual matrix would assist in resolving the other claims entered on the NOGL group litigation register aside from the three lead cases. Gage J set out the factual matrix in his judgment:

---

189 *Carney* (n 180 above) 434.

190 R Rao 'Property, Privacy and the Human Body' (2000) 80 Boston University Law Review 359, 385-386.

191 Lord Hope observed in *Ex parte Kebliene* [2000] 2 AC 326 (HL) at 374 that: '[i]t is now plain that the incorporation of the European Convention on Human Rights into our domestic law will subject the entire legal system to a fundamental process of review and, where necessary, reform by the judiciary'.

192 *X and Y v Netherlands* [1985] 8 EHRR 235, [22].

The Factual Matrix

(i) A pathologist lawfully acquires in the context of a coroner's post-mortem and thereafter possesses a brain taken from a child. Neither the removal nor retention of the brain is known to the child's parents.

(ii) The child is buried before the fixing of the brain is completed.

(iii) The coronial purpose for which the brain was acquired and fixed then comes to an end.

(iv) Thereafter, and without recourse to the child's parents, the pathologist decides to use and uses the brain for a research project.

The Assumptions

(i) The decision to fix and/or the fixing of the child's brain prior to its use in the research project constitutes sufficient application of work or skill so as to render the brain capable of ownership.

(ii) The research project decided upon and undertaken by the pathologist is solely in the public interest.[193]

The parties asked the court to consider whether the decision to use the child's brain in the research project constituted an infringement of the ECHR article 8, being a right to respect for private and family life. Gage J held that article 8(1) applied and further, he considered that the research was unlikely to be capable of justification under article 8(2), even though he noted that each case will turn on its own facts.[194] Although such research may be in the public interest, it is difficult to argue that it is necessary for the protection of public health (a specific exception listed in article 8(2)). Article 8 may therefore provide further support for the recognition of non-proprietary interests in respect of separated biological materials from living persons as well as cadavers.

---

193 *AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS Trust* [2004] EWHC 644 (QB) [288]-[289].

194 *AB* (n 193 above) [298].

6 Summary

The common law has developed to protect non-proprietary interests over body parts that are removed from dead bodies. Examples in English and US common law illustrate how courts have employed terms such as 'right to possession' and 'quasi-property' in an attempt to describe the rights that arise from the duty to bury. These rights do not, however, protect property rights. Looking beneath the surface, these terms instead are used as an instrumental means to provide control over a human body. Conferring control is intended (at least in part) to ensure that the dignity of the deceased is respected, and the law appears to consider that this control is best allocated to those who are most closely connected to the deceased—the executor, next-of-kin and other family members. This thesis has suggested that it may be more appropriate, however, to refer to the right as being a right to 'custody' of the dead body for the purposes of burial.

E Conclusion

This chapter has focused on three key developments in the law. First, the starting point for the common law in England, Australia and America is the no property principle. The second development in English and Australian law is the creation of property rights under the work or skill exception. Fundamental questions about the nature and scope of the exception remain unsettled in English law.

The final section of this chapter considered a third development, namely the legal protection of non-proprietary interests. English, Australian and US jurisdictions all recognize the right of possession and associated duty of either the executor or next-of-kin to bury cadavers. Both rights and duties derive from a respect for human dignity and public notions of religion, health and decency. The chapter also

examined non-proprietary protection through the law of tort. In England a potential tort of wrongful interference was raised only very recently in *AB*, and awaits further judicial exploration. In the US by contrast, there is a more developed body of jurisprudence. One interesting analogy for English law, which is explored in Chapter 9, lies with the judicial authority supporting liability for the intentional infliction of emotional distress.

The question still remaining is whether physical transformation of body parts or biological materials by work or skill is the only circumstance that can create property rights, or whether any other circumstances might create property rights. Importantly, common law decisions applying the work or skill exception have been careful to leave open the question of whether bodily materials separated from a living person must be transformed in some way in order for the law of property to attach. In *Kelly*, Rose LJ specifically indicated that the application of work or skill may not be necessary to create property rights.

Having examined the law pertaining to dead bodies and parts separated from them, the next chapter moves on to assess how the common law and statutory regimes in England, Australia and the US have addressed the increasingly significant question of what property rights the law recognizes to bodily materials removed from living persons.

CHAPTER 5

LIVING BODY

A INTRODUCTION

Chapter 5 is concerned with the property rights and non-proprietary interests that the law has employed to protect bodily materials separated from a living person. German law recognizes that property rights to bodily materials are allocated to the living person from whom those materials are removed.[1] The picture is different in the common law world. As Laurie observes: 'while property rights are routinely granted in respect of human material, this is usually done to the exclusion of the one person who is central to the entire enterprise, namely, the individual from whom the material is taken'.[2]

This chapter is divided into four sections. It commences by considering the legal status of slaves in English law. Next, it examines and critiques the common law authority that has explicitly rejected an individual's property rights to separated biological materials. Although some statutes and common law decisions appear to

---

1 *Bürgerliches Gesetzbuch* (BGB) (German Civil Code) § 90 and *Strafgesetzbuch* (StGB) (German Criminal Code) § 242. Section 90 of the BGB provides that only tangible objects can be 'things' and therefore the subject of property rights for the purposes of the BGB. It is accepted by commentaries on the BGB and the German Federal Court of Justice that separated bodily materials are 'things' for the purposes of the BGB: HC Jaurnig (ed) *Kommentar zum StgB/BGB* (Verlag Beck München 2004) § 90/242, 33 and BGHZ 1994, 124 (German Federal Court of Justice) 53. Further, section 242 of the StGB provides that theft is committed when a 'thing' belonging to another is taken with the intention of appropriating it, which would include separated bodily materials. For an academic discussion of the position in German law see: G Nitz and C Dierks 'Research Involving Substances Taken from the Human Body: When is the Consent of the Person from Whom They Are Removed Required?' (2002) 8 Medical Review 400, 401 (copy on file with author).

2 G Laurie *Genetic Privacy* (CUP Cambridge 2002) 304.

recognize property rights to separated bodily materials, they do not represent a coherent body of jurisprudence. The third section, therefore, attempts to discern principles that have been developed by legislatures and the courts to recognize property rights in this context. In conclusion, the final section explores non-proprietary interests recognized by the law.

B SLAVERY

The starting point for any analysis of the common law in respect of living persons lies with the legal treatment of slaves—the first context in which the question of property rights and a living person arose. In legal systems where slavery was historically lawful, slaves were considered to be chattels and not legal persons.[3] Slaves were, in this way, the object of property rights. As Salmond observed: '[l]ike cattle, they [slaves] are things and the object of rights; not persons and the subject of them'.[4] There are very few cases addressing slavery in English law. *Gregson v Gilbert*[5] concerned the pushing overboard of slaves from a ship that was running short of water. In that case, Solicitor-General Lee noted that 'a portion of our fellow-creatures may become the subject of property. This, therefore, was a throwing overboard of goods'.[6] The question for the court was whether there was sufficient necessity for the act. Lord Mansfield did not adopt the statement by Solicitor-General Lee directly, but arguably he did so indirectly by proceeding to address the necessity defence.

---

3 In Roman law slaves were classified as things and could be bought and sold. A slave was termed *servilis persona* and in Roman law the slave was as the 'subject of a right residing in his master (not against himself, but against third persons)': R Campbell (ed) J Austin *Austin's Lectures on Jurisprudence or the Philosophy of Positive Law* (5th edn Murray London 1885) vol 1, 387.

4 JW Salmond *Jurisprudence* (Stevens & Haynes London 1902) 334.

5 *Gregson v Gilbert* (1783) 3 Dougl 232; 99 ER 629.

6 *Gregson* (n 5 above) 233; 629-630.

The classification of slaves as property disappeared with *Sommersett's Case*,[7] where the court held that the English tradition of habeas corpus meant that a slave being stored in England (awaiting sale overseas) should be set free.[8] Later statutory intervention prohibited ownership of living persons as property.[9] Therefore, although early common law considered that slaves could be regarded as chattels, English law moved to recognize that a living person should not be considered property. As the rest of this chapter demonstrates, this fundamental premise has indelibly influenced the development of the law concerning separated bodily materials.

C REJECTION OF PROPERTY RIGHTS

In the common law world to date, only US courts have been required to consider directly whether a living person can claim property rights in separated biological materials. English and Australian courts have yet to address this difficult question. This section critically analyses the US authorities.

1 *Moore v Regents of the University of California*

Moore v Regents of the University of California[10] is the most well-known common law decision concerning property rights and human biological materials. *Moore* is often taken as the starting point for consideration of the legal status of human biological materials by law reform bodies[11] and academic commentaries in England, Australia

---

7 (1772) Loft 1; 98 ER 499.

8 *Sommersett* (n 7 above) 19; 510.

9 This process began in 1807 with the banning of the African slave trade (47 Geo III c 36). It was completed in 1834 (3 & 4 Will IV c 73, s 12).

10 249 Cal Rptr 494 (Cal App 1988) (*Moore* CA) and 793 P 2d 479 (Cal SC 1990) (*Moore* SC).

11 Nuffield Council on Bioethics *Human Tissue: Ethical and Legal Issues* (Nuffield Council on Bioethics London 1995) [9.12].

and the US.[12] This is because *Moore* was the first (and remains the principal) common law authority to have considered whether a living person can claim property rights to separated biological materials. This thesis does not intend to analyse the broad spectrum of secondary sources discussing *Moore*. Instead, the secondary resources are noted where relevant to illustrate the impact and influence of the decision. It is the judgments in the *Moore* case itself that warrant detailed consideration.

The case involved an action brought by John Moore against five defendants: (1) Dr David Golde; (2) the Regents of the University of California; (3) Shirley Quan; (4) Genetics Institute Inc; and (5) Sandoz Pharmaceuticals Corporation and related entities. In 1976, Moore visited the Medical Centre of the University of California (UCLA Medical Centre) after learning that he had leukaemia. His physician, Golde, confirmed the diagnosis and recommended the removal of Moore's spleen. Moore signed a written consent form authorizing the splenectomy, but at no stage did Golde seek Moore's consent or inform Moore of his intention to conduct further research on the spleen. Moore's spleen was removed and, over the next seven years, Moore returned to the UCLA Medical Centre to provide samples of blood, blood serum, skin and bone marrow aspirate.

Throughout this period, Golde and Quan conducted research on Moore's T-lymphocyte cells. Moore's T-lymphocytes were valuable because they overproduced certain lymphokines, making the corresponding genetic material easier to identify. One of Golde and Quan's objectives was to establish a cell-line from Moore's T-lymphocytes. Although the researchers had access to Moore's primary cells, the cells

---

12 B Dickens 'Donation and Transplantation of Organs and Tissues' in A Grubb (ed) *Principles of Medical Law* (2nd edn OUP Oxford 2004) 1036 (England); RS Magnusson 'Proprietary Rights in Human Tissue' in N Palmer and E McKendrick (eds) *Interests in Goods* (2nd edn LLP London 1998) 50 (Australia); R Gold 'Owning Our Bodies: An Examination of Property Law and Biotechnology' (1995) 32 San Diego Law Review 1167, 1169 (United States).

usually died after a few days. By 1979, however, they had developed Moore's primary cells into a cell-line. A great potential economic value lay in the process that they developed to produce the cell-line and in 1984 the Regents were granted a patent. The patent included methods for using the cell-line to produce lymphokines, and it was subsequently estimated that the cell-line had a commercial value of US$3 billion dollars over a six-year period.[13] The Regents then entered into a series of commercial agreements with Genetic Institute and Sandoz conferring rights to the cell-line and its products. It was not until 1983 that Moore was asked to sign a consent form in respect of the continuing research, which he refused to do. The consent form is set out in the Court of Appeal's judgment,[14] and although it is primarily concerned with the use of body products, there was a clause referring to 'rights' in any cell-lines and other products developed which asked the patient voluntarily to grant these rights to the Regents.

Moore brought proceedings against the five defendants stating thirteen causes of action, including an action for breach of fiduciary duty and for the tort of conversion (for the appropriation of Moore's property rights in his spleen). The conversion claim was brought against all the defendants, and the Superior Court only considered the validity of the conversion cause of action. Demurrers were sustained by the Superior Court and Moore appealed to the Californian Court of Appeal. A majority of the Court of Appeal (Rothman AJ and Woods PJ) held that Moore had property rights in his excised organ sufficient to maintain the cause of

---

13 *Moore* SC (n 10 above) 482.

14 *Moore* CA (n 10 above) 531–2.

action for conversion.[15] Rothman AJ delivered the majority opinion and George AJ dissented.

The majority opinion commenced by defining conversion as 'a distinct act of dominion wrongfully exerted over another's personal property'.[16] On the facts, the majority judges considered that the plaintiff's spleen was something over which the plaintiff enjoyed unrestricted rights of use, control and disposal. These rights, they held, were proprietary. They drew on three sources to support their view. First, they cited *Venner v State of Maryland*,[17] where rights of ownership and control over waste products were considered proprietary.[18] Second, they cited cases establishing a limited property interest over dead bodies for the purposes of burial.[19] Third, they noted statutes and cases establishing property rights over the use of a deceased's corneas.[20] These strands of authority, the majority claimed, all rested on the assumption of a general proprietary right: that individuals have the ultimate right of control over their bodies.[21]

The majority acknowledged that policy considerations regarding the impact on medical research were the major obstacle to the recognition of an individual's property rights in his or her own body. The majority concluded, however, that there was no reason to suggest that medical research would suffer by requiring the consent of the donor.[22]

---

15 *Moore* CA (n 10 above) 503.

16 *Moore* CA (n 10 above) 503.

17 554 A 2d 483 (Md App 1976).

18 *Moore* CA (n 10 above) 505.

19 *Moore* CA (n 10 above) 506.

20 *Moore* CA (n 10 above) 506.

21 *Moore* CA (n 10 above) 503

22 *Moore* CA (n 10 above) 508.

Although the majority considered that the plaintiff had a right of control and hence a proprietary right in his bodily materials, their reasoning is unpersuasive. They failed to link this right of control with traditional notions of property. They did not explicitly identify what underlying individual interest justified the creation of property rights. At one point, the majority indicated that such recognition stemmed from the right to privacy. Thus, Rothman AJ observed that, if patients could not control what happened to tissues removed from them, it would open the 'door to a massive invasion of privacy'.[23] Notwithstanding this assertion, the majority of the Court of Appeal did not address in any detail the role of privacy as a justification for property rights.

On appeal, a majority of the Californian Supreme Court (Lucas CJ, Panelli, Eagleson, Kennard, and Arabian JJ) reversed the decision of the Court of Appeal. Broussard and Mosk JJ dissented. The majority held that, although Moore had a cause of action for Golde's failure to obtain his informed consent, he did not have a cause of action in the tort of conversion. At the outset, the majority noted that no court had used the tort of conversion before in relation to human cells in medical research.[24] As a result, they asked two questions: (1) did the tort of conversion give Moore a cause of action under existing law? and (2) if not, would an extension of the tort of conversion be justified?

For Moore to succeed under existing law, the majority stated that he must have retained an ownership interest in his cells following their removal. But they did not consider that Moore had retained any ownership interest, because laws governing

---

23 *Moore* CA (n 10 above) 508.

24 *Moore* SC (n 10 above) 487.

such things as biological materials dealt with these materials as *sui generis*.[25] Furthermore, they held that California statutory law limited any continuing interest of patients in their cells. To this end, they referred to section 7054.4 of the Health and Safety Code, which provided for the destruction of samples following scientific use.[26]

The majority also specifically considered Moore's claim to the patented cell-line and products derived from it. They opined that the cell-line was both factually and legally distinct from the cells taken from Moore's body.[27] In addition, they held that Moore's claim over the cell-line was inconsistent with the patent, which constituted an authoritative determination that the cell-line was the product of invention.

The majority's analysis is unconvincing. Even if a statutory regime strips away some proprietary characteristics, it does not necessarily follow that any remaining right is not of a proprietary character. Legislation often imposes limits and restrictions over proprietary rights, such as in the case of planning laws. Moreover, the claim that the cell-line was legally distinct because it was the subject of a patent is misguided. Moore's claim was directed to the conversion of his biological materials prior to the grant of the patent. To this end, Mosk J observed in dissent that, if Moore did have property rights in his cells, then the patenting of them would not alter his property rights.[28]

Next, the majority addressed the second question as to whether conversion liability should be extended. They gave three reasons as to why it would be inappropriate. First, a balancing of policy considerations did not support extending

---

25 *Moore* SC (n 10 above) 489.

26 *Moore* SC (n 10 above) 491.

27 *Moore* SC (n 10 above) 492.

28 *Moore* SC (n 10 above) 511.

the tort.[29] Second, it was more appropriate for legislative intervention, not judicial extension.[30] Third, the tort was not necessary to protect patients' rights.[31] The judgment made clear that, of these three reasons, policy considerations were the majority's greatest concern.[32] On the one hand, they recognized the need to protect the right of patients to make autonomous medical decisions. They considered this right to be grounded in the longstanding principles of fiduciary duty and informed consent. In contrast, the threat of 'civil liability' and the hindering of research weighed heavily against such a remedy.[33] They noted that such research could be hindered both by reducing the volume of biological materials available and by destroying the economic incentive to conduct medical research.[34] The majority held that a balancing exercise was answered by existing disclosure obligations. Those obligations adequately protected patients' privacy rights without hindering research.[35]

Again, however, the majority's reasoning is questionable. The tenor of their judgment appears to advocate that the law should protect and enhance the development of medical research because of its social utility, at the expense of prioritising the protection of individual rights. They considered individual rights to be adequately protected by the doctrines of fiduciary duty and informed consent. Yet this approach fails to recognize that these doctrines are concerned with the scope and nature of a doctor's duty of care in treating the patient. They are not concerned

---

29 *Moore* SC (n 10 above) 493.

30 *Moore* SC (n 10 above) 493.

31 *Moore* SC (n 10 above) 493.

32 *Moore* SC (n 10 above) 494.

33 *Moore* SC (n 10 above) 493.

34 *Moore* SC (n 10 above) 494.

35 *Moore* SC (n 10 above) 494.

with the use of biological materials after the treatment is finished. For example, to discharge his or her duty of care, the concept of informed consent requires the doctor to inform the patient of the nature and extent of risks associated with a particular procedure. The duty does not impose a requirement to inform the patient of the subsequent uses of any separated biological materials.

The majority's other broad concern was essentially economic and looked to the profit derived from the research. The majority asserted initially, without citing any supporting empirical evidence, that the volume of biological materials available for research would be reduced. In so doing, they seemed to ignore the possibility that granting individual property rights might simply result in the need to obtain a patient's consent.[36] The majority also asserted that recognizing individual property rights would dramatically reduce the economic incentive to conduct medical research. This argument does not consider, however, the possibility that researcher and patient might share the economic benefits. For example, disclosure to a patient that economic benefits might follow, coupled with an offer of a 10 percent share, would potentially increase the availability of materials. Instead, the majority argued that a reduction in economic incentives would follow because of the need to share profits with patients and the uncertainty over title to biological materials once the researcher took possession of them.

Empirical research conducted since *Moore* suggests that it is not clear what impact recognizing a source's property rights would have on the supply of biological

---

36 For an argument that the recognition of property rights may in fact increase patient participation see: DM Gitter 'Ownership of Human Tissue: A Proposal for Federal Recognition of Human Research Participants' Property Rights in Their Biological Material' (2004) 61 Washington and Lee Law Review 257, 315.

materials.[37] One legislative development appears to support the majority's claim. In 1995 Oregon was the first US state to grant property rights to individuals in respect of separated biological materials.[38] However, the Oregon legislature amended the law in 2001 to specify that biological materials are not property. Instead, the amended legislation stipulates that biological materials and information are private and must be protected.[39] The law was amended because of the perceived potential threat to medical research.[40]

In *Moore,* Broussard J dissented in part. Although he accepted the majority's conclusion in respect of the breach of fiduciary duty, he held that Moore had a cause of action for conversion. In critically analysing the majority judges' reasoning, he observed that they left open the question of whether a removed body part could be classified as property.[41] Broussard J noted that 'the majority's analysis ... rests on the proposition that a patient retains no ownership interest in a body part once the body part has been removed from his or her body'.[42] Broussard J concluded that patients retained a right to control separated biological materials and that this right to control should be protected by the law of conversion.[43]

Mosk J also dissented and delivered a forceful opinion rejecting the majority's two conclusions. First, he addressed the claim that Moore had no cause of action

---

37 Medical Research Council *Human Tissue and Biological Samples for Use in Research* (London November 1999) [2.4]; Australian Law Reform Commission *Protection of Human Genetic Information* (ALRC DP 66 Australian Government Publishing Service Canberra August 2002) [17.36]-[17.37].

38 Oregon Genetic Privacy Act 1995 § 4(1).

39 Altered by Senate Bill 114 of 2001 § 15.

40 A Onion 'Should You Own Your Own Genes' ABC News (US) <http://www.ukabcnews.go.com/sections/News/ geneprivacy.html> (10 May 2001).

41 *Moore* SC (n 10 above) 501.

42 *Moore* SC (n 10 above) 501.

43 *Moore* SC (n 10 above) 506.

because he did not retain an 'ownership' interest in his cells following their removal from his body. Mosk J pointed out that common law authority neither supported nor rejected the claim.[44] Next, Mosk J considered section 7054.4 of the Health and Safety Code and concluded that it did not authorize the commercial exploitation of Moore's biological materials.[45] Even if it did permit such exploitation, Mosk J asserted that it had not stripped away the proprietary nature of the materials. He observed that the concept of property referred to a 'bundle of rights' including the rights to possess, use, exclude others and dispose of things by way of sale or gift.[46] Ultimately, Mosk J held that, even if section 7054.4 limited Moore's use and disposal of his biological materials, he retained property rights to them.[47]

Second, Mosk J attacked the majority's claim that Moore had no property rights because the cell-line was factually and legally distinct from Moore's original cells. He maintained that it was irrelevant whether or not the cell-line was factually distinct, for the legal issue at stake was whether Moore's original biological materials were property.[48] Mosk J attacked the majority's claim that the patent settled the question. Instead, he observed that the relevant question for the court was the legal status of the cells at the moment when they were removed from Moore's body.[49]

Third, Mosk J tackled the majority's claim that the conversion cause of action should not be extended. He observed that the majority's principal policy objection was the potential 'disabling civil liability' for researchers.[50] In Mosk J's view, it did

---

44 *Moore* SC (n 10 above) 508.

45 *Moore* SC (n 10 above) 508.

46 *Moore* SC (n 10 above) 509.

47 *Moore* SC (n 10 above) 510.

48 *Moore* SC (n 10 above) 511.

49 *Moore* SC (n 10 above) 511.

50 *Moore* SC (n 10 above) 513.

not follow that the application of the law of conversion would hinder research. He noted that medical research had become commercialized, with a resulting decline in the free access to materials that researchers traditionally enjoyed.[51] Challenging the majority's position, Mosk J outlined two policy considerations promoting recognition of an individual's property rights.[52] The first concerned the dignity of the human body, which is undermined when researchers are permitted to further their own interests without the patient's participation. The second concerned how notions of fairness militate against one member of society profiting at the expense of another. In Mosk J's view, these considerations justified extending the conversion cause of action. Mosk J therefore provided forceful objections to the majority judgment. Regrettably, he did not consider in any detail the question of why property rights are created following the separation of biological materials.

Analysis of the various *Moore* judgments thereby reveals that both the Court of Appeal and the Supreme Court failed to adequately address the question of an individual's property rights to separated biological materials. This is unfortunate, particularly in the light of the weight that the decision is accorded in other common law countries. The majority of the Supreme Court, which denied the property rights, effectively sidestepped the fundamental question, basing their judgment almost entirely on policy analysis.

---

51 *Moore* SC (n 10 above) 513.

52 *Moore* SC (n 10 above) 515.

2 *Greenberg v Miami Children's Hospital*

Greenberg v Miami Children's Hospital Research Institute[53] is the only subsequent US case which has considered *Moore* in any detail. The *Greenberg* proceedings were brought by the parents of children affected by Canavan disease against researchers who developed and patented a test for the disorder. Canavan disease is a relatively rare, but always fatal, inherited degenerative brain disorder. In 1987, the plaintiffs approached a research physician, Dr Matalon, and requested his involvement in discovering the genes responsible for the disease so that tests could be administered to determine carriers. Over a number of years the plaintiffs located other Canavan families and convinced them to provide biological materials, familial information and financial support. The plaintiffs alleged that they had participated on the understanding that any prenatal testing would be provided on an affordable and accessible basis. Utilizing the biological materials, Dr Matalon isolated the gene responsible for the Canavan disease. Following successful trials, a test for the disease was developed to which the defendants sought to restrict access to the patented test. The plaintiffs claimed they were never informed that the defendants intended to seek a patent on the research products.

Proceedings were initiated by the plaintiffs claiming: (1) lack of informed consent; (2) breach of fiduciary duty; (3) unjust enrichment; (4) fraudulent concealment; (5) conversion; and (6) misappropriation of trade secrets. The conversion claim alleged that the '[p]laintiff research subjects had a property interest in their blood, tissue, urine and autopsy samples and those of their minor children,

---

53 264 F Supp 2d 1064 (US DC Florida 2003). Although the case was initially filed in the US District Court for the Northern District of Illinois, it was transferred to the US District Court for the Southern District of Florida on 8 July 2002.

and in the genetic information contained therein'.[54] In response, the defendants brought a motion to strike out the entire proceedings.

Moreno J of the Federal District Court of Florida struck out all causes of action, except the unjust enrichment claim. He considered that the plaintiffs' financial contributions were sufficient to plead a cause of action in unjust enrichment.[55] The conversion claim was dismissed, and Moreno J held that the plaintiffs did not have property rights in either the biological materials or genetic information.[56] The judgment drew heavily on the reasoning of the *Moore* Supreme Court majority, and Moreno J presented three justifications to dismiss the conversion claim. First, he applied *Moore* and held that an individual could not sustain a claim in conversion because a donor had no property rights once a donation had been made. For Moreno J 'the property right in blood and tissue samples ... evaporates once the sample is voluntarily given to a third party'.[57] This line of reasoning appears to start from the premise that an individual possesses innate property rights to his or her biological materials. On their donation, the rights are transferred to the third party recipient. The unresolved legal issue then becomes a question of fact in each case as to whether or not the property rights of each source are transferred to the defendants by the donation. Moreno J did not explore the transfer of the property rights in any detail. Rather, he instead assumed that a transfer occurred because the materials were voluntarily donated.

Moreno J's conclusion does not necessarily follow. For instance, the plaintiffs may have donated their biological materials for a specific purpose. Thus, in

---

54 ND Illinois Oct 30 2000 (No OOC 6779) (copy on file with author) 21.

55 *Greenberg* (n 53 above) 1073.

56 *Greenberg* (n 53 above) 1076.

57 *Greenberg* (n 53 above) 1075.

Greenberg, the plaintiffs alleged that the materials were donated for the purpose of discovering the gene responsible for Canavan disease and not for the purpose of developing a commercially patentable test. Arguably, in such circumstances there is not a complete transfer of the source's property rights. Rather, the donation of biological materials may be better characterized as a conditional gift or bailment. A conditional gift is one made on condition that it be used (or not used) in a particular way. An example is where the ownership of a chattel may be transferred to the donee, but revert to the donor should specified events occur.[58] A bailment is defined as a 'possessory relationship by which a bailor transfers possession of a chattel to a bailee'.[59] Where there is no contract, the rights and duties of the bailor and the bailee may be defined according to the law of torts.[60] If the defendants in *Greenberg* acted inconsistently with the terms of the conditional gift or bailment an action would lie. Moreno J did not consider either of these characterizations. The potential applicability of the doctrines of conditional gifts and bailment to separated biological materials is explored further in Part III.

Second, Moreno J opined that the patented research was factually and legally distinct from separated biological materials.[61] Criticism of the *Moore* Supreme Court majority's reasoning, outlined above, can also be levelled at this justification. The conversion claim relates to the original biological materials, not to the subsequent developed materials and patent. The relevant question for Moreno J was the legal

---

58 R Chambers 'Conditional Gifts' in N Palmer and E McKendrick (eds) *Interests in Goods* (2nd edn LLP London 1998) 430.

59 M Bridge *Personal Property Law* (3rd edn OUP Oxford 2002) 33.

60 N Palmer *Bailment* (2nd edn Sweet & Maxwell London 1991) 44-45.

61 *Greenberg* (n 53 above) 1074-1075.

status of the biological materials at the moment when they were removed from the children's bodies.

Finally, Moreno J emphasized the potential impact of the recognition of property rights on medical research and concluded that recognizing such property rights 'would cripple medical research as it would bestow a continuing right for donors to possess the results of any research conducted by the hospital'.[62] This justification is inconsistent with his earlier reasoning that sources abandon their property rights once their biological materials are donated to medical research. In any event, Moreno J's concern for medical research is open to the same criticism as was directed above at the Supreme Court majority's position in *Moore*: no consideration was given to the possibility that researcher and patient might share the economic benefits.

Taking the above objections into account, the three justifications advanced by Moreno J are therefore unpersuasive. Each justification exposes legal ambiguities requiring further consideration. Unfortunately, these questions will not be tested in a higher court because the *Greenberg* proceedings were settled out of court.[63]

3 Summary

Both *Moore* and *Greenberg* rejected the proposition that a living person can claim property rights to separated biological materials. Neither case, however, adequately addressed the more fundamental question as to why a living person cannot claim property rights. Instead, the judgments focused on policy analysis. This thesis

---

62 *Greenberg* (n 53 above) 1076.

63 The terms of the settlement are confidential, although a press release states that the settlement has provided for royalty-based genetic testing by licensed laboratories and royalty-free research by institutions and scientists researching for a cure: http://www.canavanfoundation.org/news/09-03_miami.php (accessed 23 September 2004).

contends that policy analysis is not the first enquiry that should be undertaken. Rather, the first question asked should be whether, prima facie, property rights are created when biological materials are separated from a living person. Once this question is determined, then policy-based issues can be properly considered. Courts in England and Australia have similarly not been required to address this first-level question. Hence, it is still an open question in English law as to whether property rights are created following the separated of biological materials.

D PROPERTY RIGHTS

Despite the pervading influence of *Moore*, there are suggestions in statute and at common law that separated bodily materials can be classified as property. This section sets out the statutory regimes and common law cases that arguably invoke property rights. The analysis is structured around the different types of bodily materials that are separated from a living person: (1) biological materials; (2) cell-lines; (3) organs; (4) gametes; (5) hair clippings; and (6) waste products.

1 Biological Materials

(a) Statute

At present, there is no legislation in England that specifically determines the legal status or allocation of property rights in relation to biological materials. Chapter 6 analyses in detail the effect of the most recent legislative development—the Human Tissue Act 2004 c 30 (HTA 2004). Some commentators have suggested that section 25 of the National Health Service Act 1977 c 49, which provides for the supply and disposal of blood in the National Health Service, is based 'upon an implicit adoption

of the property approach'.[64] This is a weak inference to draw, however, and cannot be invoked as legislative endorsement of a proprietary classification of blood.

In considering English statute law, two European instruments also warrant examination. Under the EU Council Directive on the Legal Protection of Biotechnological Inventions (Biotech Directive)[65]—which has been implemented in English law[66]—isolated DNA may be patentable in specified circumstances, even if the material is structurally identical to material found in nature. Thus the act of isolating biological materials from their surroundings, or producing them in an artificial way, is sufficient to place the materials so isolated or so produced within the realm of inventions. No reference is made in the Biotech Directive to any interests that individuals may have in biological materials obtained from them. Instead, the Biotech Directive provides that researchers are obligated to ensure that all human donors of biological materials provide fully informed consent to the removal of such materials.[67] The recitals to the Biotech Directive do not address the legal status of biological materials or whether property rights exist in respect of them.

More recently, EU Member States agreed to the implementation of a common regulatory framework (again, set out in a Council Directive) to ensure the safety of cells and tissues that are transplanted into, or onto, the human body (Tissue Directive).[68] Although the use of organs raises similar issues, they are excluded from

---

64 I Kennedy and A Grubb *Medical Law* (3rd edn Butterworths London 2000) 1809.

65 Council Directive 98/44 of 6 July 1998 on the Legal Protection of Biotechnological Inventions [Legal Protection of Biotechnological Inventions] [1998] OJL No L213.

66 Patents Regulations 2000 (SI 2000/2037).

67 Council Directive 98/44 (n 65 above) recital 26.

68 Council Directive 2004/23 on Setting Standards of Quality and Safety of the Donation, Procurement, Testing, Processing, Preservation, Storage and Distribution of Human Tissues and Cells [2004] OJ L102/48.

the Tissue Directive.[69] In broad terms, donated and processed biological materials must be tested for infection. Donors are required to undergo a medical examination prior to donation. The Directive also stipulates that donors should not be paid, but this is for reasons of safety rather than ethics.[70] The Tissue Directive establishes that the consent of each donor is required for the use of biological materials.[71] It does not, however, make any determination as to the legal status of biological materials.

Similarly, Australian legislative regimes do not make any determination as to the legal status of biological materials, but instead require an individual's consent for the donation of regenerative tissue.[72] Regenerative tissue is defined as any tissue that can be replaced by the body after removal.[73]

A different position with regards to the statutory recognition of property rights to separated biological materials is found in the US. Various legislatures in the US have considered allocating individuals property rights to biological materials removed from them. In 1995, a model statutory instrument—section 104 (a) of the Genetic Privacy Act (GPA)[74]—was proposed to recognize individual property rights to such materials. Section 104(a) provided that an individually identifiable DNA

---

69 Council Directive 2004/23 (n 68 above) recital 9.

70 Council Directive 2004/23 (n 68 above) recitals 18 and 19.

71 Council Directive 2004/23 (n 68 above) art 13.

72 Human Tissue Act 1983 (NSW) ss 7, 9, 12; Transplantation and Anatomy Act 1979 (Qld) ss 10, 12, 13; Transplantation and Anatomy Act 1983 (SA) ss 9, 15; Human Tissue Act 1985 (Tas) ss 7, 9, 14; Human Tissue Act 1982 (Vic) ss 7, 9, 10; Human Tissue and Transplant Act 1982 (WA) ss 8, 15; Transplantation and Anatomy Act 1978 (ACT) ss 8, 10, 15; Human Tissue Transplant Act 1979 (NT) ss 8, 10, 11.

73 Human Tissue Act 1983 (NSW) s 4(1); Transplantation and Anatomy Act 1979 (Qld) s 5(1); Transplantation and Anatomy Act 1983 (SA) s 5(1); Human Tissue Act 1985 (Tas) s 3(1); Human Tissue Act 1982 (Vic) s 3(1); Human Tissue and Transplant Act 1982 (WA) s 3(1); Human Tissue Transplant Act 1979 (NT) s 4(1); Transplantation and Anatomy Act 1978 (ACT) s 4(1); Human Tissue Transplant Act 1979 (NT) s 4(1).

74 This is a Model Bill and has not passed through the US Congress: P Roche, L Glantz and G Annas 'The Genetic Privacy Act: A Proposal for National Legislation' (1996) 31 Jurimetrics 1, 1.

sample is the property of its source. The US Congress introduced a version of the GPA in 1995. But, although it identified a DNA sample as property, it did not assign those property rights to anyone,[75] and was never enacted.[76] This chapter has already referred to the Oregon legislation, which provided an example of a statutory creation of individual property rights.[77]

Some US states have also sought to protect the use of genetic information by declaring an individual's genetic information to be his or her own personal property.[78] These legislative enactments have a different focus: they create property rights in the information once it has been extracted from the biological materials. For example, the relevant Colorado statute provides that: '[g]enetic information is the unique property of the individual to whom the information pertains'.[79] One construction of the Colorado statute presupposes that biological materials are also the personal property of the individual. This is not, however, a persuasive interpretation of the statute because on its terms the legislation does not regulate the physical materials, but instead only the extracted genetic information.

(b) Common Law

There is limited English common law authority considering the legal status of biological materials. In *R v Rothery*,[80] the defendant was charged with theft after he

---

75 For a discussion of this Federal Bill see: MJ Lin 'Conferring a Federal Property Right in Genetic Material: Stepping into the Future with the Genetic Privacy Act' (1996) 22 American Journal of Law and Medicine 109.

76 Genetic Non Discrimination and Confidentiality Bill (Bill No S422, introduced 11 March 1997).

77 Oregon Genetic Privacy Act 1995, § 4(1).

78 Florida (Florida Statutes Title XLIV Chapter 760 § 760.40); Georgia (Code § 33-54-1); Louisiana (Acts No 1418 § 213.7); Colorado (Colorado Statutes § 10-31104.7).

79 Colorado Statutes, § 10-31104.7.

80 [1976] RTR 550 (CA).

removed a blood sample contained in a capsule from a police station.[81] At trial, he was convicted of theft and the statutory offence under section 9(3) of the Road Traffic Act 1972 of failing to supply a specimen. On appeal, the court was asked to determine whether the defendant should have been charged with the statutory offence. In considering the statutory offence, Scarman LJ observed that 'he must have provided the police officer with the specimen in the sense of putting him in possession or control of it, otherwise he could not have stolen it from him under section 5(1) of the Theft Act 1968'.[82] As a result, Scarman LJ quashed the conviction for the statutory offence.

There are two possible interpretations of the legal status that Scarman LJ implicitly accorded to the blood sample. Although he did not openly hold that the blood specimen was property, his language arguably suggests that it did constitute property capable of being stolen. On the other hand, the description of the charge suggests that it was the theft of the 'capsule' that the court proceeded to discuss, rather than its contents per se. If this latter view is correct, then there was no need for Scarman LJ to consider whether the blood itself could be property. The lack of clarity, though, suggests that the case is not strong authority for either interpretation.

Similarly, there is limited common law authority on this matter in Australia. In 1977, the Australian Law Reform Commission concluded in its *Human Tissue Transplants Report* that the common law was silent on the legal status of biological materials.[83] More recently, in 2003 the Australian Law Reform Commission released *Essentially Yours: The Protection of Human Genetic Information* and noted that 'the

---

81 *Rothery* (n 80 above) 553.

82 *Rothery* (n 80 above) 552–553.

83 Australian Law Reform Commission *Human Tissue Transplants* (ALRC 7 Australian Government Publishing Service Canberra 1977) 7.

common law position on property rights in human tissue samples is not well developed, and there is no clear judicial statement on the issue'.[84]

The most extensive judicial discussion in Australian common law is that of a Master of the Western Australian Supreme Court in *Roche v Douglas*.[85] In that case, the plaintiff brought an action under the provisions of the Inheritance (Family and Dependants Provision) Act 1972 (WA) relating to the will of Edward Rowan (deceased). The deceased died in 1999 and the plaintiff claimed that her natural father was the deceased and that she was, therefore, entitled to make a claim under section 7(1)(c) of the Inheritance Act. The executor of the will (defendant) denied the claim.

The deceased had undergone surgery at a hospital and certain biological materials were taken from him and preserved and held at a pathology laboratory. The plaintiff sought a court order seeking access to them so that she could submit them for DNA (parentage) testing. Order 52 r 3(1) of the Supreme Court Rules 1971 (WA) provides that a court may order the taking of a sample of property to make a proper determination of a cause of action. The defendant argued, however, that the samples in question were not 'property', and so no order could be made under the Supreme Court Rules.

The central issue in *Roche* was whether the biological materials could be classified as property. Ultimately, Master Sanderson concluded that they were property. He considered that the line of authority establishing the no property principle in respect of cadavers did not assist the court. Instead, he drew on Griffith

---

84 Australian Law Reform Commission *Essentially Yours: The Protection of Human Genetic Information* (ALRC 96 Australian Government Publishing Service Canberra 2003) [20.10].

85 (2000) 22 WAR 331 (WA SC).

CJ's observation in *Doodeward v Spence*[86] regarding the necessity to apply principles of law in line with reason and good sense. On the facts, he considered that there was a compelling reason to classify the materials as property, namely savings in time and cost.[87] Further, he considered that there was no logical justification to ignore their physical presence.[88] To do otherwise, he opined, would 'create a legal fiction'.[89]

Roche is not strong authority, for it is a decision of a Master of the Supreme Court at a preliminary hearing. Perhaps more significantly, the question of title was left unanswered, as the Supreme Court Rules did not require an order as to ownership of the property.[90] Indeed, Master Sanderson noted that property rights might have been allocated to the defendant, the hospital or the laboratory. In the event, Master Sanderson made the order against the laboratory as the party in possession of the materials.

Despite the relatively weak analysis contained in both *Rothery* and *Roche*, these cases do support the classification of separated biological materials as property which is not dependent on the application of work or skill. Instead, the classification rests on the detachment of the biological materials. The act of detachment itself may offer a second event whereby the law recognizes that property rights can be created in respect of separated biological materials.

The question of property rights has also arisen over the application of 'sale of goods' warranties to donated blood. There is no English authority discussing the question in the context of the Sale of Goods Act 1979 c 54. In Australia, however, this

---

86 (1908) 6 CLR 406 (HCA).

87 *Roche* (n 85 above) 338.

88 *Roche* (n 85 above) 338-339.

89 *Roche* (n 85 above) 339.

90 *Roche* (n 85 above) 339.

issue arose after several hundred people contracted the human immunodeficiency virus (HIV) from contaminated blood transfusions. At the time, HIV antibody screening had not been introduced. Actions were subsequently commenced against the Red Cross and relevant hospitals alleging negligence and contravention of the consumer protection provisions of the Trade Practices Act 1974 (Cth) (TPA). *E v Australian Red Cross Society*[91] served as a test case. Here, the applicant had received a blood transfusion through which he alleged he was infected with HIV. He argued that the defendants breached the implied conditions and warranties regarding merchantability and fitness for purpose under sections 71 and 74 of the TPA.

The applicant had to show that the defendants were 'trading corporations' within the meaning of the TPA and one of the issues was whether blood fell within the statutory definition of 'goods'. At first instance Wilcox J left this question open by holding that the contract between the applicant and Prince Alfred Hospital was for the supply of nursing services and not for the supply of blood.[92] Without a contract for the supply of goods, Wilcox J dismissed the cause of action pleaded under the Trade Practices Act. The applicant appealed and the Full Court (Lockhart, Sheppard and Pincus JJ) dismissed the appeal.[93] They held that there was no relevant contract for the supply of goods under section 71 because the essence of the contract between the appellant and the hospital was for services rendered.[94] The Full Court also dismissed the negligence claim.

---

91 (1991) 27 FCR 310 (FCA).

92 *E* (n 91 above) 353.

93 *E v Australian Red Cross Society* (1991) 105 ALR 53 (FC FCA).

94 *E* FC (n 93 above) 57.

A similar issue arose in *PQ v Australian Red Cross Society*.[95] In that case, the plaintiff brought an action against the Australian Red Cross for negligence and a breach of sections 71 and 74 TPA. The plaintiff had received blood products and he became infected with HIV. In relation to the TPA claim, McGarvie J observed that the issue was whether the claim was statute-barred; he concluded that it was. On this basis, McGarvie J avoided the issue of whether blood products were 'goods' for the purposes of the legislation. Neither *E v Australian Red Cross Society* nor *PQ v Australian Red Cross Society*, therefore, provides judicial authority for the proposition that blood removed from a living person can be classified as goods capable of being the subject of property rights.

There is, however, a more substantial body of jurisprudence addressing this question in the US. The legal status of blood in the US has been tested judicially – first, in claims that warranty requirements for the sale of goods apply to the supply of blood, and second, in claims that income which individuals derive from the sale of their blood is taxable. For warranty requirements to attach to transactions under US legislation, it is necessary to show that the provision of blood and blood products amounts to the sale of goods. US courts have, however, disagreed over how the provision of blood and blood products should be characterized. Some have held it to be a sale of goods; others the provision of a service.

In *Perlmutter v Beth David Hospital*,[96] a patient (plaintiff) received medical treatment in a hospital where she paid for hospital services and a separate sum for the blood that she received during a transfusion. The plaintiff claimed that she received contaminated blood. She sought recovery on the basis that supplying blood

---

95 [1992] 1 VR 19 (Vic SC).

96 123 NE 2d 792 (NY App 1954).

constituted a sale within the Sales Act and that, therefore, implied warranties were imposed by section 96(1) and (2) of the Personal Property Law. A majority of the Court of Appeals of New York (Lewis CJ, Desmund, Van Voorhis, Fuld JJ) held that a blood transfusion performed by a hospital, in the course of medical treatment, was not a 'sale' within the meaning of warranty law. Instead, the court considered that the transfer of blood was part of the hospital's provision of a service.[97] With no separate sale of blood, the implied warranties were held to be inapplicable.

Perlmutter was followed in *Balkowitsch v Minneapolis War Memorial Blood Bank*[98] and *Dibblee v Dr WH Groves Latter-Day Saints Hospital*.[99] In *Balkowitsch*, for example, the court held that a transaction between a non-commercial blood bank and a hospital was not a sale. The court reasoned that a non-profit corporation should be treated no differently from a hospital.[100]

Despite these examples, other US courts have found that blood and blood products can be 'goods' with property characteristics. In *Reilly v King County Central Blood Bank*,[101] to take one case, the appellant claimed damages for an attack of hepatitis that she allegedly suffered as the result of blood transfusions. The appellant argued that the respondent was liable, on a theory of strict liability in tort, for the supply of defective goods. The respondent was a non-profit corporation that operated a blood bank to supply blood to those in need. Donors to the bank received no monetary compensation. The respondent organized the packaging, storing and delivery of the blood to the patient's hospital and charged patients a fee for each unit

---

97 *Perlmutter* (n 96 above) 796.

98 123 NW 2d 805 (Minn SC 1965).

99 364 P 2d 1085 (Ut SC 1961).

100 *Balkowitsch* (n 98 above) 810.

101 492 P 2d 246 (Wash App 1972).

of blood used. The State of Washington Court of Appeals concluded that '[t]he transaction in this case has all the attributes of a sale. There was a transfer of property through the mutual consent of competent parties for a consideration in money paid'.[102]

Further, decisions from Florida and New York courts appear to draw a distinction between commercial blood banks and hospitals. In *Community Blood Bank Inc v Russell*,[103] for example, the Supreme Court of Florida held that, where a commercial bank supplied blood to a patient for consideration, it constituted a sale, and was therefore subject to a breach of warranty claim.[104] In *Carter v Inter-Faith Hospital of Queens*,[105] the New York Supreme Court considered the question in more detail. In *Carter*, the plaintiff had received blood transfusions and allegedly became infected with hepatitis as a result of the transfusions. The plaintiff contended that the blood was purchased by the first defendant from National Blood Bank Inc and brought an action to recover damages for injuries suffered because of alleged negligence and breach of warranty against the hospital (first defendant) and the National Blood Bank (second defendant).

The court dismissed the action against the first defendant holding that hospitals could not be liable for the breach of implied or express warranties of fitness.[106] It then considered the claim against the second defendant and whether a commercial blood bank could be liable for breach of warranty where it has transferred blood to a

---

102 *Reilly* (n 101 above) 248.

103 196 So 2d 115 (Flo Sup 1967).

104 *Community Blood Bank* (n 103 above) 120.

105 304 NYS 2d 97 (NY Sup 1969).

106 *Carter* (n 105 above) 98.

hospital for consideration.[107] The court opined that *Perlmutter* stood for the proposition that the supply of blood by a hospital to a patient is incidental to the services rendered and does not, therefore, constitute a sale. In *Carter*, the court found that there had been a simple transfer of blood and that there appeared to be a cause of action for breach of warranty against the second defendant.[108]

This body of US case law arguably supports the creation of property rights to blood once it is removed from a living person. Nonetheless, courts have not been required to determine if an individual can claim immediate property rights to blood following its removal.

In a different context, US courts have characterized money earned by individuals from the sale of their own blood as taxable income. In *United States v Garber*,[109] the defendant was charged and convicted of income tax evasion for failure to report funds received by her from the sale of her blood plasma. The defendant had a rare antibody and entered into a range of contracts over three years for her blood plasma. The court held that the defendant was liable to pay tax on the income as it considered that 'blood plasma, like a chicken's eggs, a sheep's wool, or like any saleable part of the human body, is tangible property' within the terms of the tax legislation.[110] Ultimately, the conviction was squashed because the defendant had not wilfully engaged in tax avoidance. *Green v Commissioner*[111] also considered the question of whether the continuous sale of blood could be classified as taxable income. The petitioner earned her living by selling her rare, AB-negative blood,

---

107 *Carter* (n 105 above) 99.

108 *Carter* (n 105 above) 102.

109 607 F 2d 92 (5th Cir 1979).

110 *Garber* (n 109 above) 97.

111 74 TC 1229 (DC 1980).

which she had done on a regular basis for over seven years. The court held that the income she received from these activities was taxable income and observed that type AB-negative blood was a tangible product like any other 'raw product of nature'.[112]

Garber and *Green* are further examples of courts addressing questions concerning separated bodily materials. These courts were not required to define the legal status of separated blood, but simply determined whether income derived from its sale comprised taxable income. Potentially then, the income that individuals receive for their blood in the US could be viewed merely as payment for the provision of a service.

(c) Summary

Common law decisions such as *Rothery* and *Roche*, have classified separated biological materials as property. In these cases, the courts were not, however, asked to determine the more difficult question of whether property rights could be allocated to a living person. The legal status of biological materials arose as a matter of statutory construction. In the US, there is a body of jurisprudence that classifies blood and blood products as 'goods' in two situations. The first is where a commercial blood bank provides blood or blood products for a fee; the second is where individuals sell their own blood as a source of income. Again, though, these cases have not had to determine whether a living person can claim property rights.

In combination, the common law decisions discussed in this section arguably support the proposition that property rights can be created upon the detachment of biological materials. Several commentators have also supported detachment as an

---

112 *Green* (n 111 above) 1234.

event that can create property rights.[113] The potential for detachment to create property rights in biological materials is developed more fully in Part III.

2 Cell-lines

Only one common law decision, *US v Arora*,[114] has specifically considered the proprietary status of a cell-line. In *Arora*, the National Institute of Health (NIH) employed two scientists, Dr Arora and Dr Sei, to research and develop a new line of cells. Over time, however, their relationship deteriorated and Sei found that a cell-line he created had been damaged without explanation. The US Government brought a civil action for conversion against Arora. Messitte J found, as a question of fact, that Arora had tampered with and caused the death of the new cell-line.[115] He then considered whether the cell-line was property capable of conversion. Messitte J observed that US courts had not recognized a claim for conversion over cell-lines, citing both *Moore* and *Miles v Scripps*.[116] However, he observed that in *Moore*, while the individual had been denied property rights, Broussard J had in dissent suggested that the tort of conversion would lie where another medical centre or drug company had stolen the cells in question.[117]

In *Arora*, Messitte J considered that neither contract nor patent law applied to the wrongdoing. He found himself having to consider the legal status of the cell-line, which he held was a chattel, observing 'if such a cause of action is not recognized, it

---

113 C Hammond 'Property Rights In Human Corpses and Human Tissue: The Position in Western Australia' (2002) 4 University of Notre Dame Australia Law Review 97, 113; G Dworkin and I Kennedy 'Human Tissue: Rights in the Body and its Parts' [1993] 1 Medical Law Review 291, 311; B Dickens 'The Control of Living Body Materials' (1977) 27 University of Toronto Law Journal 142, 183.

114 806 F Supp 1091 (Md DC 1994).

115 *Arora* (n 114 above) 1097.

116 810 F Supp 1091 (Cal DC 1993).

117 *Arora* (n 114 above) 1098.

is hard to conceive what civil remedy would ever lie to recover a cell-line that might be stolen or destroyed'.[118] Messitte J simply asserted that a cell-line was a material object capable of being converted. Cell-lines raise more complicated questions than original biological materials, for they often comprise different physical materials. The more difficult conflict, as a matter of legal principle, arises between the individual who donates the original biological materials and the researcher who develops the cell-line. Messitte J was not required to consider this potential conflict. Chapter 8 returns to this difficult question and specifically addresses what property principles can be applied to determine the legal status and competing rights pertaining to cell-lines.

3 Organs

There is no common law authority concerning the legal status of organs removed from a living person. In England, the Human Organ Transplants Act 1989 c 31 (Transplants Act) contained a statutory prohibition against trafficking in transplantable organs.[119] This statutory prohibition has been transposed into the HTA 2004.[120] American states have also prohibited commercial dealings in human organs.[121] However, no statutory reference is made under English or US legislation to organs as property. These legislative regimes cannot therefore be invoked in support of individual property rights.

---

118 *Arora* (n 114 above) 1099.

119 Transplants Act, s 1.

120 HTA 2004, ss 33 and 34.

121 National Organ Transplantation Act 42 USC (1994) § 274e(a) (US). For examples of American states see: Florida Statutes § 873.05 (1994); Maryland Code, Health § 5-408 (a)(2) (2000); Virginia Code § 32.1-289 (1997).

4 Gametes

(a) Statute

The strongest suggestion of property rights subsisting with respect to separated bodily materials in England is located in the Human Fertilisation and Embryology Act 1990 (UK) c 37 (HFEA). The HFEA was passed (inter alia) to regulate the creation of human embryos outside the body (in vitro) by means of a statutory licensing authority. This legislative regime provides that the creation and storage of an embryo and the storage and use of gametes[122] can be carried out only under licences granted by the Human Fertilisation and Embryology Authority (Authority).[123] In combination, the HFEA and HFEA Code of Practice set up a detailed regulatory regime. The relevant provisions for this thesis concern the rights of individuals who donate gametes (gamete providers).

Three features of the HFEA are relevant. First, consent is the central principle that underpins the regime.[124] Under the HFEA, individuals must consent to the storage and use of their gametes.[125] Further, gamete providers can specify conditions for the use of their gametes and (within limits) vary or withdraw their consent.[126] The ability to stipulate conditions gives gamete providers a continuing interest in respect of their gametes (and any resulting embryo) after donation. However, because the HFEA does not define the legal nature of the gamete providers' interest,

---

122 A 'gamete' is defined in this thesis as either the male sex or reproductive cells (spermatozoa) or the female sex or reproductive cells (ova).

123 HFEA, ss 3–4.

124 *Leeds Teaching Hospitals NHS Trust v A* [2003] EWHC 259; [2003] 1 FLR 1091 (QB) 1100.

125 HFEA, Sch 3.

126 Human Fertilisation and Embryology Authority *Code of Practice* (6th edn HFEA London 2003) [6.8].

it cannot deal with a dispute arising outside the regulatory framework. Jackson has observed that the donor's right to use and dispose of their gametes 'looks very like ownership'.[127] The better view, however, would argue that gamete providers have a limited right to use and dispose of their gametes. The HFEA makes no reference to individual property rights.

Second, the HFEA does not prohibit payment for the donation of gametes.[128] The Authority issued a direction permitting payment on the basis that removing payment 'would seriously jeopardize the supply of sperm donors'.[129] In England, gamete providers are currently paid £15, which is intended as a nominal payment to recognize the value of the donation to compensate for their expenses and inconvenience.[130] The HFEA is, however, considering increasing the payment (potentially to thousands of pounds) to create a greater incentive for individuals to donate gametes.[131] Payment, in this context, is viewed as payment for a service rather than for the sale of the gamete.[132]

Third, the HFEA sets out what rights gamete providers have in respect of frozen embryos. This thesis does not evaluate the moral status of human embryos, or the morality of their use in research, but instead asks what rights individuals are granted under statute in respect of them. Under the HFEA, individuals are entitled to withdraw their consent regarding the use or storage of embryos created using their

---

127 E Jackson *Regulating Reproduction* (Hart Publishing Oxford 2001) 234.

128 Human Fertilisation and Embryology Act 1990 (UK) c 37, s 12(e). That section provides that: 'no money or other benefit shall be given or received in respect of supply of gametes or embryos unless authorised by directions'.

129 HFEA *Directions Given Under the Human Fertilisation and Embryology Act* Ref D 1998/1 (7 December 1998).

130 HFEA *Code of Practice* (n 126 above) [4.26].

131 S Boseley 'Payments Plan for Egg Donors' *The Guardian* (6 November 2004) 8.

132 B Dickens 'Donation and Transplantation of Organs and Tissues' in A Grubb (ed) *Principles of Medical Law* (2nd edn OUP Oxford 2004) 1041.

gametes.[133] Once consent is withdrawn the embryos must be destroyed. The scope of an individual's control was tested recently in *Evans v Amicus Healthcare Ltd; Midland Fertility Services v Hadley*.[134] The case concerned the use and storage of frozen embryos created during relationships that had since ended. Both claimants (Evans and Hadley) sought in vitro fertilisation (IVF) treatment with their respective male partners. Under paragraph 6(3) of Schedule 3 to the HFEA, an embryo created by IVF could not be used for any purpose without effective consent from each person (male and female) whose gametes were used. Each man had signed a form by which he consented to the use of embryos fertilised with his sperm for the 'treatment of himself, together with his partner'. Embryos subsequently were created and stored, but the two claimants then separated from their partners. The question before the court was whether the claimants were still entitled to use the frozen embryos. Their former partners refused their consent at this stage and sought to have the embryos destroyed.

At first instance, Wall J held that the original consents to IVF treatment were for 'treatment together' as a couple. Because the relationships no longer existed the consents were no longer effective.[135] He also held that, even if the original consents were effective, the men had validly exercised their right to withdraw consent.[136] Evans appealed and the Court of Appeal upheld Wall J's decision. The court found

---

133 HFEA, Sch 3 [2(4)].

134 [2003] EWHC 2161; [2004] 2 WLR 713 (Fam) and [2004] EWCA Civ 727; [2004] 3 WLR 681 (CA).

135 [2003] EWHC 2161; [2004] 2 WLR 713 (Fam) [149].

136 *Evans* (n 135 above) [165].

that the men were entitled under the HFEA to withdraw their consent.[137] The court did not, however, categorise this right as proprietary.

Evans illustrates that the HFEA confers upon gamete providers the power to decide what should be done with their stored gametes (and any resulting embryos). The question of whether such powers amount to property rights was not, however, tested in *Evans* or the earlier case concerning Ms Blood and her dispute with the Authority over her application to access her dead husband's sperm in order to become pregnant through IVF.[138]

The Nuffield Council on Bioethics has suggested that the HFEA provisions endorse a property-based approach. Although the statute relies upon a scheme of consents to avoid the need to decide the issue of property, nevertheless 'it contemplates that the control and disposal of gametes and embryos rest with the donor(s) and allows for the transfer of the reproductive materials between those having a licence to deal with them'.[139] Similarly, Matthews has observed that the legislation was drafted on the basis of a 'property-like structure' for the possession of parts and products of the human body.[140] Whilst the HFEA does provide extensive control rights that are akin to property rights, the statute does not create explicit property rights. In this way, the HFEA is a good example of the legislature's desire to provide individuals with a right to control separated bodily materials without creating property rights.

---

137 *Evans v Amicus Healthcare Ltd* [2004] EWCA Civ 727; [2004] 3 WLR 681 (CA) [41] (Thorpe LJ and Sedley LJ), [100] (Arden J).

138 *R v Human Fertilisation and Embryology Authority Ex Parte Blood* [1997] 2 FLR 742 (CA).

139 Nuffield Council on Bioethics *Human Tissue: Ethical and Legal Issues* (Nuffield Council on Bioethics London 1995) [9.9]. For a similar view see: K Stern 'Strict Liability and the Supply of Donated Gametes' [1994] Medical Law Review 261, 264.

140 P Matthews 'The Man of Property' [1995] Medical Law Review 251, 255.

In Australian jurisdictions semen, ova and foetal tissue are excluded from the human tissue legislation,[141] and several states have enacted specific legislation to address reproductive procedures.[142] These legislative regimes do not expressly create property rights in respect of donated gametes. As with the English legislation, consent from gamete providers is the governing principle.[143] Property-like interests do, however, creep into parts of the legislative regimes. For example, the Western Australian legislation, through section 25 of the Human Reproductive Technology Act 1991 (WA), provides that gamete providers have rights of control 'as though personal property'. Despite this reference, the WA legislature was reluctant to classify a gamete as a normal chattel to be governed by the law of personal property.

There is no federal statute regulating the transfer or control of gametes in the US. Many state legislatures have chosen to make artificial insemination the subject of statutory enactments in order to regulate gamete donation.[144] These statutory regimes focus however on removing from gamete providers all rights, obligations, or interests with respect to children born as a result of artificial insemination.[145] These statutes neither classify donated gametes as property nor confer upon gamete providers any property rights.

---

141 Human Tissue Act 1983 (NSW) s 6; Transplantation and Anatomy Act 1979 (Qld) s 7; Transplantation and Anatomy Act 1983 (SA) s 7; Human Tissue Act 1985 (Tas) s 5; Human Tissue Act 1982 (Vic) s 5; Human Tissue and Transplant Act 1982 (WA) s 6; Transplantation and Anatomy Act 1978 (ACT) s 6; Human Tissue Transplant Act 1979 (NT) s 6.

142 Infertility (Medical Procedures) Act 1984 (Vic); Reproductive Technology Act 1988 (SA); Human Reproductive Technology Act 1991 (WA).

143 Infertility (Medical Procedures) Act 1984 (Vic) ss 12-14; Reproductive Technology Act 1988 (SA) s 10; Human Reproductive Technology Act 1991 (WA) s 26.

144 See for example: California Family Code § 7613 (1994); New York Domestic Relations Law § 73 (1999); Florida Statutes § 742.11 (1997).

145 See for example: Florida Statutes § 742.14 (1997).

(b) Common Law

The legal status of gametes has not arisen for determination in English or Australian courts; it has only been considered directly in the US. American cases have relied upon contract law to resolve disputes concerning human biological materials. These cases involve human reproductive materials where contracts have been entered into by the parties specifying the conditions under which their reproductive materials could be used.

Hecht v Superior Court[146] is the leading US authority. That case arose out of the suicide of Kane, Hecht's boyfriend. Before taking his life, Kane deposited vials of his sperm at a sperm bank in California and Kane signed a contract which provided that, in the event of his death, the sperm bank was to release the sperm depending on the executor's wishes. Hecht was appointed as the executor of his estate and, under the will, Kane bequeathed all the rights over his stored sperm to Hecht.[147] Following Kane's death, a dispute arose between Hecht and Kane's two children over the ownership of Kane's sperm. Hecht argued that neither Kane's estate nor his children held any proprietary rights in the sperm because Kane's will provided that she was the beneficiary of the sperm.[148]

The court held that Kane no longer had any ownership interest in his sperm based on the contract entered into between him and the sperm bank.[149] The court found, however, that the sperm was properly part of Kane's estate because 'at the time of his death, the decedent had an interest, in the nature of ownership'.[150] In this

---

146 20 Cal Rptr 2d 275 (Cal CA 1993).

147 *Hecht* (n 146 above) 276.

148 *Hecht* (n 146 above) 279.

149 *Hecht* (n 146 above) 282.

150 *Hecht* (n 146 above) 284.

way, the court recognized limited property rights in Kane's sperm by finding that Kane retained an interest in his sperm after his death. As executor, Hecht was therefore entitled to the sperm.

An earlier case in the US District Court raised the concept of quasi-property in relation to a frozen embryo. In *Del Zio v Columbia Presbyterian Hospital*,[151] a couple brought an action alleging the deliberate destruction of their embryo. They sought damages for conversion of their property and the intentional infliction of emotional distress. The court rejected the plaintiffs' conversion claim, but upheld their claim for mental distress and made an award of US$50,000 for the loss of the embryo.[152]

Both of these authorities suggest that, while US courts have wanted to confer rights of control over individuals who provide gametes, they have been reluctant to invoke traditional property rights. Such reluctance seems to stem from a desire not to commodify the human body.[153] Instead, the courts have employed terms such as 'in the nature of ownership' and 'quasi-property' to confer a right of control that can be protected under law.

5 Hair Clippings

Human hair is a further example of bodily material. Except for a few growing cells at the base of the root, hair is dead tissue that is composed primarily of keratin and related proteins. Even though hair samples are composed of dead cells, it is now possible to utilize hair samples to conduct DNA testing.[154]

---

151 Unreported US Dist SDNY No 14 1978.

152 *Del Zio* (n 151 above) 18–19.

153 B Steinbock 'Sperm as Property' in J Harris and S Holm (eds) *The Future of Human Reproduction* (Clarendon Press Oxford 2000) 158.

154 D Pergament 'Its Not Just Hair: Historical and Cultural Considerations for an Emerging Technology' (1999) 75 Chicago-Kent Law Review 41, 45-46.

Human hair as an object has not been the subject of serious judicial consideration because in most instances hair clippings have no real commercial value. There are exceptions. Historian Ruth Richardson observes that hair has been sold to wigmakers.[155] Hair jewellery became a method to memorialize a deceased loved one.[156] There is also evidence that hair has been traded for centuries throughout Europe.[157] Further, there are several modern day examples. In 1970, a lock of Byron's hair was sold for £320[158] and, similarly in 1988 a lock of Admiral Lord Nelson's hair (which had been removed by his lover Lady Emma Hamilton) sold for £5,000.[159]

Early common law authority indirectly suggests that hair was recognized as property. In *Scroggan v Stewardson*[160] a girl who was under the age of sixteen agreed to give the defendant two ounces of her hair for 6 shillings. An action in trespass was brought by the girl's father (plaintiff). The court held that, although an infant can agree with the barber to have her hair trimmed, she cannot license its sale.[161] Judgment was entered for the plaintiff. The court did not directly address the legal status of the hair. The judgment appears to proceed on the basis that human hair can legally be sold; in this case, it could not because the vendor was an infant.

---

155 R Richardson 'Fearful Symmetry, Corpses for Anatomy: Organs for Transplantation' in SJ Youngner (ed) *Organ Transplantation: Meaning and Realities* (University of Wisconsin Press Madison 1996) 82.

156 Pergament (n 154 above) 45-46.

157 R Scott *The Body as Property* (Allen Lane London 1981) 180.

158 *The Times*, 11 February 1970, 15.

159 'Nelson hair fetches 5,000 pounds' *The Times* (19 February 1988) 3.

160 (1674) 3 Keb 369; 84 ER 771.

161 *Scroggan v Stewardson* (1674) 3 Keb 369, 369; 84 ER 771, 771.

More recently, the common law addressed the legal status of hair in *R v Herbert*.[162] The defendant was convicted of stealing hair clippings, which he had cut from a female passenger in his car. The defendant argued that hair was not property. In the event, the defendant was convicted of larceny which required a taking and carrying away. Thus, the decision characterized human hair as an object capable of being stolen. Because the defendant was convicted of larceny, it is not clear whether the magistrates thought that growing hair could be stolen or whether the hair was stolen after being cut.

There is limited judicial authority in other jurisdictions. In *United States v Cox*,[163] the defendant was convicted of bank robbery. He appealed, and one of the questions for the court was whether a haircut performed in the county jail violated the defendant's Fourth Amendment right to be free from unreasonable search and seizure. The haircut was performed without a warrant, and during the haircut the barber preserved clippings which he sent to the police for analysis. On appeal, the defendant argued that the taking of hair samples by the police constituted a search or seizure requiring a warrant. The court held that, on the facts, there was no seizure that enlivened the Fourth Amendment right. Cummings CJ found that the seizure did not occur when the hair was cut, but instead at the time when the hair clippings were preserved. By this stage, Cox had voluntarily 'abandoned his property, in this case, his hair'.[164]

These authorities suggest that the common law (at least in the US) operates on the assumption that human hair, once detached from an individual, is capable of being classified as property where it is used for a specific purpose: where an

---

162 [1961] JPLGR 12.

163 428 F 2d 683 (7th Cir 1970).

164 *Cox* (n 163 above) 688.

intention is formed and expressed that hair clippings are to be used for a particular purpose, the law accords the clippings a proprietary status. This treatment of hair clippings provides a third circumstance whereby the law may recognize property rights are created to separated bodily materials; namely, where an intention is expressed that such materials are to be used as property. Again, Part III analyses the potential of such a principle.

6 Waste Products

Waste products, including urine, faeces, earwax and sweat, are also often thought of as superfluous matter. Usually, they are shed or cast away by individuals and are not typically thought of as having proprietary characteristics. Several common law decisions have, however, considered the legal status of these materials.

In *R v Welsh*,[165] the defendant provided a urine sample to the police, stole it back, and then poured it down the sink. Under section 9 of the Road Traffic Act 1972, the police retain a right to possession of a blood or urine sample. At first instance, the court viewed the urine sample as 'property' for the purpose of statutory theft provisions, and the defendant was convicted of theft of the material. On appeal as to sentence, the Court of Appeal did not question the validity of the conviction. Hence, the ruling in *Welsh* recognized property rights, albeit a statutory right to possession, over the urine sample.

There is also some US authority dealing with the legal status of waste products. In the leading case, *Venner v State of Maryland*,[166] the police seized balloons filled with hashish found in the defendant's excrement following an examination in

---

165 [1974] RTR 478 (CA).

166 554 A 2d 483 (Md App 1976).

hospital. On appeal, the Maryland Court of Appeals held that the seizure by the police was legitimate. In considering whether the defendant had abandoned his waste products, the court observed that although an individual may assert continuing property rights in such bodily substances it is also 'universal human custom and human experience that such things are discarded—in a legal sense, abandoned by individuals'.[167] The court declared that 'when a person does nothing and says nothing to indicate an intent to assert his right of ownership, possession, or control over such material, the only rational inference is that he intends to abandon the material'.[168] On the facts, the court held that the police were entitled to possession of the faecal matter because the defendant had not exercised or attempted to exercise any right of possession or control over it.[169]

These examples of common law authority arguably recognize that waste products can be characterized as 'property', at least for certain purposes of statutory construction. They are, however, limited in their scope.

7 Summary

There is inconsistency both within and between common law jurisdictions with respect to the legal and proprietary status of separated bodily materials. *Rothery* and *Roche* suggest that the general no property principle—as it was developed with respect to cadavers—does not prevent the legal classification of human biological materials as property. These cases support the view that the act of detachment creates property rights. Importantly, these decisions have not tested at what stage property rights are created or to whom the property rights are allocated.

---

167 *Venner* (n 166 above) 499.

168 *Venner* (n 166 above) 499.

169 *Venner* (n 166 above) 499.

This section also considered statutory regulation of separated bodily materials. In a statutory context, the HFEA appears to be based on property principles. Even though the HFEA provides for rights of control over the use and disposal of gametes, the legislature did not explicitly allocate any property rights to gamete providers.

The section also located a third circumstance implicitly recognized at the common law by which property rights may be created to separated biological materials. This arises from the legal treatment of hair clippings. Arguably, the law treats hair clippings as property where an intention is formed that they are to be used as property for a specific purpose. Rose LJ appeared to endorse a similar principle in *R v Kelly* when he suggested that property rights may be created where a body part has a purpose beyond its mere existence.[170] The potential role of intention is not explicitly acknowledged in common law decisions and commentary; it is, therefore, the subject of more detailed analysis in Part III.

E NON-PROPRIETARY INTERESTS

The final section of this chapter is concerned with non-proprietary interests. Both statutory and common law protection are considered.

1 Statute

One potential avenue for non-proprietary protection of separated biological materials arises under the Data Protection Act 1998 c 19 (DPA), which provides statutory protection for personal information. The DPA replaced the Data Protection Act 1984 c 35 and implemented the European Directive on the processing of personal

---

170 *R v Kelly* [1999] QB 621, 631.

data (Personal Data Directive).[171] The DPA establishes a statutory scheme to regulate the processing of personal data that relate to living, identifiable individuals in England.[172] Due to the complexity of the legislation, litigants have been reluctant to invoke the DPA. Instead they have based their claims, wherever possible, on common law actions, particularly the duty of confidence.[173] As a result, there is limited judicial consideration of the DPA.

It is not necessary to examine in detail the statutory regime established by the DPA; an outline suffices for present purposes. Broadly speaking, data controllers (including private and public sector bodies and the Government) who process personal data must comply with the DPA. The DPA gives individual data subjects a number of rights. These include: rights to access personal data held by data controllers;[174] limited rights to prevent processing likely to cause substantial unwarranted damage or distress;[175] a right to seek the correction or destruction of inaccurate information;[176] and a right to compensation where the DPA is violated.[177] The DPA also sets out eight Data Protection Principles. The first of these seeks to ensure the fair and proportionate use of personal data. All processing of personal data must comply with these principles.[178]

---

171 Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the Protection of Individuals with Regard to the Processing of Personal Data and on the Free Movement of such Data OJL 281, 31-50.

172 *R v Brown* [1996] AC 543 (HL) 557 (Lord Hoffmann) (decided under the 1984 Act).

173 W Lowrance *Learning from Experience: Privacy and the Secondary Use of Data in Health Research* (Nuffield Trust London 2002) 17.

174 DPA, ss 7-8.

175 DPA, s 10.

176 DPA, ss 12A and 14.

177 DPA, s 13.

178 DPA, ss 1, 4; Sch 1.

Protection under the DPA raises the difficult question of defining the distinction between biological materials and personal genetic information extracted from them. In the context of data protection, the key question is whether biological materials per se should be classed as 'personal data' under the DPA. It is not clear under the EU Personal Data Directive whether biological materials should be treated as personal data, for the definition of 'personal data' has been left to individual countries.

In order for biological materials (or extracted DNA) to be 'personal data' under the DPA the materials must be classified as both data and personal. The DPA defines 'data' expansively to include all information recorded, held or otherwise processed automatically or held on a relevant filing system.[179] The question is whether biological materials themselves can be classified as information. At first impression, biological materials are not information. Indeed, the informal policy of the UK Information Commissioner is that biological materials are not classed as 'personal data'.[180] Although the Information Commissioner's policy has not been tested judicially, the better view is that biological materials are not information, as such, because they cannot be classified as data. In *R (S) v Chief Constable of South Yorkshire Police*, Baroness Hale noted (obiter) that 'it could be said that samples are not "information"'.[181] Similarly, both the Medical Research Council and the Human

---

179 DPA, s 1.

180 Personal email received from Mr Garry Jones 13 October 2004 (Compliance Department of Information Commissioner) stated: '[t]he Data Protection Act 1998 applies to the processing of personal data that is information about a living identifiable individual. It seems unlikely that genetic samples on their own would be considered personal data under the Act. However, once personally identifiable information is extracted from them such as an individual's name, then it appears this information may become personal data' (Gary Jones <mail@ic-compliance.demon.co.uk>) (permission received to quote and copy on file with author).

181 [2004] UKHL 39; [2004] 1 WLR 2196 (HL) [70].

Genetics Commission have concluded that genetic samples are not information.[182] Widening the natural meaning of 'information' to encompass biological materials is not consistent with the natural and ordinary meaning of the term.

In Australia, the scope of the term 'information' was recently considered by the Australian Law Reform Commission (ALRC) in its Report, *Essentially Yours: The Protection of Human Genetic Information*. The ALRC considered whether genetic samples could be classified as 'personal information' under the relevant federal privacy legislation. It concluded that genetic samples were not 'information',[183] noting that as a matter of statutory interpretation the plain and ordinary meaning of the word 'information' could not include genetic samples.[184] One Australian state, New South Wales, has extended data protection to biological materials. The relevant statutory provision defines 'personal information' to include 'such things as an individual's fingerprints, retina prints, body samples or genetic characteristics'.[185] Other Australian states do not include these materials within their statutory definitions of 'personal information'.[186]

In order for separated biological materials to be protected, the relevant legislation must specifically include biological materials within the statutory definition of information or data. In England, the DPA does not explicitly include biological materials in its definition of data. The more persuasive view, therefore, is

---

182 Medical Research Council *Human Tissue and Biological Samples for Use in Research* (Medical Research Council London 2001) [5.1]; Human Genetics Commission *Inside Information* (Department of Health London 2002) [3.43].

183 Australian Law Reform Commission *Essentially Yours: The Protection of Human Genetic Information* (ALRC 96 Australian Government Publishing Service Canberra 2003) [8.2].

184 ALRC *Essentially Yours: The Protection of Human Genetic Information* (n 183 above) [8.8].

185 Health Records and Information Privacy Act 2002 (NSW) s 5(2); Privacy and Personal Information Act 1998 (NSW) s 4(2).

186 See for example: Information Privacy Act 2000 (Vic) s 3.

that biological materials cannot currently be classified as data for the purposes of the DPA.

The fact that biological materials do not fall within the DPA regime does not preclude the application of the DPA to genetic information extracted from biological materials. Both the processing of biological materials by extracting genetic information and the subsequent recording or holding of that information are potentially covered by the DPA. In each case, it will be necessary to determine whether the statutory conditions for the use of confidential information are established under the DPA.

2 Common Law

There is no judicial authority in either Australia or the US considering potential non-proprietary interests in separated biological materials. In England, a recent case touched on potential non-proprietary interests in the context of the Police and Criminal Evidence Act 1984 c 60, which provides for the retention of fingerprints and samples. Sections 60-63 of the Act provide for the taking (and retention) of samples from anyone, whether or not charged with a criminal offence. Section 61 sets out the circumstances under which fingerprints and samples may be taken without consent. Section 64 then deals with the retention of fingerprints and samples. Importantly, an amendment in 2001 removed the requirement that a person's fingerprints or samples must be destroyed in the event that the person is not prosecuted or is acquitted.[187] The validity of the 2001 amendment was challenged in *R (S) v Chief Constable of the South Yorkshire Police; R (Marper) v Chief*

---

187 Criminal Justice and Police Act 2001 c 16, s 82.

Constable of the South Yorkshire Police (R (S))[188] on the basis of its alleged incompatibility with articles 8 and 14 of the ECHR.

In *R (S)*, two claimants were arrested, charged and fingerprinted as well as having DNA samples taken from them. Both claimants were subsequently acquitted, yet the police informed the claimants that, under section 64(1A) of the Police and Criminal Evidence Act 1984, the police had the right to retain the fingerprints and samples to aid the investigation of crime. The claimants sought judicial review on the grounds that the retention of their fingerprints and samples (when they had not been convicted of a criminal offence) was incompatible with their right to respect for their privacy under article 8, and their right not to be discriminated against under article 14, of the ECHR.

The Court of Appeal (Lord Woolf CJ, Waller and Sedley LJJ) dismissed the claim on both grounds. In relation to the article 8 claim, the court observed that, although the retention of personal material represented an invasion of the right contained in article 8(1) to respect for one's private life, the purposes of retention (the prevention of crime) made such retention justified under article 8(2).[189] Although the case did not directly raise the legal status of the DNA samples, Lord Woolf CJ noted the significance that such samples have for individuals:

> So far as this jurisdiction is concerned it is my view that fingerprints and DNA samples are material which is regarded as being personal to the individual from whom it is taken and so requires legal justification before it can be retained.[190]

Whilst Lord Woolf CJ noted the potential interference with the personal interests of the individual, he did not consider the nature of this interest in any

---

188 [2002] EWCA Civ 1275; [2002] 1 WLR 3223 (CA); and [2004] UKHL 39; [2004] 1 WLR 2196 (HL).

189 *R (S)* CA (n 188 above) [42], [59] and [69].

190 *R (S)* CA (n 188 above) [32].

detail. The claimants' appeal was dismissed by the House of Lords, with Lord Steyn (Lord Rodger, Baroness Hale, Lord Carswell and Lord Brown agreeing) delivering the leading speech. He held that, in so far as the retention of fingerprints and DNA samples constituted an interference with article 8(1) of the ECHR, such interference could be justified under article 8(2).[191]

The observations of Baroness Hale are the most relevant for present purposes, because although she made no comment on the legal status of the DNA samples, she was particularly concerned about the potential interference with an individual's privacy that could occur through the storage of genetic samples. Baroness Hale considered that while it was unlikely that samples themselves could be classified as information, the reason why they are stored is because they contain genetic information about their particular donor.[192] In the light of this fact, Baroness Hale believed that the same privacy principles should apply to the storage and use of genetic samples as apply to personal genetic information derived from the samples.[193] She therefore emphasized that the storage of such materials also constituted an interference with an individual's privacy.

R (S) therefore demonstrates that English law recognizes individuals have, at least to some extent, a continuing interest in separated biological materials. The opinions of Lord Woolf CJ and Baroness Hale in *R (S)* suggest that individuals have at least personal or non-proprietary interests in such materials.

---

191 *R (S)* HL (n 188 above) [40].

192 *R (S)* HL (n 188 above) [70].

193 *R (S)* HL (n 188 above) [70].

3 Summary

English law has yet to define what non-proprietary interests a living person can assert over separated biological materials. It is unlikely that the DPA extends to separated biological materials. *R (S)* appears to have raised (but not explored) the possibility of non-proprietary interests. Chapter 9 examines the potential development of English law to protect an individual's non-proprietary interests over separated biological materials.

F CONCLUSION

This chapter has developed four points. The first is that there is no common law authority in England or Australia that directly analyses whether a living person can claim property rights to biological materials removed from his or her body. The more difficult question—of whether such property rights may be allocated to a living person—was only addressed by *Moore* and *Greenberg*. Both cases held that an individual could not maintain a claim for conversion. This chapter critiqued these decisions and concluded that the analysis adopted by the majority of the Californian Supreme Court in *Moore* and Moreno J in *Greenberg* is not a sustainable one.

Second, the chapter demonstrated that both statute and common law arguably employ property principles in relation to separated bodily materials. They do so, however, in an ad hoc manner. The common law has, for example, classified biological materials as property for the purposes of statutory construction, but only in certain limited circumstances.

The examination of statute and common law leads to the third observation that there are three events or circumstances that potentially support the creation of property rights in biological materials separated from a living person: (1) the work

or skill exception; (2) the act of detachment; and (3) the act of detachment coupled with an intention to treat the separated biological materials as property. Part III analyses the potential of each of these circumstances to explain the creation of property rights.

The final point developed in this chapter concerned the potential for non-proprietary protection in English law. The analysis conducted here demonstrated that neither the common law nor the DPA currently extends non-proprietary protection to separated biological materials. Further exploration of non-proprietary protection is reserved for Part III. Before turning to the substantive analysis in Part III it is necessary, however, to complete the background picture by considering the most recent development in English law: the HTA 2004.

CHAPTER 6

HUMAN TISSUE ACT 2004

A INTRODUCTION

To complete the map of the existing legal and conceptual framework, it is necessary to add the Human Tissue Act 2004 c 30 (HTA 2004). The HTA 2004 represents the most substantial development in English law concerning the legal regulation of bodily materials separated from both dead bodies and living persons. It is not the intention of this chapter to provide a general overview of the statutory regime established under the HTA 2004. Instead, the analysis focuses on the statutory recognition of property rights and non-proprietary interests.

B HUMAN TISSUE ACT 2004

Chapter 4 has already mentioned the high profile reports from the Bristol Royal Infirmary and Alder Hey hospitals concerning post-mortem bodily material retention practices.[1] These reports demonstrated the unsatisfactory position in English law with respect to separated body parts. As Brazier observed:

> There is little dissent from the view that law reform is urgent. The confused and tangled web of different statutes and outdated common law principles must be clarified, preferably in a single Act of Parliament.[2]

In response, the Government committed itself to reform and a consultation report—*Human Bodies, Human Choices*—was released in July 2002 following a

---

1 See notes 2-3 of Chapter 4 and accompanying text.

2 M Brazier *Medicine, Patients and the Law* (3rd edn Penguin Books London 2003) 479.

consultation process.[3] On 12 December 2003, the Government published the Human Tissue Bill 2003. Following the Bill's second reading and its review by the Standing Committee G in the House of Commons, the Government published an amended version on 29 June 2004. After further amendments in the House of Lords, which were accepted by the House of Commons, the HTA 2004 received Royal Assent on 15 November 2004.

The majority of the HTA 2004 provisions apply to England, Wales and Northern Ireland.[4] Its stated purpose is to provide a 'consistent legislative framework for issues relating to whole body donation and the taking, storage and use of human organs and tissues'.[5] In keeping with this remit, the HTA 2004 repeals and replaces the Human Tissue Act 1961 c 54 (HTA 1961),[6] Human Tissue Act (Northern Ireland) 1962, Human Organ Transplants Act 1989 c 31 (Transplants Act) and Anatomy Act 1984 c 14 (Anatomy Act). Certain matters are excluded from the HTA 2004. The Human Fertilisation and Embryology Act 1990 c 37 (HFEA) will continue to regulate gametes and embryos. The HTA 2004 does not apply to materials that are removed and retained solely for the purpose of investigating a death under the authority of a coroner.[7] Additionally, the HTA 2004 does not address the legal requirements concerning the removal of materials from living persons. The *removal* of bodily materials continues to be governed by the common law, including the all-important principle of consent and laws relating to battery and negligence.[8]

---

3 Department of Health *Human Bodies, Human Choices: The Law on Human Organs and Tissue in England and Wales* (Department of Health London 2002).

4 HTA 2004, Explanatory Notes, [3].

5 HTA 2004, Explanatory Notes, [4].

6 9 & 10 Eliz 2.

7 HTA 2004, s 11.

8 HTA 2004, Explanatory Notes, [9].

The HTA 2004 is divided into three parts and adopts the doctrine of consent as the fundamental principle to govern the lawful storage and use of relevant material.[9] 'Relevant material' is defined as any material 'which consists of or includes human cells'.[10] Part 1 establishes the consent requirements. Part 2 sets up the licensing and regulatory system, which is to be managed initially by the Human Tissue Authority and eventually by the Regulatory Authority for Fertility and Tissue (RAFT).[11] The HTA 2004 also sets out that persons are required to obtain a licence to conduct certain activities, including, for example, anatomical examinations and post-mortem examinations.[12] Part 2 brings the regulation of human organ transplants between living persons under the remit of the Human Tissue Authority and prohibits commercial dealing in 'relevant bodily material' for the purpose of transplantation. Part 3 deals with supplementary and general matters.

For present purposes, it is not necessary to cover in detail the regulatory regime established by the Act. Some commentators have described the new legislation as 'unnecessarily complex and convoluted'.[13] This chapter addresses four key features of the HTA 2004 that are significant for this thesis: (1) the requirement for consent; (2) exceptions to the requirement for consent; (3) the prohibition on commercial dealing; and (4) the new offence relating to non-consensual DNA analysis.

---

9 *Hansard* HC Debate vol 416 col 987 (15 January 2004).

10 HTA 2004, s 53.

11 The creation of RAFT is due to follow the proposed merger of the HFEA and the Human Tissue Authority under the Government's ongoing review of Arm's Length Bodies. This proposed merger is controversial. A final decision will not be made by the Government until after a full review of the HFEA.

12 HTA 2004, s 16.

13 B Parry et al *A Critique of the Human Tissue Bill: A Discussion Paper* (Cambridge Genetics Knowledge Park Cambridge 2004) [1.3].

1 Consent Requirements

Part 1 of the HTA 2004 enshrines the doctrine of consent as the guiding principle for the new legislative regime. During the Bill's second reading, Ms Winterton (the ministerial sponsor of the HTA 2004) stated in the context of organ transplantation that 'the state does not own a human body; nor do doctors or scientists. It is up to individuals to choose whether to make this important gift, for it is a gift'.[14] She observed that '[t]he underlying principle of the changes is informed consent'.[15] Other statements at the Committee stage support the central role of consent.[16] Section 1, therefore, sets out the fundamental requirement that 'appropriate consent' is required before certain activities can be undertaken for particular purposes under the HTA 2004. To understand the scope of section 1, it is necessary to define its three components: (1) 'appropriate consent'; (2) the activities that can be undertaken for particular purposes; and (3) 'relevant material'.

First, 'appropriate consent' refers to the person from whom consent must be obtained. Who that is will vary in different circumstances. In essence, the HTA 2004 sets out a hierarchical ordering of those who are empowered to give consent. For a competent living adult person, 'appropriate consent' is the consent of that individual.[17] For a deceased person, consent may be provided by the deceased in writing before death, or before a post-mortem by either a person nominated by the

---

14 *Hansard* HC Debate vol 416 col 989 (15 January 2004).

15 *Hansard* HC Debate vol 416 col 987 (15 January 2004).

16 See, eg, the statement by the Parliamentary Under-Secretary of State for Health, Dr Stephen Ladyman, during the Committee stage: 'The principles of the Bill are that we all own our bodies, we are entitled to determine how material from our bodies is used, and we should have consented to the use made of that material': HC Standing Committee G, col 065 (27 January 2004).

17 HTA 2004, s 3. Or, in the case of living children who lack capacity, a person having parental responsibility for them (s 2).

deceased for that purpose[18] or, failing that, by someone with parental responsibility (where the deceased was a child)[19] or someone who stood in a qualifying relationship with the deceased.[20] The HTA 2004 does not, however, detail the forms of consent required in each case. Instead, it charges the Human Tissue Authority with the task of providing guidelines in codes of practice to detail appropriate consent standards.[21] Although failure to observe any provision of a code will not be unlawful,[22] a breach may be taken into account by the Human Tissue Authority in considering the grant and removal of the licences.[23] The relevant codes of practice to be drafted by the Human Tissue Authority will extend far beyond consent standards. Codes of practice may also cover the removal, storage, use and destruction of relevant material and existing holdings and the import and export of human biological materials.[24]

Second, section 1 defines the activities that can be undertaken with appropriate consent under the HTA 2004. In summary, these are: (1) the storage and use of whole bodies and the removal, storage and use of 'relevant material' (the definition of which is discussed below) from a deceased person; and (2) the storage and use of relevant material from a living person. As noted above, Part 1 does not apply to the removal of relevant material from a living person, which will continue to be governed by the common law.[25]

---

18 HTA 2004, s 3(6)(b)(2) and 4.

19 HTA 2004, s 2(7).

20 HTA 2004, s 3(6).

21 HTA 2004, s 26.

22 HTA 2004, s 28(1).

23 HTA 2004, s 28(2).

24 HTA 2004, s 26(2).

25 HTA 2004, Explanatory Notes, [9].

The HTA 2004 also limits the authorized activities to particular purposes. These particular purposes are set out in Schedule 1 and include, for example, anatomical examination and research in connection with disorders or the functioning of the human body. The consent requirements vary as between relevant material removed during a post-mortem and relevant material provided by a living person. For relevant material removed during a post-mortem, appropriate consent is required for all Schedule 1 purposes (being the 12 purposes listed in Parts 1 and 2 of Schedule 1).[26] Consent is, however, not required in the case of relevant material removed from a living person for the five Schedule 1, Part 2 purposes.[27]

The third component that establishes the scope of section 1 is the definition of 'relevant material'. Relevant material is defined in section 53 as simply meaning any material 'which consists of or includes human cells'. The definition excludes gametes, embryos outside the human body and hair and nail from a living person.[28] Any material 'created outside the human body' is also excluded.[29] Unfortunately, the HTA 2004 does not provide a definition of 'material created outside the human body' and the Explanatory Notes only mentions cell-lines as one example of this sort of material.[30] As Chapter 1 demonstrated, there are many different forms of biological materials.[31] These include DNA amplified through polymerase chain reaction (PCR) technology and modified biological materials. It is not clear, however, if the legislative intent is to include such biological materials within the definition of material created outside the human body. Unfortunately, neither the text of the HTA

---

26 HTA 2004, s 1(a), (c).

27 HTA 2004.

28 HTA 2004, s 53(1)-(2).

29 HTA 2004, s 54(7).

30 HTA 2004, Explanatory Notes, [10].

31 See notes 38-62 of Chapter 1 and accompanying text.

2004 nor discussion in either the Explanatory Notes or parliamentary debates clarifies this issue.

Part 1 then establishes offences where persons use relevant material without consent (where consent is required under the HTA), or use relevant material in a way that goes beyond the terms of the consent given. Section 5 provides that an offence is committed where appropriate consent has not been obtained. The Explanatory Notes state that 'where there is consent to use material for one purpose, it may not be used for another'.[32] Once consent is obtained, researchers may reuse the relevant material, but only so long as the new activities fall within the terms of the original consent (unless fresh consent is obtained, assuming that individuals allowed researchers to recontact them under their original consent).

The breadth of the original consent given, therefore, becomes very important. The creation of criminal offences is a significant development. In particular, the section 5 offence represents an extension of the doctrine of consent. At common law, the doctrine of consent protects the bodily integrity of the individual, as Chapter 3 illustrated.[33] In that context, the doctrine of consent is concerned with the *removal* of bodily material. The new offence, however, purports to govern what lawfully may be done with relevant material *after* it has been removed from the human body. In this way, the offence uses the doctrine of consent to provide individuals with greater protection over the subsequent use of relevant material removed from their body than that which is conferred under the common law.

---

32 HTA 2004, Explanatory Notes, [20].

33 See notes 39–78 of Chapter 3 and accompanying text.

2 Exceptions to Consent Requirements

The HTA 2004 provides a number of exceptions to the 'appropriate consent' requirement. Most of these are of limited scope. But there is one substantial exception that was introduced at the Report stage in the Commons following pressure from the medical and scientific research community.[34] The Government amended the original version of the Bill to provide an exception—now contained in section 1(8)—for research. Under section 1(8), research may be conducted without consent where it is ethically approved and the individual(s) from whom the relevant material came cannot be identified by the researcher.

The wording of section 1(8) raises two points of particular note. The first concerns ethical approval. There is no mention in the HTA 2004 itself of how ethical approval is to be obtained; although, the Explanatory Notes suggest that, most likely, it will be sought from existing NHS Research Ethics Committees.[35] These committees have no formal legal status and are not governed by statute or regulation.[36] Instead, they currently operate under Department of Health guidelines.[37] The exception does seem to confer a very broad-ranging, largely undefined power on such bodies.

The second interesting point in this context is that, by waiving the consent requirement in circumstances where individuals cannot be identified by researchers,

---

34 C Dyer 'Human Tissue Bill is Modified because of Research Needs' (2004) 328 British Medical Journal 1518, 1518.

35 HTA 2004, Explanatory Notes, [12].

36 Note, however, the recognition of ethics committees under the *Clinical Trials Regulations* 2004 (commenced 1 May 2004). This instrument provides a statutory grounding for good clinical practice, good manufacturing practice, research ethics committee review, informed consent of trial participants, and legal liability for injuries. See in particular Part II of the Regulations which creates the United Kingdom Ethics Committees Authority and provides for the establishment and recognition of ethics committees.

37 For a discussion of the governance arrangements of research ethics committees see: J McHale 'Clinical Research' in A Grubb (ed) *Principles of Medical Law* (2nd edn OUP Oxford 2004) 858-861.

the HTA 2004 offers a similar form of protection as that which is afforded to data subjects by the Data Protection Act 1998 c 28 (DPA). Under the section 1(8) exception researchers may, with ethical approval, use material without consent so long as it is not possible for them to identify the individual(s) from whom the material came. The HTA 2004 seems to presuppose that the sole concern of individuals in both contexts (namely, the use of biological materials and the processing of personal data) is to protect their personal privacy. But this presupposition does not necessarily follow. Individuals may have a range of other interests beyond privacy and anonymity concerns that they wish to protect or to control in relation to separated biological materials. For example, they may not want their biological materials to be used for particular kinds of research (such as research involving animals). Although this may not be a common concern amongst individuals, the example demonstrates that individuals may have interests going beyond informational privacy that the introduction of the section 1(8) exception fails to recognize. The existence of these broader interests support the need for individuals to have broader rights to control what is and is not done with (or to) materials removed from them. These broader interests are canvassed more fully in Chapter 9.

There are further more limited exceptions to the consent requirement contained in section 1 that also warrant mention here. A second exception, added at the Report stage in the House of Commons, appears in section 7. That section provides that an application may be made to the High Court for access to relevant material without consent where such access is in the interests of individuals whose health might benefit.[38] Section 7 is intended to cover two situations. One of these concerns cases where individuals are not traceable but analysis of their relevant material is

---

38 HTA 2004, s 7.

necessary, for example to predict the likelihood of their genetic relatives having a genetic condition.[39] Second, the mechanism also permits consent to be waived in exceptional circumstances where the use of relevant material from living or deceased persons is in the public interest. An example provided in the House of Commons debate discussed the situation where an individual dies from a new virus and consent cannot be obtained from his or her relatives.[40] As noted in the parliamentary debates, this exception is intended to be limited to a major public health crisis including highly infectious diseases such as the Ebola virus.[41] The HTA 2004 does not provide further detail and the Government has indicated that further detail will be contained in the regulations.

A third, more limited, relevant exception relates to surplus material. Section 44 of the HTA 2004 provides:

> (1) It shall be lawful for material to which subsection (2) or (3) applies to be dealt with as waste.
>
> (2) This subsection applies to any material which consists of or includes human cells and which has come from a person's body in the course of his—
>
> (a) receiving medical treatment,
> (b) undergoing diagnostic testing, or
> (c) participating in research.
>
> (3) This subsection applies to any relevant bodily material which—
>
> (a) has come from the human body, and
> (b) ceases to be used, or stored for use, for a purpose specified in Schedule 1.
>
> (4) This section shall not be read as making unlawful anything which is lawful apart from this section.

---

39 *Hansard* HC Debate col 26 (28 June 2004) (Ms Winterton).

40 *Hansard* HC Debate col 27 (28 June 2004) (Ms Winterton).

41 *Hansard* HC Debate col 27 (28 June 2004) (Ms Winterton).

It is not clear from the text of the HTA 2004 what consequences flow from the categorization of surplus materials as waste. At first impression, section 44 confers a broad power for any materials to be classified as waste in the contexts set out in section 44(2). Earlier, Chapter 5 explained that the common law classifies as waste any materials that have been abandoned by the individuals from whom they originated.[42] In such circumstances, courts have considered that third parties may take control of such materials and use them for other purposes, including for example DNA analysis.

Applying this interpretation to the section, researchers then would be entitled to claim the materials once they have been categorized as abandoned waste, and use them for other purposes without the need for any consent. If correct, such an interpretation would suggest that individuals have property rights to such materials (prior to their abandonment). However, such an interpretation does seem to be inconsistent with the overall intention of the HTA 2004, which focuses on obtaining consent. A better reading suggests that under section 44 surplus materials are to be disposed of where the consent provided by the individual has not made it clear what is to happen to such materials. Under section 26 of the HTA 2004, the Human Tissue Authority is vested with the power to prepare codes of practice for the 'disposal' of relevant material.[43] Although section 26 refers to disposal of 'relevant material' rather than surplus waste, it is reasonable to conclude that the Human Tissue Authority's power also relates to the disposal of waste as set out in section 44. If it did not, then section 44 would severely undermine the consent requirements that are central to the operation of the HTA 2004.

---

42 See notes 165–169 of Chapter 5 and accompanying text.

43 HTA 2004, s 26(2)(l).

The fourth relevant exception provides that the HTA 2004 does not alter the coroner's power to order a post-mortem without consent of any kind.[44] Further, the Act does not alter the legality of removing or retaining bodily materials as part of a coroner's post-mortem for the purpose of investigating the cause of death. English law does not currently regulate the retention of separated bodily materials once the coroner's jurisdiction has expired.[45] In the parliamentary debate on the Bill, Ms Winterton stated that the Government had directed the Home Office to amend the Coroner's Rules to require the coroner to communicate with the family about retention of bodily materials.[46]

The fifth relevant exception asserts that consent is not required where a body or bodily material comes from a person who died 100 years or more before the HTA 2004 comes into force.[47] Importantly, the HTA 2004 does not apply to the continued retention of bodies or body parts that comprise 'existing holdings'—that is, such materials as are held already held by anyone prior to the HTA 2004 coming into force.[48] The Human Tissue Authority may, however, issue a code of practice reviewing existing holdings and advising on their continued retention.[49] A related exception covers bodies or body parts lawfully retained under the Anatomy Act.[50]

The final exception of note is that consent may be deemed to be obtained in relation to materials that are removed from adults who lack capacity to consent.[51]

---

44 HTA 2004, s 10.

45 See notes 69–70 of Chapter 4 and accompanying text.

46 *Hansard* HC Debate vol 423 col 423 (28 June 2004) (Ms Winterton).

47 HTA 2004, s 1(5)(b).

48 HTA 2004, s 9

49 HTA 2004, s 26(2)(j).

50 HTA 2004, s 10.

51 HTA 2004, s 6.

The intention of section 6 of the HTA 2004 is to fill the gap in the law until the Mental Capacity Bill 2004[52] is enacted (which currently is anticipated to be in 2007).[53]

In combination, these six exceptions demonstrate that the HTA 2004 now includes several pragmatically-driven attempts to ensure that the use of relevant material is not unduly hindered by rigid adherence to the requirement for consent. Indeed, Ms Winterton noted in closing the Report stage debate in the House of Commons that the Bill is 'workable and pragmatic'.[54] Yet, as analysing these exceptions has highlighted, the HTA 2004 fails to settle what underlying legal principles apply in the context of biological materials removed from a living person. One central concern of the HTA 2004 is to ensure that individuals retain control over material removed from them through the doctrine of consent. However, the most substantial exception recognizes that consent may be bypassed where it is presumed that there is no threat to the privacy and anonymity of an individual. Thus the doctrine of consent does not afford complete protection to the legitimate interests of individuals.

3 Prohibition on Commercial Dealing

The prohibition on commercial dealing was contained in the original Bill in clause 29 and sought to prohibit commercial dealing in relevant bodily material.[55] The HTA 2004 no longer utilizes the phrase 'relevant bodily material' in the new clause (now section 32). This revision was a significant policy decision. Essentially, the original clause extended the previous statutory prohibition against trafficking in

---

52 Introduced into the House of Commons on 17 June 2004.

53 *Hansard* HC Debate vol 423 col 34 (28 June 2004) (Ms Winterton).

54 *Hansard* HC Debate vol 423 col 116 (28 June 2004) (Ms Winterton).

55 The phrase 'relevant bodily material' referred in general terms to bodily material which consists of or includes human cells.

transplantable organs (contained in section 1 of the Transplants Act) to cover whole bodies and all forms of 'relevant bodily material'. Following the Report stage, however, a new section 32 was drafted which limits the prohibition against commercial dealings only to 'controlled material'.[56] At the Report stage, Ms Winterton explained the Government's change of position as follows:

> [I]t was clearly never our intention to interfere with commercial activities that had been lawfully and ethically carried on for many years. We therefore propose to amend the Bill to confine the offences connected with advertising and supply of human tissue for reward to transplantable tissue only.[57]

This section will analyse both section 32 and the original clause 29. Analysing the original clause 29 is important and illuminating, because its drafting represents the most substantial attempt made to date to codify the work or skill exception and to widen its application. The exception has been maintained in the HTA 2004 under section 32. It is not clear, however, to what extent the exception will apply in relation to material that is intended for use in transplantation. The analysis therefore commences with the original clause 29.

(a) Original Clause 29

The original clause 29 would have extended the ambit of the commercial prohibition to cover all relevant bodily material. In the original version of the Bill, 'relevant bodily material' was defined in clause 29(7) and (9) as follows:

> (7) For the purposes of this section, "relevant bodily material" means any bodily material which—

---

56 The phrase 'controlled material' is considered in detail below but, in general terms, refers to bodily material which consists of or includes human cells that is intended for use in transplantation, other than gametes, embryos and material which is the subject of property because of an application of human skill.

57 *Hansard* HC Debate col 115 (28 June 2004) (Ms Winterton).

(a) consists of or includes human cells, and
(b) is not of a kind excepted under subsection (9).

...

(9) The following kinds of bodily material are excepted—

(a) gametes,
(b) embryos,
(c) hair and nail from the body of a living person, and
(d) material which is the subject of property because of an application of human skill.

It is the last exception (clause 29(9)(d)) that is particularly significant here. Under clause 29 it was intended that material classified as 'property because of an application of human skill' should not be caught by the commercial prohibition. Clause 29(9)(d) represented a partial statutory codification of the common law work or skill exception.[58] This point was made at the Committee stage, when the Parliamentary Under-Secretary of State for Health, Dr Ladyman, explicitly stated that the Bill was not intended to amend the common law position.[59] The proposed extension was significant because it remains unsettled at common law whether the exception extends to biological materials removed from a living person. The Bill originally intended to make that extension explicit, and section 32 of the HTA 2004 also makes this extension, albeit in a more limited form. Under section 32, however, the exception only relates to controlled material (defined below) which is intended to be used for the purpose of transplantation. No reference was made in the parliamentary debates in the House of Commons as to the effect that this change would have on the application of the human skill. During the Second Reading debate

---

58 For a detailed account of the common law work or skill exception, see notes 31–96 of Chapter 4 and accompanying text.

59 HC Standing Committee G, col 215 (3 February 2004). The Parliamentary Under-Secretary for Health, Dr Ladyman, made the following observation about clause 29(9) [now s 32]: '[t]hat exception reflects the current legal position as determined by the case law, that there is no property in the human body or its parts, so they cannot be bought or sold, except where human skill has been applied. The Bill recognises, but does not change that legal position; the Bill leaves the position as it is now'

in the House of Lords it was suggested that section 32 still sought to codify the common law exception.[60]

No discussion of the exception is contained in the original Explanatory Notes or features in the Second Reading debate. This is regrettable because there are inconsistencies within the common law's application of the work or skill doctrine. Perhaps more significantly, the text of both the original clause 29(9)(d) and the later version contained in section 32(9)(c), appear to go beyond what the common law authorities have established.

Section 32 retained the 'human skill' exception in relation to the transplantation of controlled material. The principal difference between clause 29 and section 32 is that, under section 32, the prohibition applies only in the narrower context where controlled material is intended to be used for transplantation (rather than applying across the board to all forms of relevant bodily material, and whatever the intended purpose). Section 32 establishes that property rights are created where there has been 'an application of human skill' to the controlled material. The first issue concerns what level of work or skill is required for controlled material to fall within the exception. The common law has not settled what degree of work or skill is required. Similarly, the HTA 2004 does not provide any definition of what level, kind or quality of 'human skill' is required for the exception to apply. This statutory omission is indicative of the general failure at common law (and now in legislation) to identify the legal principle and standards underpinning the work or skill exception.

---

60 *Hansard* HL Debate vol 664 col 388 (22 July 2004) (Lord Patel). Lord Patel noted in relation to (then) clause 32 that the 'interpretation of case law in this area is not straightforward'

The lack of precision in the drafting of the exception is demonstrated by two aspects of the text of the original clause 29 that have carried over into section 32. First, the text of the HTA 2004 does not refer to the acquisition of different attributes (as required at common law). Instead, it requires that there be an 'application' of human skill to the separated material. The natural and ordinary meaning of the term 'application' is putting a thing to a use or purpose.[61] The text of the clause apparently requires that skill be employed in some way. At first impression the Act's formulation seems to go beyond the work or skill exception recognized at common law. *R v Kelly*, for example, established that at common law, property rights are created where a body part acquires different attributes by virtue of the application of skill.[62] There is no mention in the Bill's original clause 29, or in section 32, of the acquisition of different attributes as being an essential condition for the exception to apply. Such an omission is significant because under the HTA 2004, it would seem that all that is necessary for the exception to apply is the application of human skill. It may be open for the courts, consistently with the exception at common law, to interpret and apply section 32 so as to require the acquisition of different attributes. Nevertheless, the potential for a broader reading of the clause exists and, if adopted, could substantially widen the scope of the work or skill exception as it is recognized and applied by the common law.

The undefined nature of the work or skill exception in the HTA 2004 also raises a secondary issue of what standard of skill should be required. It may be, for example, that allowing a drop of blood to fall onto a piece of filter paper for the purposes of analysis could be sufficient. The HTA 2004 gives no guidance. Yet the

---

61 *Oxford English Dictionary* (2nd edn OUP Oxford 1989) 575.

62 *R v Kelly* [1999] QB 621, 631.

standard of skill is important and it goes to the breadth of the exception. For example, is it necessary that the person performing the skill be a qualified specialist? In *AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS,* Gage J observed that the individual responsible for preserving biological materials was required to have specialist qualifications.[63]

Furthermore, both clause 29 and section 32 require 'human skill'. It is not clear from the Explanatory Notes or parliamentary debates what is meant to be conveyed by the addition of the qualifier 'human' – which has not appeared in the case law to date – to the word skill. The insertion of the word 'human' raises the question of whether the exception is applicable in the context of work primarily performed by machines. If the original clause 29 had been retained, one potential difficulty may have arisen in the context of amplified DNA. It was not clear from the text of the Bill, Explanatory Notes or parliamentary debates whether the production of amplified DNA constituted an application of human skill. This concern is exacerbated by the fact that it is not clear at common law either whether amplified DNA qualifies as sufficient work or skill. In the case of amplified DNA the human skill that is exercised is minimal because a substantial proportion of the work is conducted by the 'thermo cycler', which is the machine used by researchers to conduct the amplification. The only substantial human activity involves the mixing of materials (the original biological material, pre-mixed solutions of DNA and water) and then placing the materials in the thermo cycler.[64] Although these concerns do not need to

---

63 *AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS Trust* [2004] EWHC 644 (QB) Appendix A [11].

64 Quiagen *PCR Handbook* (Quiagen New York 2002) (available at http://www1.qiagen.com) 13.

be addressed under section 32, they demonstrate the current uncertainty surrounding the work or skill exception.

(b) Section 32

By way of partial statutory codification, the HTA 2004 essentially transfers over the offence and penalties formerly contained in the Transplants Act relating to the removal and transplantation of organs from living donors.[65] This position is consistent with the European policy against the use of the human body or body parts for financial gain.[66] Section 32 of the HTA 2004 does, however, extend the offence so that it also covers the supply of 'controlled material' intended for transplantation purposes. Section 32(1) sets out the new prohibition as follows:

> (1) A person commits an offence if he:
>
> (a) gives or receives a reward for the supply of, or for an offer to supply, any controlled material;
>
> (b) seeks to find a person willing to supply any controlled material for reward;
>
> (c) offers to supply any controlled material for reward;
>
> (d) initiates or negotiates any arrangement involving the giving of a reward for the supply of, or for an offer to supply, any controlled material;
>
> (e) takes part in the management or control of a body of persons corporate or unincorporated whose activities consist of or include the initiation or negotiation of such arrangements.

The definition of 'controlled material' is important and the term is defined by sub-sections 32(8), (9) and (10):

---

65 HTA 2004, ss 33 and 34.

66 European Convention on the protection of human rights and dignity of the human being with regard to the application of biology and medicine (ETS 164, Oviedo, 4 April 1997) art 21.

(8) For the purposes of this section, controlled material is any material which—

(a) consists of or includes human cells;
(b) is, or is intended to be removed, from a human body,
(c) is intended to be used for the purpose of transplantation, and
(d) is not of a kind excepted under subsection (9).

(9) The following kinds of material are excepted—

(a) gametes
(b) embryos, and
(c) material which is the subject of property because of an application of human skill.

(10) Where the body of a deceased person is intended to be used to provide material which—

(a) consists of or includes human cells, and
(b) is not of a kind excepted under subsection (9),

for use for the purpose of transplantation, the body shall be treated as controlled material for the purposes of this section.

Three sorts of human materials are excluded from the prohibition under s 32(9). The first two exceptions—gametes and embryos—are covered by the regime established by the HFEA. The final exception—material that is the subject of human skill—represents, as noted above, a statutory application of the common law work or skill exception. Cell-lines are also excluded from the prohibition because they are not regarded as material 'from a human body'.[67]

Section 32 also provides for three broad exceptions to this prohibition against commercial dealings in controlled material for transplantation. Their inclusion suggests that Parliament implicitly considered (although without explaining why) that relevant bodily material is capable of being characterized as property over which individuals or organisations may claim property rights. The first exception

---

67 HTA 2004, s 54(7) and HTA 2004 Explanatory Notes, [48].

permits the Human Tissue Authority to designate persons who may lawfully engage in activities otherwise prohibited under section 32(3). The exception is intended to include, for example, the National Blood Service purchasing blood from overseas.[68] The second exception excludes activities in connection with acquisitions by certain museums.[69]

The final (and perhaps most significant) exception relates to provision for the reimbursement of expenses.[70] Section 32(6) provides that payment shall be treated as not being a reward where 'it is in consideration for transporting, removing, preparing, preserving or storing controlled material'.[71] The section was not contained in the original Bill and was inserted after pressure from the research and commercial communities.[72] The sub-section allows for the possibility of commercial tissue banks by permitting licence-holders to receive more than just expenses in relation to these activities.[73] Further, section 32(7) also provides that it is not an offence to provide expenses or recompense for loss of earnings to an individual who supplies transplantable material.

The practical effect of sub-sections 32(6) and 32(7) is to allow controlled material to be bought and sold by licence-holders under certain conditions. In this way, it is arguable that controlled material is being treated as property. Under the HTA 2004 however, payments cannot be made directly for the controlled material, but only for other work done, such as preparing and preserving the material. During the

---

68 HTA 2004, Explanatory Notes [48].

69 HTA 2004, s 32(3)(b).

70 HTA 2004, s 32(6) and (7).

71 HTA 2004, s 32(6)(a).

72 C Dyer 'Human Tissue Bill is Modified because of Research Needs' (2004) 328 British Medical Journal 1518, 1518; L Moss 'Tissue Bill Amended Amid Research Fears' *Scotsman* (23 June 2004) (available at http://news.scotsman.com/latest.cfm?id=3104403).

73 HTA 2004, Explanatory Notes [48].

Commons Report stage the Minister for Health Ms Winterton noted that '[w]e understand that payments are not made in respect of human tissue itself'.[74] The argument presented here is that any payments made are for the necessary services provided to facilitate access to controlled material. This is, however, an artificial distinction and is analogous to the approach of certain US courts, which have characterized the provision of blood as being a service. Payment for the provision of a service arguably masks what is in reality payment for biological materials. Indeed, the research community and biotech industry was concerned that the exception provided in section 32(7) would be inadequate, and therefore sought the addition of sub-section 32(6).

These exceptions to the commercial prohibition demonstrate that, in certain instances, the HTA 2004 does appear (at least implicitly) to treat relevant material as property. The inconsistent tendencies in the HTA 2004 demonstrate that the legislature has not provided a rational structure of underlying rights. Despite setting up a purportedly comprehensive legislative scheme, the HTA 2004 does not define the legal status of either 'relevant material' or 'controlled material'. Instead, as the insertion of section 32(6) demonstrates, it has been motivated by the perceived need to provide practical solutions. While these solutions may provide stability in the short term, they are not based on clearly formulated or articulated legal principles. Rather, they represent an ad hoc response to policy concerns and perpetuate the failure of English law to clearly define as a matter of legal doctrine what underlying rights exist in separated bodily materials.

---

74 *Hansard* HC Debate vol 423 col 115 (28 June 2004) (Ms Winterton).

4 Non-Consensual DNA Analysis Offence

Section 45 of the HTA 2004 provides for a new criminal offence where any person holds 'bodily material' (defined below) intending that the DNA in the material be analysed without 'qualifying consent'. The offence is examined here because of the non-proprietary interests it seeks to protect. The criminal offence was originally proposed by the Human Genetics Commission[75] and a similar offence has been recommended by the Australian Law Reform Commission (ALRC).[76] Four alternatives were considered by the ALRC in relation to criminalizing activities relating to non-consensual taking of an individual's DNA: (1) obtaining bodily material without the individual's consent; (2) holding bodily material with an intention that it be used for DNA analysis without the individual's consent; (3) conducting DNA analysis on bodily material without the individual's consent; and (4) using bodily material, or information derived from it, for reward or benefit without obtaining the individual's consent. The ALRC recommended the third option.[77]

The HTA 2004 adopts the second option. Thus, an offence will be committed where an individual holds bodily material with an intention that the DNA in it be analysed for purposes other than those provided for in section 45. Under the definition of the offence it is not necessary for the holder to actually perform the analysis. Holding the bodily material with the requisite intention that an analysis be conducted is sufficient.

---

75 Human Genetics Commission *Inside Information* (Department of Health London 2002) [3.61]

76 Australian Law Reform Commission *Essentially Yours: The Protection of Human Genetic Information* (ALRC 96 Australian Government Publishing Service Canberra 2003) [12.2].

77 ALRC *Essentially Yours: The Protection of Human Genetic Information* (n 76 above) [12.25].

There are two important components that determine the scope of the offence. The first concerns the materials covered by the offence. 'Bodily material' is defined as 'material which has: (a) come from the human body, and (b) consists of or includes human cells'.[78] This definition includes hair, nail and gametes as it is possible to obtain DNA from these substances. It is not clear, however, whether DNA obtained from chemical sequences generated through PCR or other amplification techniques is included in the offence. These techniques produce copies of an individual's DNA and are capable of providing the same information as the original human cell.[79]

Second, section 45 sets out the 'excepted purposes' for which bodily material may be held for DNA analysis without consent. These include: medical treatment or diagnosis; functions of a coroner; preventing or detecting crime; conducting a prosecution; national security purposes; and implementing an order of a court. If material is used for any of these purposes without consent then the offence is not enlivened.[80] Certain materials also fall outside the scope of the offence. Section 45(2)(a) excludes bodily material removed from the body of a person who has died before the section comes into force. Section 45(2)(b) also excludes bodily material that is currently held and the person holding the material is not likely to obtain information as to the identity of the individual from whom the material came.

The interests of the individual that the HTA 2004 seeks to protect through the offence are not proprietary in nature. Significantly, the establishment of a criminal offence is not based on the unauthorized *taking* of the bodily material. Had the HTA 2004 classified bodily material as property, then any unauthorized taking of such materials would also constitute theft under the criminal law. But the HTA 2004 does

---

78 HTA 2004, s 45(5).

79 See notes 47-53 of Chapter 1 and accompanying text.

80 HTA s 45(1)(a)(ii) and Sch 4, Part II.

not classify bodily materials as property. Instead the unauthorized taking of bodily materials represents an invasion of an individual's bodily integrity alone, and is currently protected by the law of tort through assault and battery and the criminal law of assault.[81] The HTA 2004 does not provide control over biological materials separated from an individual following an assault.

Consequently, it is interesting to consider what individual interests Parliament may be seeking to protect through including the DNA analysis offence. The establishment of protection effectively provides individuals with control over what happens to materials once they are removed from their bodies, and thereby enforces the law's respect for the autonomy and human dignity of each individual. Specifically, the offence seeks to ensure that the privacy of individuals is not violated by non-consensual testing of bodily materials.[82] The Australian Law Reform Commission identified an individual's privacy interest by observing that a criminal offence would punish the 'intrusion on human dignity and autonomy'.[83] Examples of potential harms to individuals may include: the use of such information by employers and insurers; unwanted disclosure of long term health prognoses; and disruption to family relationships where parentage information is revealed. These factual scenarios are all examples of potential threats to an individual's autonomy and human dignity, and the offence would apply in each of these cases. Thus

---

81 See notes 62–83 of Chapter 3 and accompanying text.

82 Neither the HTA 2004 nor the Explanatory Notes contain any references to autonomy or human dignity. It is reasonable, nonetheless, to infer that the offence is intended to protect individual privacy and thereby autonomy and human dignity. The section 45 offence was drafted on the basis of a recommendation by the Human Genetics Commission (HGC). In the report *Inside Information* (n 75 above), the HGC specifically noted at [3.51] that the proposed offence would protect individual privacy.

83 ALRC *Essentially Yours: The Protection of Human Genetic Information* (n 76 above) [12.13].

Parliament has at least implicitly acknowledged that individuals retain non-proprietary interests in separated biological materials.

5 Summary

The HTA 2004 enshrines the doctrine of consent as the basis for the lawful removal, storage and use of relevant material. The doctrine of consent is used to control what lawfully may be done with such materials once they are removed from deceased or living persons. Nevertheless, the HTA 2004 provides for a number of exceptions to this prohibition, including the power to reimburse individuals or organisations for the supply of materials.

Yet the HTA 2004 is silent as to the legal status of relevant material and controlled material. It is likely that its silence represents a statutory endorsement of the common law no property principle. Implicitly though, the HTA 2004 recognizes property rights in at least two circumstances. The first is where there has been an application of human skill to controlled material that is intended for transplantation. Second, the HTA 2004 appears implicitly to recognize that a property characterization is also appropriate for material created outside the human body, including cell-lines, for example. These examples demonstrate the uncertainty that remains over the underlying legal principles. Parliament has therefore missed a significant opportunity to identify and articulate the legal principles that ought to cover separated biological materials. The HTA should not, however, be the end of the story.

C Conclusion

Part II has analysed how common law and statutory regimes address (or fail to address) the rights to, and legal status of, separated bodily materials. Chapter 4

identified and explored the legal principles that the common law and statutes employ to address issues concerning cadavers and parts removed from them. Chapter 5 then considered the approach of the common law and statute to bodily materials separated from living persons. To complete the picture, this chapter analysed the HTA 2004.

The map of how English law currently addresses questions as to the legal status of the human body and separated bodily materials is thus now complete. The combination of common law and piecemeal statutory instruments has resulted in an unclear body of jurisprudence. At the heart of this confusion lies a fundamental core uncertainty as to which legal principles the law should use to control the human body and separated bodily materials.

Increasingly, courts are faced with questions concerning the protection of an individual's interests in separated biological materials. The law has responded in two ways. First, it is submitted that English law recognizes that property rights are created in separated biological materials following: (1) work or skill; or (2) detachment. Chapter 5 also noted the potential for a third circumstance; namely, that property rights are created in separated biological materials following detachment coupled with intention that they are to be used as property.

The second response of the law is the protection of an individual's non-proprietary interests. At common law, Baroness Hale acknowledged the legal relevance of an individual's non-proprietary interests in *R (S)*. In a statutory context, the HTA 2004 recognizes that individuals maintain at least non-proprietary interests in separated biological materials through the non-consensual DNA analysis offence.

For English law to develop in a consistent and principled manner it is necessary to establish the foundational legal principles. Invoking the doctrine of consent, as the HTA 2004 does, avoids the first-order legal question of whether there are

circumstances that properly should be seen as creating property rights to separated biological materials. As long as this question remains unanswered, English law cannot provide the necessary foundation for a coherent structure of property rights and non-proprietary interests. Constructing such a rational structure is the ambition of Part III and it is to this challenge that the thesis now turns.

PART III

CHAPTER 7

PROPERTY RIGHTS

A INTRODUCTION

Part III of this thesis seeks to develop a principled structure of legal rights and interests that apply with respect to biological materials separated from living individuals. Part II investigated how the law has dealt with the legal status of, and rights to, separated bodily materials. The analysis revealed an unclear picture and these difficulties in English law have not been resolved by the Human Tissue Act 2004 c 30 (HTA 2004). One author recently predicted that future developments in this area are likely to be marked by 'increasing incremental acceptance, by statute or common law, of the idea that corpses, body parts, and tissue are property'.[1] Unprincipled development is not, however, satisfactory.

Part III considers how English law can protect an individual's property rights and non-proprietary interests. Contract law, subject to inhibitions concerning freedom to contract, can provide for both control and commercial participation in relation to the use of separated biological materials. Indeed, there are groups in the US that provide biological materials and use contracts to protect their property rights and non-proprietary interests. PXE International, for example, asserts

---

1 M Bridge *Personal Property Law* (3rd edn OUP Oxford 2002) 4.

property rights in biological materials that its members donate for research use.[2] No US court has considered the validity of the PXE standard term contract.

The more difficult questions in law arise where contract law does not determine what interests an individual has in separated biological materials. In the absence of a contract, the question becomes: how can English law protect an individual's property rights and non-proprietary interests? The English law of wrongs protects both property rights and non-proprietary interests.[3] Chapters 7 and 8 examine whether legal principle supports the creation of property rights to separated biological materials. Chapter 9 then examines whether English law can protect an individual's non-proprietary interests in separated biological materials.

Chapter 7 has three sections. The first section sets out the principal question: namely, does legal principle support the creation of property rights to biological materials following their separation from a living person? This question involves a two-stage enquiry: (1) can physical detachment transform biological materials into things that are capable of being the subject of property rights? and (2) what circumstances support the creation of property rights to separated biological materials? The first section of this chapter explains why the thesis frames the analysis this way. The second section then addresses the first stage of the enquiry. Finally, the third section examines the second stage of the enquiry. Specifically, the chapter considers whether the work or skill exception, as it has developed in English law, can explain the creation of property rights to separated biological materials.

---

2 SF Terry and CD Boyd 'Researching the Biology of PXE: Partnering in the Process' (2001) 106 American Journal of Medical Genetics 177, 178.

3 The analysis in Part III is not limited to the law of tort but analyses the broader category of the law of wrongs. A wrong is defined as being a breach of a legal duty owed to a claimant: P Birks 'Definition and Division: A Meditation on *Institutes 3.13*' in P Birks (ed) *The Classification of Obligations* (OUP Oxford 1995) 23.

B QUESTION

It is an open question in English law whether separated biological materials can be considered property without the application of work or skill. The US decisions of *Moore v Regents of the University of California*[4] and *Greenberg v Miami Children's Hospital Research Institute*[5] fail to provide a satisfactory analysis. These decisions focused on balancing policy considerations, and consequently overlooked the more fundamental question of legal principle. One of the difficulties with this area of the law is that the courts and commentators have not addressed the basic underlying structure of rights. Skene, for instance, argues that the question of whether the law should recognize property rights in removed body parts should be determined by a balancing of policy concerns.[6] Skene's approach neglects the fundamental question of whether separated biological materials can be property as a matter of principle for the purposes of the law.

This question raises two issues: (1) how are biological materials transformed into things capable of being the subject of property rights? and (2) what circumstances (or events) create property rights to biological materials? This thesis argues that three circumstances potentially create property rights: (1) work or skill performed on biological materials; (2) detachment of biological materials; and (3) detachment of biological materials coupled with an intention to use such materials as property.

Following this approach, policy concerns should only be addressed (as a matter of legal principle) after determining whether property rights are created in separated

---

4 249 Cal Rptr 494 (Cal App 1988) and 793 P 2d 479 (Cal SC 1990).

5 264 F Supp 2d 1064 (US DC Florida 2003).

6 L Skene 'Proprietary Rights in Human Bodies, Body Parts and Tissue: Regulatory Contexts and Proposals for New Laws' (2002) 22 Legal Studies 102, 104.

biological materials. Once this threshold question is addressed, then questions can be asked about what limits, if any, English law should place on the underlying property rights. One of the standard objections to creating property rights in separated biological materials argues that the recognition of such rights commodifies living persons and thereby undermines their human dignity. These concerns are well-documented in academic literature[7] and have shaped the policy and legislative responses of parliaments in England, Australia and the US. In England, for example, the HTA 2004 continues the prohibition on commercial trade in human organs (previously contained in section 1 of the Human Organ Transplants Act 1989 c31), expanding it to include controlled material intended for use in transplantation.[8] There are policy concerns beyond commodification-based fears. Gitter argues that the recognition of property rights would undermine the traditional notion of altruistic participation in research for the benefit of society at large.[9] Although these policy concerns may be valid, and even warrant limits over the legal measures that are made available to individuals in certain circumstances, this thesis does not intend to explore them. The focus here is on whether legal principle can support the creation of property rights to biological materials.

---

7 For examples of this contention see: J Mahoney 'The Market for Human Tissue' (2000) 86 Virginia Law Review 163, 164-165; DM Wagner 'Property Rights in the Human Body: The Commercialization of Organ Transplantation and Biotechnology' (1995) 33 Duquesne Law Review 931, 934; RF Chandwick 'The Market for Bodily Parts: Kant and Duties to Oneself' (1989) Journal of Applied Philosophy 129, 129. For a discussion of commodification generally see: MJ Radin *Contested Commodities* (Harvard University Press Boston 1996) 1-15; MJ Radin 'Market-Inalienability' (1987) 100 Harvard Law Review 1849, 1855-1859.

8 HTA 2004, s 32.

9 DM Gitter 'Ownership of Ownership Tissue: A Proposal for Federal Recognition of Human Research Participants' Property Rights in their Biological Material' (2004) 61 Washington and Lee Law Review 257, 323.

C TRANSFORMATION OF BIOLOGICAL MATERIALS

The first issue, in considering the creation of property rights, is whether separated biological materials can be classified as 'things' capable of being the subject of property rights. This characterization does not necessarily mean that these 'things' *are* property. Chapter 2 defined 'property' as things that are the subject of property rights.[10] It is possible, however, for a physical object to exist as a thing that is *capable* of being the subject of property rights. This thesis argues that the detachment of biological materials from a human body transforms such materials into things that are capable of being the subject of property rights. Both judicial authority and property theory support this proposition.

Case law has recognized that separated biological materials can be classified as 'property' for the purposes of statutory construction. In England, *R v Rothery*[11] stands as authority for the proposition that blood is 'property' capable of being stolen under section 5(1) of the Theft Act 1968.[12] Similarly, *R v Welsh*[13] held that a urine sample is 'property' for the purpose of statutory theft provisions. In Australia, *Roche v Douglas*[14] held that biological materials are property under the relevant Supreme Court Rules.[15] These authorities demonstrate that, at least in certain circumstances, courts have accepted that biological materials, once separated from individuals, are capable of being classified as 'property'. In these cases the courts have gone further and held that the materials are not only capable of being the subject of property

---

10 See note 62 of Chapter 2 and accompanying text.

11 [1976] RTR 550 (CA).

12 *Rothery* (n 11 above) 552–553.

13 [1974] RTR 478 (CA).

14 (2000) 22 WAR 331 (WA SC).

15 *Roche* (n 14 above) 338–339.

rights, but actually are property. The creation of property rights is, however, a separate question which is addressed in the next section.

Property theory also supports the contention that physical detachment transforms biological materials into 'things' capable of being the subject of property rights. This thesis adopts Penner's definition of a 'thing'. Penner argues that all property rights are rights to things that are only contingently connected to individuals and are not intrinsic aspects of human beings.[16] The requirement of 'separability' is central to Penner's definition of what objects are included in a definition of things. Things that are intrinsically connected to individuals, such as reputations, cannot be the subject of property rights.[17] The right to bodily integrity, as detailed in Chapter 3,[18] is not a property right because biological materials that are part of a living person have no existence separate from that living person.

In contrast, the physical detachment of biological materials generates the necessary normative distance between a living individual and separated biological materials. This distance enables separated biological materials to be transformed into things that are, in principle, capable of being the subject of property rights. Harris notes that, for an entity to be proprietary subject matter, a human subject must be distanced from it.[19] He argues that the act of detachment provides the necessary distancing between the human source and the body part so that a separated body part is capable, conceptually speaking, of being classified as a thing that can be the subject of property rights.[20]

---

16 JE Penner *The Idea of Property* (OUP Oxford 1997) 111.

17 Penner *The Idea of Property* (n 16 above) 111.

18 See notes 39-40 of Chapter 3 and accompanying text.

19 JW Harris *Property and Justice* (OUP Oxford 1996) 332.

20 Harris *Property and Justice* (n 19 above) 353.

Even though detachment may transform biological materials into things potentially subject to property rights, it does not follow that property rights are necessarily created upon the separation of biological materials. The next section demonstrates that the creation of property rights may depend on circumstances that are different from the physical detachment. The work and skill exception, for example, creates property rights following the application of work or skill to separated biological materials. Prior to the application of work or skill these materials are not 'property' but instead are things that are merely capable of being the subject of property rights.

D CREATION OF PROPERTY RIGHTS

The second enquiry for the creation of property rights asks: what circumstances can create property rights to separated biological materials? This chapter specifically considers whether the work or skill exception can provide a general principle to explain the creation of property rights to separated biological materials. The work or skill exception is not, however, the only potential property-creating event and, following the analysis here, Chapter 8 addresses two other property-creating events: (1) detachment; and (2) detachment plus intention.

To assist in analysing the explanatory power of the work or skill exception, the chapter presents a hypothetical factual scenario, which is used as a tool for examination and analysis throughout Part III. The details of this scenario are as follows. Biological material (X) is removed from an individual (A) by a researcher (B). B intends to use X in medical research. Before undergoing the medical procedure, A consents to the removal of X. At the same time A also consents to the use of X in medical research. B then removes X and utilizes X in medical research. B

subjects X to the standard preservation techniques as outlined in Chapter 1.[21] The following analysis considers how the work or skill exception can explain the creation of property rights in this factual scenario.

1 Work or Skill Exception

English courts have recognized that by applying the work or skill exception, property rights can be created to body parts and biological materials removed from dead bodies.[22] This exception has been given statutory force through the HTA 2004. Under the HTA 2004, the work or skill exception applies to controlled material intended for transplantation.[23] Unfortunately, English law has not clearly identified the underlying basis of the exception as a matter of legal principle, resulting in ongoing uncertainty as to its dimensions and application.

Chapter 4 illustrated the inconsistent approaches to the work or skill exception adopted in *Doodeward v Spence*,[24] *Dobson v North Tyneside Health Authority*,[25] *R v Kelly*,[26] and *AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS Trust*.[27] In particular, it raised five issues.[28] For example, must there be an intention to create a novel item for the work or skill exception to apply, or is it sufficient that work of some sort is carried out on the body part? *Dobson* and *Kelly* suggested that an intention to create a novel item is required, while *Doodeward* and *AB* did not.

---

21 See notes 41-46 of Chapter 1 and accompanying text.

22 For a detailed discussion of the work and skill exception, see notes 31-96 of Chapter 4 and accompanying text.

23 HTA 2004, s 32(9)(c).

24 (1908) 6 CLR 406 (HCA).

25 [1997] 1 WLR 596 (CA).

26 [1999] QB 621.

27 [2004] EWHC 644 (QB).

28 See notes 84-92 of Chapter 4 and accompanying text.

Chapter 6 also noted that the partial statutory codification of the work or skill exception under the HTA 2004 may in some respects be broader than its current formulation at common law.[29] *Kelly*, for example, referred to body parts acquiring different attributes by virtue of the application of skill.[30] The relevant section in the HTA 2004 refers instead to 'material which is the subject of property because of an application of human skill'.[31] There is no mention in section 32(9)(c) HTA 2004 of either the acquisition of different attributes or the creation of a new item. Instead, the mere application of human skill appears to suffice.

The inconsistencies within the common law and between the common law and the HTA 2004 arise from a failure to articulate the underlying legal principle. Identifying the guiding principle is necessary to ensure the logical development of the exception. The English authorities—*Dobson*, *Kelly* and *AB*—drew on *Doodeward*. Yet, as the analysis in Chapter 4 demonstrated, *Doodeward* did not consider the basis of the work or skill exception in any detail.[32] Academic commentary has, in general, taken the work or skill exception to be a settled principle in English law without exploring its foundation as a matter of legal principle.[33] The following analysis considers two potential explanations in property law for the work or skill exception.

---

29 See notes 58–64 of Chapter 6 and accompanying text.

30 *Kelly* (n 26 above) 631.

31 HTA 2004, s 32(9)(c).

32 See notes 31–47 of Chapter 4 and accompanying text.

33 JV McHale 'Regulating Genetic Databases: Some Legal and Ethical Issues' (2004) 12 Medical Law Review 70, 79; D Price 'From Cosmos and Damian to Van Velzen: The Human Tissue Saga Continues' (2003) 11 Medical Law Review 1, 23; 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 Modern Law Review 710, 721; RS Magnusson 'Proprietary Rights in Human Tissue' in NE Palmer and E McKendrick (eds) *Interests in Goods and Services* (2nd edn LLP London 1998) 30–31.

2 First Possession

Several authors have suggested that *Kelly* is best explained as a case of 'first possession'.[34] On this view, biological materials removed from a cadaver are considered *res nullius*. The *res nullius* classification refers to things that have never been owned or have been abandoned by their original owner. Applying a first possession argument, once biological materials are detached they are things that, until taken into possession by someone, are not owned by anyone. The UK Nuffield Council on Bioethics and academic commentaries have drawn an analogy between separated biological materials and wild animals.[35] English law establishes that the first person to take a wild animal into possession is allocated property rights to the animal.[36] The first possessor principle is also recognized in Australia[37] and the US.[38] Taking this approach, the first person to take possession of separated biological materials is entitled to property rights in them. This right stems from the Roman principle of *occupatio*, which recognizes that the taking of possession of a thing that is *res nullius* represents the acquisition of ownership.[39]

---

34 Nuffield Council on Bioethics *Human Tissue: Ethical and Legal Issues* (Nuffield Council on Bioethics London 1995) [9.11]; A Tettenborn 'Wrongful Interference with Goods' in AM Dugdale (ed) *Clerk & Lindsell on Torts* (18th edn Sweet & Maxwell London 2000) 746; A Grubb 'I, Me, Mine: Bodies, Parts and Property and Parts' (1998) 3 Medical Law International 299, 312.

35 Nuffield Council *Human Tissue: Ethical and Legal Issues* (n 34 above) [9.11]; Grubb (n 34 above) 312.

36 W Blackstone *Commentaries on the Laws on England* (9th edn Oxford 1783) vol II, 403; *Keary v Patterson* [1939] 1 KB 471, 478 (bees); *Hamps v Darby* [1946] 2 KB 311, 320 (homing pigeons); *Young v Hichens* (1844) 6 QB 606, 607 (fish). Some animals are not capable of private ownership. See for example: *Case of Swans* (1592) 7 Co Rep 15b, 16a; 77 ER 435, 436 (swans).

37 *Yanner v Eaton* (1999) 201 CLR 351 (HCA) [25] (Gleeson CJ, Gaudron, Kirby and Hayne JJ); [80] (Gummow J).

38 *Pierson v Post* 2 Am Dec 264 (NY SC 1805) 264-267; EC Arnold 'Law of Possession Governing the Acquisition of Animals Ferea Naturae' (1921) 55 American Law Review 393, 394.

39 P Birks 'The Roman Law Concept of Dominium and the Idea of Absolute Ownership' [1985] Acta Juridica 1, 8; B Nicholas *An Introduction to Roman Law* (Clarendon Press Oxford 1962) 130.

The difficulty with this explanation in the context of the work or skill exception is that, if the basis of the exception is premised on taking possession, then presumably there would be no requirement for work or skill to be exercised. Simply taking possession would be sufficient. *Kelly* clearly establishes, however, that work or skill is required.[40] This objection is sufficient to reject the proposition that the work or skill exception is an application of 'first possession'. The next section considers whether the doctrine of specification can provide a sounder explanation.

3 Specification Doctrine

A better foundation for the work or skill exception lies with the doctrine of specification. Specification is the principle that applies to the manufacture of new objects. Examples include the making of wine from grapes, oil from olives, or bread from wheat.[41] The doctrine of specification has received relatively little attention in English law, so the following analysis examines the doctrine and sets out its important elements. The chapter then returns to consider whether specification can explain the work or skill exception.

(a) Background

The specification doctrine's origins stem from the Roman law classification of *specificatio*.[42] *Specificatio* is a neologism fashioned by medieval writers from the phrase *speciem facere* (to produce a new species). Roman texts refer to *speciem facere*

---

40 *Kelly* (n 26 above) 631.

41 Blackstone *Commentaries on the Laws on England* (n 36 above) vol II, 404.

42 Nicholas *An Introduction to Roman Law* (n 39 above) 136; JH Baker *An Introduction to English Legal History* (4th edn Butterworths London 2002) 381.

and the principle is located in the title of Justinian's *Digest* 'On the acquisition of ownership'.[43]

It is important to distinguish the doctrine of specification from other legal principles that apply in the context of goods that are mixed. Mixing is concerned with the situation where identical (or at least physically compatible) goods are mixed so that it is physically impossible to separate the original goods.[44] This is a question of divisible mixtures. Examples include fluid mixtures such as oil (*confusion*) and granular mixtures such as wheat (*commixitio*).[45] The principal question in the context of mixtures is defining what interest individuals have in a mixed mass to which they contributed constituent elements in ascertained proportions.

A second important distinction lies in separating the doctrine of specification from that of accession. There is sometimes an overlap between the two principles because both are original modes of acquisition. Accession involves the bringing together of entities that belong to different people with the result that one contribution merges into the other and loses its legal identity.[46] In English law, accession is sometimes referred to as 'annexation'.[47] There are three distinct elements to accession: (1) two pieces of corporeal property are joined in some way; (2) one of the pieces (the accessory) must be subordinate to the other (the principal); and (3) attachment of the accessory to the principal must be permanent. Justinian gives the

---

43 Justinian, *Institutes*, 2.1.25.

44 M Bridge *Personal Property Law* (3rd edn OUP Oxford 2002) 107.

45 *Foskett v McKeown* [2001] 1 AC 102 (HL) 121 (Lord Hope).

46 *Rendell v Associated Finance Pty Ltd* [1957] VR 604 (Vic SC) 610; Bridge *Personal Property Law* (n 44 above) 106.

47 *Berkley v Poulet* (1977) 241 EG 911 (CA) 913 (Scarman J).

example of a gold thread woven into a garment.[48] In the event that one entity is attached to a principal entity, ownership of the accessory passes to the owner of the principal.[49] The principal item continues to exist in the law as a thing while the acceding item ceases to exist.

The difficult question in some cases is determining which of the two items is the principal entity, and formulating a test of general application is not straightforward. Academic commentary has suggested that the less valuable article should accede to the more valuable one.[50] This distinction appears inadequate, given that there may well be instances where the more valuable thing accedes to the less valuable thing. For example, if gold letters are written on paper they will accede to the paper.[51] A more satisfying test is proposed by Goode, who asserts that the principal item is the one which 'predominates as a distinct entity'.[52] For example, an engine accedes to a truck[53] and the structures built on the hull of a boat would accede to the hull.[54] Although the potential for overlap between accession and specification still exists, the principles are distinct. Accession concerns the existence of accessory and principal entities, while specification is concerned with the creation of a new thing.

---

48 Justinian, *Institutes*, 2.1.26.

49 *McKeown v Cavalier Yachts Pty Ltd* (1988) 13 NSWLR 303 (NSW SC) 312. See also: P Birks 'Mixtures' in N Palmer and E McKendrick (eds) *Interests in Goods* (2nd edn LLP London 1998) 227.

50 E Tyler and N Palmer *Crossley Vaines' Personal Property* (5th edn Butterworths London 1973) 432.

51 Nicholas *An Introduction to Roman Law* (n 39 above) 134.

52 RM Goode *Hire-Purchase Law and Practice* (2nd edn Butterworths London 1972) 751.

53 *Lincoln Bank & Trust Co v Netter* 253 SW2d 260 (Ky CA 1952) 261.

54 *McKeown* (n 49 above) 311-312.

The doctrine of specification has yet to be examined by academic commentators or case law as the principle potentially underlying the work or skill exception.[55] Statements in *Doodeward, Kelly,* and *AB* provide at first impression some support for specification as the principle underlying the work or skill exception. The judgments in these cases have emphasized the need for a separated body part to change in character. In *Doodeward,* for example, Griffith CJ referred to the human body or body part as acquiring attributes that differentiate it from a human corpse awaiting burial.[56] In *Kelly,* Rose LJ also emphasized the need for a body part to acquire different attributes for it to be recognized as property.[57] Finally, in *AB,* Gage J simply noted that the work performed brought the biological materials within the *Doodeward* exception.[58] The requirement—that separated biological materials should acquire different attributes—is arguably analogous to the creation of a new thing. Returning to the factual scenario presented earlier, if sufficient work or skill is performed on X, then property rights are created on the basis of specification, for a new thing has been manufactured. Accepting such a premise does represent a novel application of the specification principle. This is because currently the original materials (the separated biological materials) are not considered property under English law.

---

55 Only Mason and Laurie have identified the specification doctrine as the principle underlying the work or skill exception. They do not, however, analyse its application: 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 Modern Law Review 710, 721.

56 *Doodeward v Spence* (1908) 6 CLR 406 (HCA) 414.

57 *R v Kelly* [1999] QB 621, 631.

58 *AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS Trust* [2004] EWHC 644 (QB) [257].

(b) Elements

The fundamental concern of the specification doctrine is to recognize that a new thing has been created in law. To test the strength of applying the specification doctrine to the work or skill exception it is first necessary to consider the essential components of the doctrine. Once these components are established, the specification doctrine can then be properly analysed as to whether it provides the required underlying basis for the work or skill exception.

The specification doctrine raises two main questions. The first question involves determining how and when the law should recognize that a new thing has been brought into existence. The second question concerns the allocation of the property rights to the new thing.

(i) New Thing

Central to specification is the requirement that a new thing is created. The difficulty here lies in determining whether there has been a sufficient change in the nature of the thing such that it can be said that a 'new thing' exists. An early US case held that there is 'no definite settled rule' about when the law considers a new thing to have been created.[59] There is no consideration in the Roman texts of what makes a new thing. Roman texts applied the rules of specification to five industrial processes: (1) agricultural processes (wine made from grapes); (2) smithying processes (vases made from gold); (3) tailoring (garments made from wool); (4) carpentry (cupboards made from cypresses) and (5) apothecary processes (production of perfumes).[60] In

---

59 *Silsbury v McCoon* 3 NY 379 (NY CA 1850) 390.

60 This classification is drawn from: C van der Merwe 'Nova Species' (2004) 2 Roman Legal Tradition 97, 100.

these cases, it was simply taken for granted that a new thing was created.[61] Things that were considered not to be new things included the dyeing of wool, grapes being dried and olives being pickled.[62]

Nicholas proposes that the question of whether a new thing is created can be restated as: would the ordinary person give the thing as it is a name different from that of the thing that it was?[63] This question, it is submitted, is too general to be truly helpful. There are difficult cases where it is not clear whether the change constitutes a mere alteration or the creation of a new thing. The following paragraphs examine English authority that has applied the specification doctrine.

There is not a large body of jurisprudence in English law concerning the specification doctrine. Blackstone referred to the making of wine from grapes, oil from olives and bread from wheat as examples of specification.[64] The two main English authorities concern retention of title clauses. In *Borden (UK) Ltd v Scottish Timber Products Ltd*,[65] the plaintiffs supplied resin to the defendants for use in the manufacture of chipboards. Under the terms of the contract, property in the resin passed when all goods supplied to the defendants by the plaintiffs had been paid for in full. Thus, the parties considered that the resin might be used in the manufacturing process by the defendants before it had been paid for. The manufacturing process involved mixing the resin with hardeners and wax emulsion to form a 'glue mix'. The process was physically irreversible, for once the resin had been mixed with the other substances it could not be recovered. Once mixed, the

---

61 JAC Thomas 'Form and Substance in Roman Law' (1966) 19 Current Legal Problems 145, 151.

62 Vinnius, *Institutes*, 2.1.25.

63 Nicholas *An Introduction to Roman Law* (n 39 above) 138.

64 W Blackstone *Commentaries on the Laws on England* (9th edn Oxford 1783) vol II, 404.

65 [1981] Ch 25.

resin was no longer recoverable. Following the appointment of a receiver and manager for the defendants, the plaintiffs brought an action to recover the sum due for the resin which they had supplied. Here, the defendants were not wrongdoers as they were entitled under the contract to use the resin before making payment. At first instance, Rubin J found that the plaintiffs were entitled to trace the resin supplied as the title had not passed because the defendants were acting as bailee for the plaintiffs. The defendants appealed.

On appeal, the plaintiffs argued that the retention of title clause reserved to the plaintiffs the property in the resin and thereby enabled them to trace the resin through its transformations. The defendants argued that once the resin was used in the manufacturing process it ceased to exist, and ceased to be a thing to which the retention of title clause could apply. The Court of Appeal (Buckley, Bridge and Templeman LJJ) allowed the appeal. Bridge LJ dismissed the argument that the defendants were acting as bailees for the plaintiffs, while asserting that the plaintiffs had no right to call for the return of the resin.[66] Bridge LJ accepted the contention that up to the moment when the resin was used in manufacture, the defendants held it on trust for the plaintiffs. However, title disappeared following its use. As he concluded:

> [T]here is no doubt that as soon as the resin was used in the manufacturing process it ceased to exist as resin, and accordingly the title to the resin simply disappeared.[67]

For present purposes, the important part of Bridge LJ's statement is its assertion that title disappeared once the resin 'ceased to exist as resin'. Instead, the resin became subsumed into a new thing as one component of the chipboard. Templeman

---

66 *Borden* (n 65 above) 35.

67 *Borden* (n 65 above) 35.

LJ also found that the resin 'ceased to exist'.[68] Bridge LJ referred to 'the production of goods of an entirely different kind',[69] and 'a wholly new substance'.[70] Buckley LJ came to a similar conclusion and his ruling gave a greater indication of why he considered there was a new thing:

> After they had so used the resin there could, in my opinion, be no property in the resin distinct from the property in the chipboard produced by the process. The manufacture had amalgamated the resin and other ingredients into a new product by an irreversible process and the resin, as resin, could not be recovered for any purpose; for all practical purposes it had ceased to exist and the ownership in that resin must also have ceased to exist.[71]

Thus for all practical purposes the resin had ceased to exist and could not be identified. Although the phrases used in these judgments do not offer a test of general application, they all fundamentally suggest that a new thing is created where the original materials cannot be restored to their original state. This position accords with that enunciated by the Justinian school of Roman jurisprudence. Justinian maintained that if the new thing could not be reduced to its original material, title should be allocated to the maker.[72]

The second English authority concerning specification is *In re Peachdart Ltd.*[73] In that case the seller supplied leather to the buyer, a company which manufactured handbags. In the contract for sale a title retention clause provided that until payment was received in full the seller retained ownership of the leather including the right to trace any proceeds of sale of any goods made with the leather. The contractual clause

---

68 *Borden* (n 65 above) 44.

69 *Borden* (n 65 above) 36.

70 *Borden* (n 65 above) 38.

71 *Borden* (n 65 above) 46.

72 Justinian, *Institutes*, 2.1.25.

73 [1983] 1 Ch 131.

made the situation different to *Borden* because the relevant clause in that case did not attempt to retain title in the final product. In *Peachdart*, a receiver was appointed to the company and the receiver sought a judicial determination as to whether the title retention clause gave a priority interest to the seller in respect of the completed or uncompleted handbags. The court held that the proper construction of the contract dictated that the parties agreed that the seller ceased to have exclusive title to the leather and instead had a charge over the completed and uncompleted handbags. Since the charge had not been registered, the seller had no priority.

Relevantly for this discussion, the submissions of both parties focused on whether a new thing had been created by the manufacturing process. Counsel for the sellers submitted that the process of cutting and shaping of the leather into a handbag was distinguishable from the process in question in *Borden*. In *Borden*, the resin was consumed and destroyed as a separate substance when used in the manufacture of chipboard. Here, counsel argued, the items used in the manufacturing process—clasps and threads—were attached to the leather and became the sellers' property by accession. Vinelott J rejected this argument, asserting that he did not have to consider the accession point as he was concerned primarily with the intention of the parties.[74] In construing the contract clause, he observed that the parties could not have intended that the company would remain a bailee of each piece of leather throughout the process of manufacture. He concluded:

> The language is, I think, consistent with the view that once the process of manufacture had started so that in the course of manufacture work and materials provided by the company would result in the leather being converted into (that is incorporated in or used as material for) other goods of a distinctive character the property in those other goods would

---

74 *Peachdart* (n 73 above) 143.

> vest in [the seller] only as security for any outstanding balance of the price of the relevant parcel of leather.[75]

One possible interpretation is that Vinelott J considered the creation of goods of distinctive character sufficient to amount to the creation of a new thing. On this reading, Vinelott J considered that the transformation of leather into a handbag represented the creation of a new thing. For Vinelott J, the leather had ceased to exist as raw material, and the value of the handbag thus derived from the skill of the manufacturer. A second, and perhaps more convincing, interpretation is that Vinelott J was concerned primarily with ascertaining the intention of the parties. The statement quoted above starts by referring to the language of the contract. Consequently, the judgment is not particularly helpful in discerning what transformation is required in English law under the specification principle.

The limited nature of English authority on the question of whether a new thing has been created encourages analysis of judicial authority in other jurisdictions. In Australia, *Associated Alloys Pty Ltd v Metropolitan Engineering and Fabrications Pty Ltd* considered whether steel plates that had been manufactured from steel (by a complicated manufacturing process) were new things.[76] Bryson J held that the steel plates were new things and observed that often the question of whether a product still exists is a 'question of fact and degree'.[77]

In addition, some commentators have had recourse to judicial authority in Scots law.[78] In general, Scots law follows the Justinian position, and *International Banking*

---

75 *Peachdart* (n 73 above) 143.

76 *Associated Alloys Pty Ltd v Metropolitan Engineering and Fabrications Pty Ltd* (1996) 20 ACSR 205 (FCA) 210.

77 *Associated Alloys* (n 76 above) 209.

78 P Birks 'Mixtures' in N Palmer and E McKendrick (eds) *Interests in Goods* (2nd edn LLP London 1998) 228; N Palmer and A Hudson 'Improving Stolen Chattels' in N Palmer and E McKendrick (eds) *Interests in Goods* (2nd edn LLP London 1998) 935.

Corporation v Ferguson, Shaw & Sons[79] provides a good demonstration of this tendency. In that case, a firm of oil merchants (Ferguson) made use of refined cottonseed oil sold to them by a party who did not have title to the oil because of a preceding security right. The oil merchants mixed the oil with their own suet and produced a new compound which was a hard compound. The court held that the compound was the property of the oil merchants because it was impossible to separate the oil from the other substances.[80] Lord Dundas set out the basic rule, saying:

> In this state of matters it seems to me that the case is a pure type for the application of the Roman doctrine of *specificatio*. The oil at the date of the pursuers' claim no longer existed in its original and proper form; a new species had been created, of which oil was an ingredient, but of which the component parts could not after the creation be again resolved into their original elements.[81]

This statement accords with the Justinian position and that expressed in *Borden*. The variations and complexities of manufacturing processes suggest that inevitably there will be cases where it is very difficult to determine whether or not a new thing has been created. Based on the analysis above, it is submitted that in English law a new thing is created where the original material ceases to exist and can no longer be restored to its original physical state. Although this is a test of general application there will still be cases that are not easily classified.

(ii) Allocation of Property Rights

The next issue is which party should be allocated the property rights to the newly created thing in question. There are three options: (1) the owner of the original

---

79 1910 SC 182 (Court of Session).

80 *International Banking Corporation v Ferguson, Shaw and Sons* 1910 SC 182 (Court of Session) 192.

81 *International Banking* (n 80 above) 194.

material that no longer exists; (2) the maker of the new item; and (3) no-one. In classical Roman law there was a well-known dispute about who should be allocated the property rights. The Sabian school contended that the new thing belonged to the owner of the original materials while the Proculians argued that the new thing belonged to its maker.[82] Justinian upheld the Proculians' position where either the maker contributed some of the material or the character of the new thing could not be reduced to the original material.

Scots law essentially follows the Justinian position, although there is authority that a maker cannot be the owner of the new thing where there is *male fide* manufacture.[83] This exception in Scots law is controversial; arguably, if the principle of specification precluded acquisition by a *mala fide* maker, then there would be no logical need for the specification principle. Indeed, Scottish institutional writers[84] and leading commentators[85] argue that the better view is that the property rights are allocated to the maker regardless of the maker's state of mind.

American judicial authority also supports the proposition that a wrongdoer cannot claim title to the new item in question,[86] although other US authorities argue to the contrary.[87] In *Silsbury v McCoon*,[88] the plaintiff's corn was stolen and used to make whiskey. The defendant was a creditor of the thief and seized the whiskey.

---

82 B Nicholas *An Introduction to Roman Law* (Clarendon Press Oxford 1962) 136-137.

83 *McDonald v Provan (of Scotland Street) Ltd* (1960) SLT 231, 232.

84 JB Nicholson (ed) J Erskine *An Institute of the Law of Scotland* (8th edn Edinburgh 1871) vol II, 16.

85 GG Van der Merwe 'Law of Things and Servitudes' in R Zimmermann and D Visser (eds) *Southern Cross: Civil Law and Common Law in South Africa* (OUP Oxford 1996) 724; DL Carey Miller *Corporeal Moveables in Scots Law* (W Green Edinburgh 1991) 70.

86 *Silsbury v McCoon* 3 NY 379 (NY CA 1850) 387.

87 *Pierce v Goddard* 39 Mass 559 (Mass SC 1839) 561.

88 3 NY 379 (NY CA 1850).

Ruggles J held that the plaintiff owned the whiskey at the time when it was seized,[89] thereby making the defendant liable in conversion. Ruggles J agreed that the transformation of corn into whiskey constituted the creation of a new thing. He opined that the plaintiff could only have lost ownership of the corn only if the transformation had been performed by an 'honest possessor'.[90]

It is not yet settled which view English law adopts. Bracton argues that the maker should be the owner in English law.[91] The English authorities discussed above in relation to title retention indicate that the original title was lost.[92] In these cases there was no inquiry as to wrongdoing.[93] In *Borden*, for example, Bridge LJ explicitly stated that title to the resin disappeared once the resin contributed to the formation of a new thing. In that case, title to the chipboard was allocated to the defendants.

There is one remaining English authority that touches on specification. *Glencore International v Metro Trading International*[94] concerned the question of legal title where the claimants' oil was mixed with oil in storage and blended with other types of oil to make a new product. MTI (defendants) stored and mixed oil to sell to vessels. One set of claimants had deposited oil for storage with MTI, but when MTI became insolvent the claimants discovered a shortfall. A bank had charges over MTI's assets and the legal question concerned whether the claimants had a proprietary claim in the oil mixture. Although *Glencore* concerned the specification doctrine the decision

---

89 *Silsbury* (n 88 above) 390.

90 *Silsbury* (n 88 above) 387.

91 SE Thorne (ed) *Bracton on the Laws and Customs of England* (Harvard University Press Cambridge 1968) vol II, 47.

92 *Borden Ltd v Scottish Timber Products Ltd* [1981] Ch 25 (resin into chipboard); *Re Peachdart* [1984] Ch 131 (leather into shapes and handbags).

93 P Birks 'Receipt' in P Birks and A Pretto (eds) *Breach of Trust* (Hart Publishing Oxford 2002) 218.

94 [2001] 1 Lloyd's Law Reports 284 (QB).

focussed on the allocation of property rights and not the prior question of whether a new thing had been created.

Moore-Bick J concluded that where one person wrongfully blends his oil with oil of a different grade that belongs to another person, the new product is owned by them in common.[95] Moore-Bick J's conclusion answers the question that was left open in *Indian Oil Corporation Ltd v Greenstone Shipping SA (Panama)*:[96] namely, do the same legal principles apply to the mixing of oil where the oil of A and B is not substantially the same? Moore-Bick J concluded that the same principles should apply. As he stated:

> [W]hen one person wrongfully blends his own oil with oil of a different grade or specification belonging to another person with the result that a new product is produced, that new product is owned by them in common.[97]

Moore-Bick J noted that for this principle to apply it would be necessary for the new thing to be fungible.[98] In the event that a pro rata division was not possible then Moore-Bick J considered that other principles would need to apply.[99] Moore-Bick J's analysis is novel and warrants further consideration. His conclusion appears to assert that if a wrongdoer creates a new thing the original owner of the goods is entitled to common ownership of the new thing. There are two possible interpretations for the principle underlying his approach. The first is that Moore-Bick J purported to develop the law of specification such that the original owner of goods can still claim a title to the new thing.[100] If correct, such an approach would

---

95 *Glencore* (n 94 above) [185].

96 [1988] 1 QB 345.

97 *Glencore* (n 94 above) [185].

98 *Glencore* (n 94 above) [184].

99 *Glencore* (n 94 above) [184].

100 J Ulph 'Retaining Property Rights at Common Law Through Mixtures and Changes' [2001] Lloyd's Commercial and Maritime Law Quarterly 449, 453.

represent a substantial departure from English law as it is currently developing. *Glencore* concerned the mixing of different gradients of oil, arguably resulting in the creation of a new thing. A divisible mixture can amount to a specification if the mixing has created a new substance and the constituent parts are thereby destroyed. Moore-Bick J explicitly noted at several points in his judgment that a new commodity had been created.[101] But the difficulties with making the extension proposed by Moore-Bick J are demonstrated by the need to restrict his conclusion to fungible things. Moore-Bick J acknowledged that his analysis could not apply in the context of non-fungible things.[102]

A second interpretation is that his decision simply represented an application of the law of mixing, where two items of a similar nature are mixed.[103] According to this view, although a new commodity was created (through the mixing of the different gradients of oil), it was not a new thing for the purposes of the law and so the doctrine of specification was not applicable. Without a new substance, the relevant principles could legitimately be drawn from the law of tracing, which is what Moore-Bick J appeared to do.

A closer analysis of the judgment suggests that the first of these interpretations is more appropriate. Moore-Bick J noted that he was considering a novel question,[104] which was not a simple exercise in applying rules concerning mixing. He considered it necessary to determine what the applicable rule should be where a divisible mixture is created from different substances. The approach he adopted—by

---

101 *Glencore* (n 94 above) [177], [185].

102 *Glencore* (n 94 above) [177], [184].

103 W Swadling 'Property' in P Birks (ed) *English Private Law* (OUP Oxford 2001) [4.470].

104 *Glencore* (n 94 above) [177].

effectively transferring a rule from the law concerning mixing to the doctrine of specification – represents a substantial departure from English law.

One difficulty with Moore-Bick J's approach is that it confuses the law of mixing with the law of specification and accession. These legal principles are intended to provide legal solutions to different questions. The law of mixing is concerned with situations where goods are substantially of the same nature and quality. The law of specification and accession concern situations where the goods are not of the same kind. In *Glencore*, Moore-Bick J purported to extend the principles established in relation to mixing to a case which should properly have been classified as an example of specification.

It is an open question whether English law will develop in the way proposed by Moore-Bick J. No judicial authority has considered the doctrine of specification since *Glencore*. This thesis argues that because English law is not firmly settled, the stronger authority remains the Court of Appeal's decision in *Borden*. The doctrine of specification permits things to be destroyed (as a matter of legal principle) even though physically the objects continue to exist. The thing as it existed in its original form is no longer recognized by the law, thus the effect of specification is that things can be destroyed unilaterally by the person who makes the new thing. In these circumstances, the original owner is left with a personal right enforceable through the tort of conversion.

Recognition of this underlying rationale for the specification principle makes it difficult to explain why the rule should be altered in circumstances where the relevant act was performed by a wrongdoer. It is possible (as a matter of logic) to say that if a wrongdoer uses another's materials then the rule changes and the new thing is owned by the owner of the original materials. Two problems follow, however, from such a modification of the doctrine. The first is that applying the modification

may lead to an involuntary tenancy in common on a substance that is non-fungible. Moore-Bick J identified this difficulty when he concluded that 'different principles' would need to apply in the context of a non-fungible substance.[105] Moore-Bick J's principle is not therefore capable of general application.

The second (and more serious) problem posed by a modification for wrongdoers is that different rules will entail continued legal instability. Certainty is a defining characteristic for property law principles.[106] Modification of the general principle (that the maker of the new thing is the owner at common law) in the case of wrongdoers has the potential, however, to create uncertainty. For example, uncertainty arises for third parties who purchase a new thing in good faith. If a modification for wrongdoers is accepted, then third parties cannot not be guaranteed a secure title to the purchased product because the strength of title would vary depending on whether or not the maker was a conscious wrongdoer.

The sounder view would be to say that the legal principle of specification recognizes that where a thing no longer exists at common law, property rights are allocated to the maker of the new thing. Birks argues that although the English position is not firmly settled, *Borden* indicates that the Sabinian doctrine will not be followed.[107] Instead, it is likely that the Justinian position (granting the maker title over the new thing) will be adopted. Accordingly, following the Court of Appeal's approach in *Borden*, the maker of a new thing obtains the title to the new thing. It

---

105 *Glencore* (n 94 above) [184].

106 FS Cohen 'Dialogue on Private Property' (1954) 9 Rutgers Law Review 357, 366-367.

107 P Birks 'Mixtures' in N Palmer and E McKendrick (eds) *Interests in Goods* (2nd edn LLP London 1998) 228. See also FH Lawson and B Rudden *The Law of Property* (2nd edn Clarendon Press Oxford 1982) at 75 suggesting that '[p]robably the Roman solution would be accepted, namely, that if the object can be reduced to the original materials it would be the property of the owner of the materials, but if not, the manufacturer would become the owner.' The third edition of the *The Law of Property* (3rd edn Clarendon Press Oxford 2002) makes no specific reference to the appropriate test for the specification doctrine.

should be noted, however, that the maker of the new thing may be liable instead under the tort of conversion if by making the new thing they interfered with another person's property rights.[108] The analysis conducted here has set out the current parameters in English law for the specification doctrine, acknowledging that the doctrine is not yet firmly settled and is open to further judicial interpretation.

(c) Application to Work or Skill Exception

It is now appropriate to return to the examination of the work or skill exception and specifically the five questions posed in Chapter 4.[109] Each question is examined in turn. The first question asked was whether an intention to create a novel item is necessary in order for the work or skill exception to apply. Grubb, for example, suggests that the work or skill exception requires an 'intention to create a novel item with a use of its own'.[110] Under the specification doctrine, however, intention is not significant. The case law on specification illustrates that the relevant questions are twofold: whose materials were used, and who was the maker? The suggested *mala fides* rule is not currently part of English law and it is submitted that the rule should not be adopted.

The second question concerns the level of work or skill that is required to transform biological materials into property. The specification doctrine requires the creation of a new thing. Although English law is not firmly settled on this point, the analysis above suggested that a new thing is created where the original material

---

108 E Tyler and N Palmer *Crossley Vaines' Personal Property* (5th edn Butterworths London 1973) 430.

109 See notes 84-92 of Chapter 4 and accompanying text.

110 A Grubb 'Theft of Body Parts: Property and Dead Bodies' (1998) 6 Medical Law Review 247, 250.

ceases to exist and can no longer be restored to its original physical state.[111] In the context of separated body parts and biological materials, the work that is performed is often for preservation purposes and does not result in the creation of a new thing. In *Doodeward*, the foetus was simply preserved in a container, while in *Kelly*, although substantial work was performed on the body parts, again the work merely facilitated their preservation. Similarly, in *AB* the work performed to use biological materials in research was undertaken for the purpose of their preservation. Some may argue that the biological materials in that case were transformed by the preservation process and new things were thereby created. In *AB*, Gage J highlighted the work required by attaching to his judgment a summary of the process that occurs in preserving materials through the making of blocks and slides.[112] There are essentially three stages to the preservation process. First, the biological materials are embedded into a block of wax. Second, the block is sliced and each slice is fixed onto a slide. Third, the slices are stained to show their different aspects. These steps do not, however, cumulatively represent an act of creating a new entity. Even though the biological materials undergo substantial treatment, they maintain their separate physical manifestation and essential characteristics throughout the process. Indeed, the purpose of the different processes is to ensure that the biological materials are preserved in their unique state so that they can be examined microscopically. The final form in which the biological materials exist—fixed to a slide—achieves the preservation objective.

An analogy with dyeing wool supports this conclusion. The Roman jurists cited the dyeing of wool as an example of a process that they did not consider to result in

---

111 See notes 59–81 and accompanying text.

112 *AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS Trust* [2004] EWHC 644 (QB) Appendix A.

the creation of a new thing.[113] Even though the procedure in *AB* is more technically advanced than the dyeing of wool, the principle remains the same. A change in form is not sufficient to create a new thing. The purpose of the specification principle is to create and allocate property rights in the event that a new thing is created. In the case of separated biological materials, entities are simply preserved rather than new ones created.

The earlier analysis of the specification principle also assists in addressing the third and fourth questions raised in Chapter 4. The third question asked: what is the nature of the property rights that the work or skill exception recognizes? The authorities establish that the rights recognized are property rights and not a special or limited form of interest. The fourth question asked: should the provider of the materials or the maker of the new thing be allocated the property rights? This point is contentious and not firmly settled in English law, as the foregoing analysis demonstrated. It is submitted, though, that English law should maintain the current orthodoxy that the maker of the new thing is allocated the property rights.

The fifth and final question from Chapter 4 queried whether the work or skill exception is confined to materials removed from dead bodies, or also applies to materials removed from a living person. This question appears to have been answered by the HTA 2004, which partially codifies the work or skill exception in the context of controlled material removed from living persons for the purposes of transplantation.[114]

---

113 See note 62 and accompanying text.

114 HTA 2004, s 32(9)(c).

(d) General Principle

This thesis considers that the work or skill exception should not be employed by English law as the general principle to explain the creation of property rights to separated biological materials. This conclusion is based on two factors. First, as demonstrated in the foregoing analysis, the application of the specification doctrine to the work or skill exception is problematic. Specification cannot be employed as the underlying principle for the work or skill exception because often the work that is performed is for preservation purposes and does not result in the creation of a new thing.

Further, the work or skill requirement has the potential to create artificial distinctions between different biological materials. Property rights are only created under the exception where the requisite degree of work or skill is performed. For example, in a research laboratory setting, the creation of property rights under the work or skill exception is dependent upon the level of processing to which the biological materials have been subjected. This has the potential to create artificial distinctions between biological materials that have been subjected to different degrees of processing. In the event that some biological materials have not been subjected to a sufficient level of processing, then under the work or skill exception they cannot be accorded a proprietary status. On the other hand, biological materials that have been subjected to greater levels of processing would be accorded a proprietary status under the work or skill exception.

Notwithstanding this conclusion, the analysis of the specification and accession doctrines in this chapter remains important and informs the discussion in the next

chapter. In Chapter 8 the thesis contends that these doctrines can be employed to address questions concerning the legal rights to additional biological materials.[115]

E CONCLUSION

Courts have primarily focused on questions of policy when examining the creation of property rights to separated biological materials. The balancing of policy concerns should, however, be a secondary question. Although there may be legitimate justifications for limiting what individuals are permitted to do with biological materials, the more appropriate starting point for legal analysis is to address: (1) whether detachment transforms biological materials into things that are capable of being the subject of property rights; and, if so, (2) whether there are circumstances that create property rights to separated biological materials.

It is submitted that the physical act of detachment transforms biological materials into things potentially subject to property rights. In respect of (2), this chapter has argued that the work or skill exception cannot provide a principle of general application to explain the creation of property rights to separated biological materials. Even though the work or skill exception most likely represents an invocation of the specification doctrine, it is a misguided application. Further, because the work or skill exception is limited in application, the exception may often draw artificial distinctions between different sets of biological materials. Accordingly, the next chapter considers the potential for two other events to explain the creation of property rights to separated biological materials.

---

115 See notes 161-182 of Chapter 8 and accompanying text.

CHAPTER 8

CREATING PROPERTY RIGHTS

A INTRODUCTION

Chapter 8 has three important roles. The chapter first examines what circumstances (other than work or skill) can support the creation of property rights to separated biological materials. Second, the chapter analyses whether property theory supports the proposition that property rights created in separated biological materials should be allocated to the source. Once this theoretical foundation is settled, the third section asks how property rights can be applied by English law to a medical research context. The overall aim of this chapter is to present a coherent and principled framework for the creation and application of property rights to separated biological materials.

B PRINCIPLES

The role of this opening section is to consider whether the creation of property rights can be explained by: (1) the detachment of biological materials; and/or (2) the detachment of biological materials coupled with an intention to use those materials as property.

1 Detachment

The detachment of biological materials was the second circumstance that emerged from the analysis in Part II as an event that could create property rights. 'Detachment' is used here to mean the physical separation of biological materials

from a human body. German law adopts detachment as a property-creating event.[1] In a common law context, some academic commentary has suggested that the detachment of biological materials is a sufficient act for the law to create property rights.[2] These commentators have not, however, examined the act of detachment as a property-creating event in any detail. Hammond, for example, simply asserts that property rights should be created because 'the moment human tissue is taken from the body, it becomes an object or thing which is detached from the body'.[3] If detachment is accepted as a property-creating event, then the detachment of biological materials satisfies both levels of enquiry outlined at the beginning of this section. Detachment first transforms biological materials into things potentially subject to property rights; and second, detachment creates property rights in the separated biological materials.

Chapter 5 noted several instances where courts have accorded separated biological materials the status of property under common law, including *R v Rothery*,[4] *R v Welsh*[5] and *Roche v Douglas*.[6] The courts in these cases were not required to consider the more difficult question of whether property rights should be allocated to the individuals from whom the materials were removed. Without having to make a determination on this point, courts were willing to hold that

---

1 *Bürgerliches Gesetzbuch* (BGB) (German Civil Code) § 90 and *Strafgesetzbuch* (StGB) (German Criminal Code) § 242; HC Jaurnig (ed) *Kommentar zum StgB/BGB* (Verlag Beck München 2004) § 90/242, 33.

2 C Hammond 'Property Rights In Human Corpses and Human Tissue: The Position in Western Australia' (2002) 4 University of Notre Dame Australia Law Review 97, 113; G Dworkin and I Kennedy 'Human Tissue: Rights in the Body and Its Parts' (1993) 1 Medical Law Review 291, 311.

3 Hammond (n 2 above) 113.

4 [1976] RTR 550 (CA).

5 [1974] RTR 478 (CA).

6 (2000) 22 WAR 331 (WA SC).

detachment created property rights to separated biological materials. On the two occasions when courts were required to consider whether property rights should be allocated to the source – *Moore v Regents of the University of California*[7] and *Greenberg v Miami Children's Hospital Research Institute*[8] – they declined to do so. These decisions do not, however, present an insurmountable hurdle to the adoption of the detachment principle as a property-creating event. It has already been submitted that these decisions did not engage in a satisfactory legal analysis.[9] It is open, therefore, for English law to recognize that detachment creates property rights to separated biological materials.

Although there is no logical necessity for the law to recognize the creation of property rights following the detachment of biological materials, two factors support the creation of property rights as a matter of principle. The first point flows from acknowledging the protection that English law currently provides for the human body as a whole. The right to bodily integrity is the foundational principle in medical law and Chapter 3 canvassed how the law of tort protects that right.[10] The right to bodily integrity is a right that is enforceable generally against other members of society. It is not a property right, however, because the law does not classify the human body as a thing.[11] Within the rubric of property law, the human body is not considered a thing because it is viewed as an intrinsic aspect of a person.[12] Chapter 7 outlined a factual scenario that is employed throughout Part III.[13] In that case, once X

---

7 793 P 2d 479 (Cal SC 1990).

8 264 F Supp 2d 1064 (US DC Florida 2003).

9 See notes 10-63 of Chapter 5 and accompanying text.

10 See notes 62-78 of Chapter 3 and accompanying text.

11 See notes 1-30 of Chapter 4 and accompanying text.

12 JE Penner *The Idea of Property* (Clarendon Press Oxford 1997) 112.

13 See note 21 of Chapter 7 and accompanying text.

is separated from A, a physical object is created that is no longer an intrinsic aspect of A. As a result, X cannot be protected under the umbrella of the right to bodily integrity. The tort of battery only protects physical invasions of the human body as a whole.

Recognizing that property rights are created upon detachment arguably represents a natural extension of the right to bodily integrity. Before separation, biological materials remain part of the human body. The law provides protection for the human body, which is enforceable generally against other members of society. It would seem inconsistent if the act of detachment changed biological materials from material fully protected by the law into material that receives no protection under the law whatsoever.

Following physical detachment of biological materials, the law can continue to provide such protection as is afforded by the bodily integrity principle. To do this it is necessary, however, to create property rights. Without creating property rights, A cannot claim a right to X which is enforceable generally against other members of society. As Chapter 7 noted, it is possible as a matter of principle for the law to create property rights following the detachment of biological materials because physical detachment creates the necessary normative distancing.[14] In this way, creating property rights to separated biological materials is not dependent upon the classification of the whole human body as property.

The second point supporting the creation of property rights following detachment is located in the statutory regimes governing the regulation of separated bodily materials. Statutes in England and other jurisdictions require a person's

---

14 See notes 10-20 of Chapter 7 and accompanying text.

consent for the use of separated body parts for transplantation.[15] In England, this statutory requirement was introduced through the Human Organ Transplants Act 1989 c 31 (Transplants Act)[16] and is now contained in the Human Tissue Act 2004 c 30 (HTA 2004).[17] These statutory provisions recognize (at least in the transplantation context) that an individual has a right to control the use of body parts once they are detached from his or her body. This right of control has been extended under the HTA 2004 such that an individual's consent is required (with some exceptions) for the use of relevant material in medical research.[18] The statutory consent requirement is premised on the notion that an individual has a right to control biological materials once they are detached from the human body. There may, however, be cases where consent for the use of separated biological materials is not obtained. In such cases, it would be inconsistent if the law provided a right of control for consensual separation but did not provide individuals with a right of control following a non-consensual separation of biological materials. To provide individuals with control following non-consensual detachment, it is necessary for property rights to be created. In this way, statutory consent requirements support the natural extension of the right to bodily integrity and hence the creation of property rights to separated biological materials.

If the act of detachment is accepted as creating property rights to separated biological materials, the question remains: to whom should the property rights be allocated? Skene argues that following detachment of biological materials, property

---

15 See notes 119–121 of Chapter 5 and accompanying text.

16 Transplants Act, s 1.

17 HTA 2004, s 1.

18 HTA 2004, s 1.

rights should be allocated to a third party such as a researcher or hospital (B).[19] This claim cannot be sustained as a matter of legal doctrine.[20] Instead, it is submitted that A (the person from whom the biological materials were removed) should be allocated the property rights. A source's prima facie right can be supported as a matter of sound legal doctrine on at least two grounds.

First, as already noted, the right to bodily integrity protects the whole body of the source. It is a right that the *source* possesses which is enforceable generally against other members of society. If the creation of property rights in separated biological materials can be viewed as an extension of the right to bodily integrity, then it follows that the right should also be allocated to the source. It would be inconsistent with the right to bodily integrity to allocate property rights to separated biological materials to any person other than the source. Allocating the property rights initially to the source acknowledges that the biological materials were originally part of that person.

Second, support for the allocation of the property rights to the source can also be found, by analogy, in the English law that deals with rights over corpses and body parts separated from corpses. Chapter 4 concluded that when a person dies the executor, administrator or next-of-kin has a right to custody of the corpse, which is generally enforceable against other members of society.[21] The executor can enforce this right, even though for historical reasons the law considers that a corpse is not

---

19 L Skene 'Proprietary Rights in Human Bodies, Body Parts and Tissue' (2002) 22 Legal Studies 102, 123-127; L Skene 'Arguments Against People Legally "Owning" Their Own Bodies, Body Parts and Tissues' (2002) 2 Macquarie Law Journal 165, 175.

20 Doctrinal legal scholarship has been defined by one author as an examination of the law 'using language, concepts and techniques that are similar to those employed by (and in) the courts': SA Smith 'Taking Law Seriously' (2000) 50 University of Toronto Law Journal 241, 241.

21 See notes 122-156 of Chapter 4 and accompanying text.

property. English law has recognized that the executor (as the representative of the deceased) is the most appropriate person to protect the dead body. Accordingly, English law allocates to the executor the duty and corresponding right to bury the corpse.[22] This principle can be used by analogy to support allocating the property rights to the source. If the executor is allocated the right to protect a corpse (including any body parts removed from it) then it follows that a living person should be allocated the right to control biological materials separated from his or her body. If property rights are created (and this thesis contends that they are) when biological materials are detached from the human body, then the source should be allocated those property rights. If the property rights were allocated to any other person, then an executor would have greater rights to biological materials removed from a corpse than a living person would have to biological materials separated from his or her own body. Hence, the consistent development of legal principles supports the allocation of property rights to the source.

Given the uncertainty surrounding this area of law, it is also beneficial to examine property theory in order to shape and inform the development of legal principle. Some commentators argue that an analysis of legal doctrine is more persuasive to the extent that it is supported by morally valid principles.[23] The next section of this chapter analyses whether property theory supports the creation of property rights to separated biological materials and the allocation of those property rights to the source. For now, it is sufficient to conclude that detachment offers a clear and supportable explanation for the creation of property rights in separated

---

22 See notes 122-134 of Chapter 4 and accompanying text.

23 SA Smith *Contract Theory* (OUP Oxford 2004) 22-24; EJ Weinrib *The Idea of Private Law* (Harvard University Press Cambridge 1995) 11; RM Dworkin *Law's Empire* (Harvard University Press Cambridge 1986) 285.

biological materials. The great strength of a detachment-based principle is that it provides certainty. That is, property rights are created and allocated to the source immediately following detachment.

Nevertheless, in *Kelly*, Rose LJ suggested that English law requires more than mere detachment for property rights to be created in separated biological materials. The next section examines the potential of a third property-creating event: detachment coupled with intention.

2 Detachment plus Intention

English law could also recognize that property rights are created where biological materials are detached and a person forms and expresses an intention for those materials to be used as property. In other words, a person must form and express an intention that separated biological materials be used as property for a purpose beyond their simple existence. Other purposes could include, for example, scientific research or transplantation. This section considers whether a principle based on detachment plus intention provides a feasible alternative to the mere detachment of biological materials.

(a) Judicial Support

Two case law examples support the detachment plus intention principle. The first relates to how the law deals with hair clippings that are removed from an individual. Case law in England and the US has treated hair as property.[24] Where hair is detached from a human body its potential uses include the manufacture of wigs or

---

24 See notes 160–164 of Chapter 5 and accompanying text.

DNA testing.[25] It is not surprising, however, that there are relatively few examples of disputes over hair clippings because the commercial interests are not great.

More substantial support for a detachment plus intention principle can be drawn from Rose LJ's prediction in *Kelly* that English law might develop so that a body part need not acquire different attributes before being recognized as property.[26] Even though Rose LJ's statement was obiter, it has not received appropriate attention in academic literature. Similarly, no English case since *Kelly* has considered the possibility that Rose LJ raised. For Rose LJ, where separated body parts have a use beyond their mere existence, this fact may be sufficient to bring them within the law of property. If a body part has a use or significance beyond its mere existence, a reasonable inference is that the body part will be used for another purpose. A separated body part can only be used for another purpose if an intention is formed and expressed to use the body part for that purpose.

Rose LJ gave some indication that this was the underlying principle that he had in mind when he observed that a separated body part may be considered property by English law where it is 'intended for use in an organ transplant operation, for the extraction of DNA or, for that matter, as an exhibit in a trial'.[27] This statement seems relatively uncontroversial because the examples provided are also instances in which policy considerations (such as concerns over potential commodification of the human body) are minimal. He did not discuss, for example, the potential for an individual to sell a separated body part.

Both the way in which the law treats hair clippings and Rose LJ's comments support an emerging principle that biological materials originating from the human

---

25 *United States v Cox* 428 F 2d 683 (7th Cir 1970) 688.

26 *R v Kelly* [1999] QB 621, 631.

27 *Kelly* (n 26 above) 631.

body may be treated as property if there is an intention that those materials are to be used as property. In the case of hair, no overwhelming policy considerations have inhibited the law from categorizing detached hair as property. The way that the law treats hair clippings also demonstrates that the appropriate starting point for legal analysis is to avoid invoking policy considerations. This is not to say that there are never legitimate policy factors that should limit the property rights that the law recognizes over separated biological materials or body parts. Rather, such policy concerns should only form part of the legal analysis once the basic legal rights are delineated.

(b) Intention

Detachment plus intention has the potential to provide a principle of general application for an underlying structure of property rights to separated biological materials. For property rights to be created under this principle it is necessary for a person to form and express an intention to use separated biological materials as property.

In most cases, sources will form and express the requisite intention by consenting to the removal of the biological materials. The principal question then becomes whether a sufficient intention is formed and expressed. In a practical context, it could be said that intention is expressed by a source through the doctrine of consent. A's consent must include consent to: (a) removal of X from A's body; and (b) the construction of X as property. In most circumstances, A's consent to the removal of biological materials would also be sufficient to constitute the consent necessary for a valid expression of intent to use the materials as property. By giving consent, in most cases a source will be aware that biological materials are being removed and will be used as property for various purposes. Upon removal,

biological materials attain a proprietary status. Intention therefore offers a clear explanation for the creation of property rights where a source expresses the requisite intention.

It is important at this point to acknowledge and reiterate the distinction between biological materials as things that are *capable* of being the subject of property rights and things that the law regards as property. Biological materials may exist in a physical sense without being 'things' that the law regards as property. In this state, biological materials are things that can be, but are not yet, the subject of property rights. This could occur, for example, if an intention is not formed and expressed by the source prior to or upon the detachment of biological materials. In the hypothetical factual scenario this issue is not problematic because where A consents to the removal of X, it is likely that consent also provides the necessary intention for X to be regarded by the law as property.

The question then arises: to whom are the property rights initially allocated? There are several options. Property rights could be allocated to the source or to the first person to take possession of the biological materials. The latter option starts from the assumption that the source does not have an automatic initial right to be allocated the property rights that are created. This thesis argues that the source should be allocated the property rights that are created. Allocation to the source is based on the same two points made in relation to the detachment principle. First, the allocation of property rights to the source acknowledges that the biological materials came from the source and were originally protected by the right to bodily integrity. Second, recognition of a source's property rights is consistent with the protection that the law provides to executors with respect to dead bodies.

Under the detachment plus intention principle it is not necessary for the biological materials to undergo a physical transformation through the application of

work or skill. This precludes the danger of artificial distinctions being drawn between separated biological materials. In the majority of cases the detachment with intention principle offers a forceful explanatory doctrine for the creation of property rights. It is acknowledged that in property law, intention is used principally in the context of transferring property rights. However, it is submitted that intention can also be used to explain the creation of property rights. Rose LJ acknowledged the potential role of intention in *Kelly*.[28]

Despite the attractiveness of the detachment plus intention principle, conceptual difficulties do arise in the event that the source does not express an intention for the biological materials to be used as property. The next section addresses these difficulties.

(c) Difficulties

The ability of detachment plus intention to offer a principle of general application may be limited by conceptual difficulties that arise where a source does not express an intention for separated biological materials to be treated as property. These cases may be termed non-consensual separation and occur in circumstances where a source does not express an intention for separated biological materials to be used as property. Instead, another person, B, may express an intention that X be treated as property. If a source does not form and express the requisite intention (before or following removal of biological materials) it may, at least in principle, be possible for another person to form and express the requisite intention. In the event that a person other than the source expresses the requisite intention it would be necessary for the other person to have possession of the separated biological materials. A requirement

---

28 *Kelly* (n 26 above) 631.

for possession of biological materials is necessary to ensure that the other person has the capacity to use the biological materials as property. Merely forming an intention (without possession of the materials) cannot be sufficient to create property rights in the separated biological materials.

The resulting difficulty then concerns whether A can still be allocated the property rights that are created even though it was B who formed and expressed an intention for the biological materials to be treated as property. It may well be that no person expresses an intention to use separated biological materials as property. These events would only arise in exceptional factual scenarios, but to assess whether this conceptual hurdle can be overcome the section considers two examples of non-consensual separation of biological materials: (1) where biological materials are removed from a source without consent; and (2) where biological materials are detached and no person forms and expresses an intention that they be used as property.

(i) Separation without consent

Potential difficulties arise where biological materials are removed by a person without the source's consent. If the source does not consent to the removal of biological materials, then in most cases (with the exception of an accident) a battery is committed. The tort of battery is not concerned with rights to biological materials once they are separated from a human body. Rather, battery is concerned with the protection of the human body as a whole.

The starting point for the analysis of such a scenario is to recognize that a wrong has been committed by the removal of separated biological materials without A's consent. Separation could occur, for example, if A is unconscious during a medical procedure and A has not consented to the removal of biological materials. During

the medical procedure B removes biological materials. Following removal, the biological materials become things that are capable of being the subject of property rights. At this point these materials are not property. The biological materials are recognized as property as soon as a person forms and expresses an intention that they are to be used as property. Property rights are created to separated biological materials at the moment that such an intention is expressed.

In the event that separation occurs without the consent of A, then it is likely that the wrongdoer, B, will be the person who expresses the requisite intent. Intent would usually be expressed by taking possession of the biological materials. The question then arising is to determine whether A or B should be allocated the property rights that are created. It is submitted that such property rights should be allocated to A rather than B, even though B's expression of intention was the event that created the property rights.

Allocating property rights to A in these circumstances does not follow by logical necessity. The property rights must be allocated to A by operation of law. Although there is no direct analogy in English law, support may be drawn from the conferral of property rights over wild animals. The tort of conversion does not apply to wild animals because the law considers them to be *res nullius*.[29] The law recognizes that the act of taking a wild animal into possession creates property rights that are allocated to the person who has possession of the wild animal. A more difficult question arises where a trespasser takes possession of a wild animal on another person's land. Under English law, property rights in the wild animal are

---

29 *Pierson v Post* 2 Am Dec 264 (NY SC 1805) 264–267.

automatically allocated to the person from whose land the animal was taken.[30] Therefore, even if a trespasser takes a wild animal into possession on another's land, the property rights are not allocated to the trespasser but to the owner of the land. The property rights are allocated to the owner of the land even though it was the trespasser who performed the act that the law recognizes as the circumstance that created the property rights. In *Blades v Higgs*,[31] Lord Westbury observed that in these circumstances, property rights must be allocated to either the owner of the land or the trespasser. He argued that it was unreasonable to hold that property rights should be allocated to the trespasser, concluding by necessity that they should be allocated to the owner of the soil.[32] He established the proposition by asserting:

> These propositions appear to me to prove clearly that game found killed by a trespasser under such circumstances as that it would be the absolute property of the owner of the soil ... if it had been found and killed by the owner, instead of by the trespasser, does in law become the absolute property of the proprietor of the soil ... immediately on being so caught and killed by the trespasser.[33]

Lord Westbury recognized the prior connection between the landowner and the animal. In the context of biological materials, arguably a similar principle may be invoked by analogy. Where B removes X from A without A's consent, property rights are created to X where B forms and expresses the requisite intent. This could occur, for example, where X is removed by B while A is unconscious. Property rights to X should not, however, be allocated to B because the law recognizes that there is a prior connection between A and X that does not exist between B and X. Accordingly,

---

30 *Blades v Higgs* (1865) 11 HLC 622. This common law principle was noted by the Australian High Court in *Yanner v Eaton* (1999) 201 CLR 351 (HCA) [25] (Gleeson CJ, Gaudron, Kirby and Hayne JJ) and [80] (Gummow J).

31 *Blades* (n 30 above).

32 *Blades* (n 30 above) 632.

33 *Blades* (n 30 above) 632.

the property rights should be allocated immediately to A, even while A remains unaware of their creation.

One criticism that may be directed against this analogy is that the landowner has pre-existing property rights to the land, whereas A has no pre-existing property rights to his or her body. Yet A does have a prior connection to the biological materials while they remain part of A's body. This prior connection is not of a proprietary nature, but is instead recognized in and protected by the right to bodily integrity. Arguably, this prior connection (which is analogous to that between the landowner and wild animals on the land) should be sufficient to support the allocation of property rights to the source. The same principles that were set out in relation to the detachment principle apply here. In cases such as this, there are good reasons for extending the protection afforded by the bodily integrity principle.

(ii) No intention

A second difficulty arises where biological materials are detached and no intention is formed and expressed at the time of detachment for the separated biological materials to be used as property. Although such circumstances may be rare, they could occur, for example, where X is detached from A following an accident. In the case of an accidental detachment, it is extremely unlikely that an intention will be formed that X is to be used as property by A or any other person.

In the case of accidental detachment, although X is transformed into a thing capable of being the subject of property rights, no property rights are created upon detachment. At a later stage in time, the biological materials may used by a third party (C) for some other purpose. For example, C may find X and undertake a DNA analysis of X. The property rights to the biological materials would be created at the point that C's forms and expresses such an intention. The question arises as to

whether A or C should be allocated the property rights. This thesis argues that A should be allocated the property rights because A has a prior connection to X. Again, this allocation of property rights does not arise by logical necessity and as a result, property rights must be allocated to the source by operation of law.

3 Summary

Where the source expresses the requisite intention, the detachment plus intention principle offers a logical explanation for the creation and allocation of property rights to separated biological materials. There are difficult cases, however, where it is necessary that the source be allocated property rights following the formation and expression of intention by another person. It is only in exceptional factual scenarios that conceptual difficulties arise. If English law were to recognize that property rights to biological materials are created on detachment, these difficulties would fall away. But the law has demonstrated a reluctance to invoke detachment as the governing principle. In these circumstances, a detachment plus intention principle offers a more principled basis than the work or skill exception to explain the creation of property rights.

Importantly, both the detachment and detachment plus intention principles support the initial allocation of the property rights to the source. The question of whether a legal doctrine is morally justified requires an examination of property theory. By way of secondary analysis, the following section engages with property theory to strengthen the claim that a source should be allocated the property rights created in separated biological materials.

C PROPERTY THEORY

The remit of this section is to examine whether the individual from whom biological materials are taken (source), or alternatively, the party who removes and retain the materials (recipient), has a greater moral claim under property theory to the property rights. Providing moral justifications for legal principles is widely accepted as a means to ensure that the law reflects the principles of correct behaviour as codified in moral norms.[34] In the context of medical law, academic commentary has been reluctant to engage with moral justifications. Such reluctance stems from the fact that engaging in an analysis of property justifications raises difficult (and in some cases unresolved) questions.

Examining property theory requires consideration of what property justifications support the creation of property rights. Becker claims that such an analysis concerns 'particular justifications'; namely, why a particular person ought to have particular property rights in a particular thing.[35] Harris refers to this exercise as middle-range theorizing about property because these justifications are detached from over-arching theories.[36] The enquiry conducted here is more refined than the one addressing the general question of whether there is a justification for any property rights in any form.

Property theorists invoke a combination of justifications to support property rights including labour-desert, first-occupancy, self-ownership, creation-without-wrong, personhood and privacy. Academic commentary that has considered the question of property rights to human biological materials rarely engages in such an

---

34 J Raz 'Incorporation by Law' (unpublished paper 2004) (copy on file with author) 9; SA Smith *Contract Theory* (OUP Oxford 2004) 15.

35 LC Becker *Property Rights: Philosophical Foundations* (Routledge London 1977) 23.

36 JW Harris *Property and Justice* (Clarendon Press Oxford 1996) 166-167.

analysis.[37] Instead, commentators focus on instrumental arguments. Instrumental arguments are significant and are considered here, but they do not present a complete picture. Accordingly, the additional property justifications mentioned above are also examined in this section.

Only two common law decisions (*Moore* and *Greenberg*) have directly considered whether a source can claim property rights to separated biological materials. *Greenberg* applied *Moore*, so *Moore* provides the natural starting point to consider the justificatory arguments advanced in support of the competing property right claims of recipients or sources. In *Moore*, a majority of the California Court of Appeal held that Moore (plaintiff) had property rights in his biological materials sufficient to maintain the conversion cause of action.[38] On appeal, a majority of the Supreme Court of California reversed the Court of Appeal's decision.[39] The majority found that although Moore had a cause of action for Golde's (defendant) failure to obtain Moore's informed consent, he did not have a cause of action for the tort of conversion. Importantly, the majority's conclusion was not that separated biological materials could never be the subject of property rights, but rather that a source retains no ownership interest over them once they are detached from his or her body. As the majority observed: 'we do not purport to hold that excised cells can never be property for any purpose'.[40] The majority did not explicitly recognize Golde's property rights in the materials. One reading of their ruling suggests that their conclusion implicitly supported a recipient's property rights. Skene has also

---

37 One notable exception is: A Grubb 'I, Me, Mine: Bodies, Parts and Property and Parts' (1998) 3 Medical Law International 299.

38 *Moore v Regents of the University of California* 249 Cal Rptr 494 (Cal App 1988) (*Moore* CA).

39 *Moore v Regents of the University of California* 793 P 2d 479 (Cal SC 1990) (*Moore* SC).

40 *Moore* SC (n 39 above) 493.

argued that recipients should be allocated property rights to separated biological materials.[41] This section therefore commences with an examination of property justifications potentially supporting such a right.

1 Recipient

(a) Instrumental Arguments

Instrumental or utility-based considerations are often deployed to support property rights. These consequentialist justifications tend to draw on a utilitarian premise, which posits that if an outcome is desirable and cannot be attained without property rights, then those property rights should be recognized.[42] Instrumental considerations may be market-based or embody broader social goals.[43] Market-instrumental arguments are frequently used by commentators as a justification to support intellectual property rights. For example, if it can be demonstrated that a biotechnology company will invest in research and development costs only if it is granted a patent, then instrumental arguments support the granting of property rights. Munzer employs such reasoning and appeals to his concept of 'utility', as well as labour-desert, to support intellectual property rights over genetic materials.[44]

In *Moore*, the Supreme Court majority was primarily concerned with instrumental considerations, which it employed to deny Moore's property rights. One interpretation of their decision, noted above, is that these instrumental

---

41 L Skene 'Proprietary Rights in Human Bodies, Body Parts and Tissue' (2002) 22 Legal Studies 102, 123.

42 Becker *Property Rights: Philosophical Foundations* (n 35 above) 54; SR Munzer *A Theory of Property* (CUP Cambridge 1990) 4, 193; RA Posner *Economic Analysis of Law* (5th edn Aspen New York 1998) 30.

43 Becker *Property Rights: Philosophical Foundations* (n 35 above) 57.

44 SR Munzer 'Property, Patents and Genetic Material' in J Burley and J Harris (eds) *A Companion to Genethics* (Blackwell Oxford 2002) 440.

considerations also positively supported a recipient's property rights.[45] Skene also argues that although a source should not be accorded property rights, the need to support medical research justifies a recipient's property rights to biological materials.[46]

The principal instrumental argument for recognition of a recipient's property rights is that such rights are necessary to protect medical and scientific research by ensuring and maintaining the availability of biological materials. Such protection is also accorded to provide sufficient economic incentive to conduct medical research and to provide certainty of title with respect to biological materials.[47] These are, of course, legitimate concerns. Chapter 5 noted that the desire to protect medical research motivated amendments in 2001 to Oregon legislation that had initially granted property rights in biological materials to sources.[48]

Nevertheless, these instrumental arguments cannot establish that the law should recognize recipient's property rights. They rest on a central presupposition that recognizing a source's property rights would have deleterious consequences for medical research. Thus in *Moore*, the Supreme Court majority claimed that if the law recognized a source's property rights, the volume of biological materials available for research would be reduced. The majority made this claim without citing any empirical support. Empirical research conducted since *Moore* suggests that it is not clear what impact recognizing a source's property rights would have on the supply

---

45 J Leeds 'More for Biotechnology, Less for Patients' (1991) 25 Indiana Law Review 559, 587; Nuffield Council on Bioethics *Human Tissue: Ethical and Legal Issues* (Nuffield Council on Bioethics London April 1995) [10.6]; Skene (n 41 above) 123–127.

46 Skene (n 41 above) 123–127; L Skene 'Arguments Against People Legally "Owning" Their Own Bodies, Body Parts and Tissues' (2002) 2 Macquarie Law Journal 165, 175.

47 *Moore* SC (n 39 above) 494.

48 Genetic Privacy Act 1995 (Oregon) § 4(1) (amended May 2001); A Onion 'Should You Own Your Own Genes' ABC News (US) <http://www.abcnews.go.com/sections/News/geneprivacy.html> (10 May 2001).

of biological materials.[49] Indeed, empirical research suggests that recognition of individual property rights may actually increase the volume of biological materials available.[50]

Next, the majority claimed that recognizing a source's property rights would have a detrimental impact on the free-exchange research culture. In a persuasive dissent, Mosk J refuted the argument and emphasized that the free-exchange research culture was no longer predominant due to the commercialization of the biotechnological industry.[51] Indeed, commercial transactions are increasingly frequent in the biotechnological research industry.[52]

Further, the economic incentive and certainty of title arguments cannot by themselves establish that a recipient's property rights are necessary. These desirable outcomes can also be achieved if a source is accorded property rights. For example, if it were clear that a source had property rights in his or her biological materials, those rights simply could be transferred to a recipient by way of sale or gift. Recipients may then be required to compensate sources, but such compensation would not necessarily undermine the economic incentive to conduct research and develop therapeutic drugs. Questions over the uncertainty of title could also be avoided with accurate record keeping.

---

49 Medical Research Council *Human Tissue and Biological Samples for Use in Research* (United Kingdom November 1999) [2.4]; Australian Law Reform Commission *Protection of Human Genetic Information* (ALRC DP 66 Australian Government Publishing Service Canberra August 2002) [17.36]-[17.37].

50 DM Gitter 'Ownership of Human Tissue: A Proposal for Federal Recognition of Human Research Participants Property Rights in their Biological Material' (2004) 61 Washington and Lee Law Review 257, 281-291.

51 *Moore* SC (n 39 above) 513.

52 Nuffield Council on Bioethics *The Ethics of Patenting DNA* (Nuffield Council on Bioethics London November 2002) [1.6].

Instrumental considerations are thus inconclusive and cannot by themselves justify a recipient's property rights to biological materials. In any event, a consistent argument of this thesis is that policy-based considerations should not determine the foundational structure of rights that the law recognizes. It is therefore important to consider whether other moral justifications support a recipient's property rights to separated biological materials.

(b) First-occupancy

No common law decision has explicitly utilized first-occupancy to justify a recipient's property rights. The first-occupancy argument postulates that the first person to occupy some previously unoccupied resource should be its owner.[53] Benson considers first-occupancy to be the only justification for recognition of a property rights as a matter of property theory,[54] while others have dismissed it as unsupportable.[55] Becker observes that a first-occupancy argument requires that the object occupied be unowned (part of the commons). Despite its contentious nature, first-occupancy has been employed to accord individual ownership over certain tangible resources[56] and, on a community scale, aboriginal land rights.[57]

A first-occupancy justification—not explicitly addressed by the Supreme Court majority in *Moore* – may support a recipient's property rights to biological materials. One commentator has asked whether 'a person's cells, when taken from her body,

---

53 AJ Simmons 'Original Acquisition Justifications of Private Property' in EF Paul, FD Miller and J Paul (eds) *Property Rights* (CUP Cambridge 1994) 63.

54 P Benson 'Philosophy of Property Law' in J Coleman and S Shapiro (eds) *The Oxford Handbook of Jurisprudence and Philosophy of Law* (OUP Oxford 2002) 760. See also R Epstein 'Possession as the Root of Title' (1979) 13 Georgia Law Review 1221, 1228.

55 LC Becker *Property Rights: Philosophical Foundations* (Routledge London 1977) 24.

56 *Parker v British Airways Board* [1982] QB 1004, 1017 (claim over lost bracelet).

57 *Mabo v State of Queensland (No 2)* (1992) 175 CLR 1 (HCA).

are like unclaimed resources in some truly unexplored territory—owned by none and available for the taking (*res nullius*)'.[58] This argument proceeds from the premise that once biological materials are separated from a source, they join the 'public commons' and are available to everyone. Under this view, as with oil,[59] water[60] and wild animals,[61] biological materials accordingly become available for 'capture' by the first person to recognize their commercial potential.

Similar reasoning is adopted by Marusyk and Swain.[62] They propose a tiered schema of rights with respect to the human body. Under the first level, a source retains rights to biological materials while these remain in his or her body. At the second level, they classify biological materials removed from the body as *res nullius*, things without an owner.[63] These materials are initially owned by no-one and ownership is acquired by the first person to take possession of them. Despite drawing interesting comparisons with how the law classifies natural resources and the seabed, Marusyk and Swain do not explain why a similar *res nullius* classification should apply to human biological materials.

Two objections can be made to employing a first-occupancy argument. First, there are difficulties with the normative strength of the justification. A first-occupancy argument draws on an assault analogy. The justification asserts that if an individual is in possession of a good, it is a wrong for another person to take that

---

58 PN Ossorio 'Property Rights and Human Bodies' in D Magnus et al (eds) *Who Own Life* (Prometheus Books New York 2002) 236. See also: R Rao 'Property, Privacy and the Human Body' (2000) 80 Boston University Law Review 359, 375.

59 *Elliff v Texon Drilling Co* 210 SW 2d 558 (Tex SC 1948) 561-562.

60 *Houston v East* 81 SW 279 (Tex SC 1904) 280-282.

61 *Pierson v Post* 2 Am Dec 264 (NY SC 1805) 264-267.

62 RW Marusyk and MS Swain 'A Question of Property Rights in the Human Body' (1989) 21 Ottawa Law Review 351.

63 Marusyk and Swain (n 62 above) 380-381.

good. It follows that an individual taking first possession of a good can claim a moral right to remain in possession of it. It is unclear, though, why, as a matter of moral principle, an individual should acquire an ownership interest simply because he or she is the first to control the item.[64] Supporters of the first-occupancy justification, therefore, need to demonstrate why the unilateral conduct of an individual should impose restrictions on the rest of the world.

Second, even if a first-occupancy argument is assumed to have sufficient normative strength on a conceptual level, there are more specific objections against this application to biological materials. For biological materials to be placed into the commons after detachment as *res nullius*, the recipient must establish that the source has no rights—proprietary or non-proprietary—over such materials. The application of a first-occupancy argument is therefore dependent on the classification of biological materials as *res nullius*. It is contended here that a source can claim property rights to separated biological materials on the basis of either the detachment principle or detachment plus intention principles. If this proposition is accepted (that a source is allocated property rights), then separated biological materials cannot be classified as *res nullius*.

Further, a first-occupancy justification cannot be sustained even if a source does not have property rights to separated biological materials. In such a case, this thesis argues that the source can claim at least non-proprietary interests in such materials. Two examples (contained in the HTA 2004) illustrate a source's non-proprietary interests in separated biological materials. The first example is located in the general offences contained in sections 5 and 8 of the HTA 2004. Those sections create

---

64 LC Becker *Property Rights: Philosophical Foundations* (Routledge London 1977) 30; J Waldron *The Right to Private Property* (Clarendon Press Oxford 1988) 285.

criminal offences where persons use relevant material (as defined in the HTA 2004) either without consent or going beyond the terms of consent. In this way, the HTA 2004 purports to govern what may be done with relevant material, even once such materials are removed from a source. The requirement to obtain consent for the use of relevant material in defined circumstances invests individuals with increased control over what may be done with materials removed from them.

The second example of protection is section 45 of the HTA 2004, which creates a new criminal offence where a person is in possession of 'bodily material' (defined below) and intends that the DNA in it be analysed without consent. This criminal law protection can be viewed as an attempt to maintain an individual's autonomy and human dignity.[65] Although the HTA 2004 only creates protection under the criminal law, there is potential for an extension of these non-proprietary interests in civil law and Chapter 9 examines such an extension. For present purposes, however, protection through the criminal law illustrates that individuals at the very least retain non-proprietary interests in separated biological materials. Even if the law does not recognize a source's property rights, these non-proprietary interests are sufficient to break down the *res nullius* classification. Importantly then, first-occupancy cannot justify a recipient's property rights in property theory.

(c) Labour-desert

Supporters of a labour-desert justification contend that people who perform useful work deserve to be rewarded with property rights.[66] The theoretical underpinning of

---

65 See notes 75-83 of Chapter 6 and accompanying text.

66 Becker *Property Rights: Philosophical Foundations* (n 64 above) 48-56; J Hughes 'The Philosophy of Intellectual Property' (1988) 77 Georgetown Law Journal 287, 299-330; S Munzer *A Theory of Property* (CUP Cambridge 1990) ch 10.

the labour-desert principle can be traced to Locke[67] and Mill,[68] and inheres in the worthiness of the relevant labour and the appropriateness of the reward. Scots law recognizes that labour-desert provides the underlying theory to support the specification doctrine.[69] Bell states that 'industrial accession is produced by the art or industry of man'.[70] In the common law domain, Munzer employs a labour-desert argument to support the conferral of intellectual property rights in relation to genetic materials.[71] It does not necessarily follow that the investment of labour always justifies recognition of a property interest. To invoke a labour-desert argument successfully, proponents must establish that property rights are the appropriate reward.

No common law court has applied a labour-desert argument to support a recipient's property rights to biological materials detached from a living person. A labour-desert justification does presuppose that there are no underlying property rights. In the case of a living person, even if work has been performed on separated biological materials it is still necessary for the recipient to establish that the source has no underlying property rights to the biological materials. As with the first-occupancy justification, a source's property rights to biological materials would override any recipient's claim based on labour-desert.

Despite this conclusion, a recipient may draw on a labour-desert argument to support a moral claim to property rights over a cell-line developed using biological

---

67 GW Gough (ed) J Locke *Second Treatise of Government* (Blackwell Oxford 1976) 37.

68 JS Mill 'Principles of Political Economy: With Some of Their Applications to Social Philosophy' in JM Robson (ed) *Collected Works of John Stuart Mill* (Routledge London 1965) 230-232.

69 C van der Merwe 'Nova Species' (2004) 2 Roman Legal Tradition 97, 111.

70 GJ Bell *Principles of the Law of Scotland* (10th edn Butterworths Edinburgh 1899) 503.

71 Munzer does not, however, rely on Locke or Mill: SR Munzer *A Theory of Property* (CUP Cambridge 1990) 441.

materials. In *Moore*, the claim included Moore's alleged right to profits from the patented cell-line and products derived from it. Instead of employing a labour-desert argument, the majority argued that Moore's claim was inconsistent with the patent. They stated: 'Moore's allegations that he owns the cell-line and the products derived from it are inconsistent with the patent, which constitutes an authoritative determination that the cell line is the product of invention'.[72] The difficulty with the majority's response is that Moore's claim concerned the conversion of his biological materials prior to the granting of the patent. In dissent, Mosk J observed that if Moore had property rights to his biological materials, the patenting of them would not alter his property rights.[73] In this way, the majority seemed to conflate the question of rights over the biological materials, the cell-line, and the patent. They did not address separately the question of whether the defendants had property rights based on a labour-desert argument. Instead, they proceeded to use the patent as one of their principal arguments to deny Moore any rights.

The majority could have separated the question of rights as between the biological materials and the cell-line. Separating the two issues clarifies the different questions pertaining to each. If the majority had separated the two, they could have employed an argument based on labour-desert to justify the defendants' property rights over the cell-line and subsequent patent. A cell-line is arguably a new item created from the original biological materials; therefore, any rights pertaining to the cell-line are not inhibited by a source's underlying property rights or non-proprietary interests to the original biological materials.

---

72 *Moore* SC (n 39 above) 493.

73 *Moore* SC (n 39 above) 511.

The question that then arises asks whether property rights are created over a cell-line by virtue of the specification principle. Scots law recognizes that the underlying theory for the specification principle is labour-desert.[74] The potential application of these doctrines to additional biological materials is considered in the next section. Specifically, the section considers whether a cell-line can be classified in the law as a new thing. For now, it is sufficient to note that property theory accords the recipient a stronger labour-desert claim over a subsequently developed cell-line than over the original biological materials. Even if the recipient is entitled to property rights over a cell-line, the property rights cannot extend to a source's original biological materials because of the difficulties outlined earlier.

(d) Summary

These three property justifications—instrumental, first-occupancy and labour-desert—cannot displace the source's prima facie right to be allocated property rights to biological materials detached from his or her body. A recipient cannot invoke these justifications because there are significant difficulties with each of them. To complete this analysis the section also examines justifications supporting a source's priority to property rights.

2 Source

(a) Self-ownership

The first potential justification for a source's property rights—self-ownership—derives from the writings and theory of Locke, who envisaged a natural state in which all human beings are equal and in which there exists a universal ban on

---

74 Merwe (n 69 above) 111.

invasions of bodily integrity.[75] The argument for self-ownership proceeds as follows: if an individual is not a slave, nobody else owns his body; therefore, he must own himself and everything that his body produces (this is otherwise known as the no slavery argument).

In *Moore*, the Court of Appeal majority held that Moore had property rights to his separated biological materials. But the majority judges did not outline explicitly what property justifications supported property rights. The majority may in fact have been employing self-ownership. At one point they observed that there 'is a dramatic difference between having property rights in one's own body and being the property of another'.[76] Essentially, they appear to have reasoned that if nobody owns an individual, then the rights of each individual over his or her body are sufficient to constitute a property interest. The majority's position essentially encapsulates the 'no slavery argument' for self-ownership.

Mosk J also gave no explicit consideration as to what property justifications supported Moore's property rights. His judgment focused more on countering the majority's policy objections. He did note, however, that granting a source's property rights would protect human dignity.[77] He also observed that the institution of slavery 'haunts' the biotechnology industry wherever scientists claim the right to exploit a source's biological materials.[78] Mosk J's references to dignity and slavery also suggest an invocation of the principle of self-ownership. His argument consisted of three steps. First, if researchers using biological materials deny a source's ownership of his or her materials, it is tantamount to regarding the source as a slave.

---

75 Locke *Second Treatise of Government* (n 67 above) 27.

76 *Moore* CA (n 38 above) 504.

77 *Moore* SC (n 39 above) 515.

78 *Moore* SC (n 39 above) 515.

Second, society does not permit a source to be treated as a slave. Third, researchers cannot deny a source's property rights to his or her biological materials.

More recently, self-ownership arguments again appeared in *Greenberg*. Self-ownership was implicitly invoked in *Greenberg* where the conversion claim, as set out in the statement of claim, was based on an assertion that the materials were owned by the children before being separated from them.[79] In *Greenberg*, Moreno J did not address this point, but instead dismissed the conversion claim on the basis of *Moore*.[80]

The place of self-ownership remains largely unsettled in property theory.[81] Self-ownership is a difficult concept because often it is employed as an assertion rather than as a premise, in founding property rights. Indeed, the justification has not been explicitly utilized by courts to justify property rights. Where courts might have been expected to employ self-ownership to define an individual's interest, they have in fact invoked autonomy. Autonomy is generally depicted as a capacity possessed by all individuals, which they manifest by acting independently. Examples of English cases employing autonomy include: *In re F (Mental Patient: Sterilisation)*,[82] *Airedale NHS Trust v Bland*,[83] *St George's NHS Trust v S*,[84] and *Re A (Children) (Conjoined Twins)*.[85]

---

79 Complaint (copy on file with author) [61]-[67].

80 *Greenberg v Miami Children's Hospital Research Institute* 264 F Supp 2d 1064 (US DC Florida 2003) 1075.

81 Supporters include: R Nozick *Anarchy, State and Utopia* (Blackwell Oxford 1974) 150-153; D Beyleveld and R Brownsword *Human Dignity in Bioethics and Biolaw* (OUP Oxford 2001) 170-173. Dissenters include: R Arneson 'Lockean Self-ownership: Towards a Demolition' (1991) 39 Political Studies 36, 54; A Ryan 'Self-ownership, Autonomy and Property Rights' (1994) 11 Social Philosophy and Policy 241, 247; JW Harris *Property and Justice* (Clarendon Press Oxford 1996) 196-197; M Davies and N Naffine *Are Persons Property? Legal Debates about Property and Personality* (Ashgate Dartmouth Aldershot 2001) 184; O O'Neill *Autonomy and Trust in Bioethics* (CUP Cambridge 2002) 153.

82 [1990] 2 AC 1 (HL) 72.

83 [1993] AC 789 (HL) 808.

In addition to the common law, philosophical invocations of freedom to control one's body have not relied on self-ownership arguments but on notions of autonomy or personal sovereignty.[86] This thesis cannot explore these philosophical invocations except to note that among scholars in legal and political theory, self-ownership often is mistaken for autonomy. In the context of biological materials it is necessary to distinguish between these two concepts. Self-ownership is a proprietary concept; autonomy is not. If self-ownership is to be employed as a property justification, then the validity of using the concept to support proprietary rights must be established. Instead, English law has demonstrated a long-standing preference for invoking the concept of autonomy over property rights.

(b) Privacy

Privacy justifications may also be employed to support a source's property rights. Contemporary property theorists argue that property rights should be recognized where an individual's privacy can only be guaranteed by conferring some control over the social resources to which they are intimately connected.[87]

Although English law does not recognize a generalized right to privacy or tort against invasion of privacy,[88] privacy arguments are emerging in English law following the incorporation of the 'right to respect for ... private and family life' under the Human Rights Act 1998 c 42 (HRA). Even before legislative intervention,

---

84 [1999] Fam 26 (CA) 43.

85 [2001] Fam 147 (CA) 176.

86 JS Mill 'On Liberty' in M Warnock (ed) *Utilitarianism, On Liberty and Other Essays* (Fontana London 1962); J Feinberg *The Moral Limits of the Criminal Law: Harm to Self* (OUP Oxford 1986) vol 3, 47-51.

87 Harris *Property and Justice* (n 81 above) 224-228; SR Munzer *A Theory of Property* (CUP Cambridge 1990) 90-95.

88 *Campbell v MGN Limited* [2004] UKHL 22; [2004] 2 WLR 1232 (HL) [11] (Lord Nicholls); *Wainwright v Home Office* [2004] 2 AC 406 (HL) 423 (Lord Hoffmann).

the potential relationship between privacy and property law had emerged in the context of protecting confidential information through the duty of confidence doctrine. The duty of confidence is examined more fully in Chapter 9.[89] For now it is sufficient to note that commentators have argued that protection of confidential information is proprietary.[90] To support their position, commentators refer to a line of English authority suggesting that the protection of such information derives from 'property in confidential information'.[91] Some judges have recognized that certain categories of information can constitute property,[92] but for the most part, English courts have declined to recognize the general proposition that information is personal property.[93] The dominant view today accepts that the exclusivity of confidential information is not dependent on property.[94] Instead, as Lord Hoffmann observed in *Campbell*, the protection of confidential information is based on a desire to protect 'human dignity and autonomy.'[95]

As a matter of property theory, then, the relevant question is whether, in the context of biological materials, property rights are necessary in order to protect an associated right to privacy. The need to protect a source's privacy arises from the fact that biological materials also contain an individual's genetic information, which is

---

89 See notes 45-75 of Chapter 9 and accompanying text.

90 S Ricketson 'Confidential Information—A New Proprietary Interest' (1977) 11 Melbourne University Law Review 223, 234; DF Nigri 'Theft of Information and the Concept of Property in the Information Age' in JW Harris (ed) *Property Problems: From Genes to Pension Funds* (Kluwer Law International London 1997) 53.

91 *Boardman v Phipps* [1967] 2 AC 46 (HL) 127-128; *Prince Albert v Strange* (1849) 1 H & T 1, 21; 47 ER 1303, 1309.

92 *Boardman* (n 91 above) 89-91 (Viscount Dilhorne), 107-111 (Lord Hudson), 115-116 (Lord Guest).

93 *A-G v Guardian Newspapers (No 2)* [1990] 1 AC 109 (HL) 281 (Lord Goff); S Worthington *Equity* (OUP Oxford 2003) 140.

94 M Richardson 'Owning Secrets: 'Property' In Confidential Information' in A Roberston (ed) *The Law of Obligations: Connections and Boundaries* (UCL Press London 2004) 166.

95 *Campbell* (n 88 above) [50] (Lord Hoffmann).

capable of being extracted and analysed. The current view in English law that confidential information is not property does not present a hurdle. Property rights could be created to biological materials without classifying the genetic information as property.

Different answers addressing this legal shortcoming have emerged from the common law. In *Moore*, the Court of Appeal majority explicitly invoked the right to privacy to support a source's property rights. They argued that failing to grant patients property rights over biological materials would open the door to an invasion of 'human privacy and dignity'.[96] Similarly, on appeal Broussard J implicitly relied on a privacy right to hold that a patient has a legal right to determine how his or her body part will be used before it is removed.[97] Unfortunately, neither the Court of Appeal nor Broussard J explained why proprietary protection was necessary.

The Supreme Court majority in *Moore* also recognized the need to protect a patient's right to make autonomous medical decisions. Rejecting the privacy argument advanced by the Court of Appeal, the Supreme Court majority concluded that 'one may ... wish to protect privacy and dignity without accepting the extremely problematic conclusion that interference with those interests amounts to a conversion of personal property'.[98] Property rights, the majority considered, were not necessary, 'since the fiduciary-duty and informed-consent theories protect these interests by requiring full disclosure'.[99]

---

96 *Moore v Regents of the University of California* 249 Cal Rptr 494 (Cal App 1988) (*Moore* CA) 508.

97 *Moore v Regents of the University of California* 793 P 2d 479 (Cal SC 1990) (*Moore* SC) 499.

98 *Moore* SC (n 97 above) 491.

99 *Moore* SC (n 97 above) 491.

Chapter 5 detailed the different statutory responses to the protection of an individual's privacy amongst different jurisdictions.[100] No English or Australian legislation has created property rights to protect a source's right to privacy. The UK Nuffield Council on Bioethics has suggested that privacy rights are adequately protected by the doctrine of informed consent.[101] In contrast, some legislatures in the US have declared an individual's genetic information to be that individual's own personal property.[102] These US statutes grant property rights in the information after it has been extracted from the biological materials. It is possible that under this state legislation, no property rights inure in the physical materials. Arguably, though, such legislation presupposes that those materials are also the personal property of sources. If there are good privacy reasons for protecting the information as property, then there should be equally valid reasons for granting the source property rights to biological materials.

Common law and legislative intervention thus diverge over whether privacy interests associated with biological materials should be protected by property rights or by the doctrine of informed consent. The existence of informed consent procedures may also imply and support the existence of underlying property rights. Commentators have made this point in the context of the European Council Directive on the Legal Protection of Biotechnological Inventions (Biotech Directive).[103] The Biotech Directive asserts that researchers ought to ensure that all

---

100 See notes 64-79 of Chapter 5 and accompanying text.

101 Nuffield Council on Bioethics *Human Tissue: Ethical and Legal Issues* (Nuffield Council on Bioethics London April 1995) [13.16].

102 Florida (Florida Statutes Title XLIV Chapter 760 § 760.40); Georgia (Code § 33-54-1); Louisiana (Acts No 1418 § 213.7); Colorado (Colorado Statutes § 10-31104.7).

103 Council Directive 98/44 of 6 July 1998 on the Legal Protection of Biotechnological Inventions [Legal Protection of Biotechnological Inventions] [1998] OJL No L213; D Beyleveld and R Brownsword 'My Body, My Body Parts, My Property' (2000) 8 Health Care Analysis 87, 96.

human donors of biological materials provide fully informed consent to the removal of those materials.[104]

Regrettably, neither the common law nor academic commentary has adequately explored whether property rights would enhance the protection of a source's right to privacy. Biomedical technology currently enables genetic testing to be performed on a range of biological materials. There is consequently an increasing need to prevent the misuse of a source's biological materials by third parties.[105] Yet English privacy law, including the Data Protection Act 1998 c 29, does not regulate the use of biological materials.[106]

A hypothetical situation illustrates this lack of legal protection. A man (D) obtains biological materials from a child (E) without consent. D has no parental responsibility for E, but he wishes to submit the biological materials for DNA paternity testing to ascertain whether he is E's father. English privacy law provides no legal recourse in these circumstances. If E could claim property rights to the biological materials then the law of theft would provide recourse against D. Law reform bodies in the UK and Australia have recognized this problem and recommended that the non-consensual or deceitful obtaining of biological materials for the purpose of genetic testing should be classified as a criminal offence.[107] Indeed, section 45 of the HTA 2004 has introduced such an offence in the UK. The HTA 2004 does not, however, define what legal interest individuals have in their biological materials. Property rights would, however, offer greater protection because the law

---

104 Council Directive 98/44 (n 103 above) rec 27.

105 Human Genetics Commission *Inside Information* (Department of Health London 2002) [3.50]; Australian Law Reform Commission *Protection of Human Genetic Information* (ALRC DP 66 Australian Government Publishing Service Canberra 2002) [5.83].

106 HGC *Inside Information* (n 105 above) [3.52]-[3.54].

107 HGC *Inside Information* (n 105 above) [3.60]; ALRC *Protection of Human Genetic Information* (n 105 above) [5.120].

of property can enable individuals to control the use and disposal of such materials prior to the extraction of genetic information. The potential for additional protection through a privacy justification therefore supports recognition of a source's property rights.

(c) Personhood

A personhood justification for property rights overlaps with privacy considerations. Personhood focuses on property's role in developing a part of an individual's personhood.[108] Hegel's discussion of property[109] and Radin's analysis[110] are the two most prominent theoretical examples. Hegel argued that in becoming a person one must assert oneself into the external world and, subsequently, appropriate those things into which an individual inserts their will.[111] Consequently, for Hegel private property is acquired by the joining of an individual's will to some object external to the self.[112] Radin draws on Hegel's connection between personality and property. She reformulates its normative connections by arguing that some kinds of property are protected because they are intrinsically part of an individual's personality and identity, not because they are a means of expressing personality. To illustrate her point, Radin refers to familiar material objects—a wedding ring, a portrait and a family home—to show how these objects become 'bound up with personhood'.[113]

Personhood reasoning is generally employed to support intellectual property rights. Commentators argue that such rights shield from appropriation the artefacts

---

108 J Waldron *The Right to Private Property* (Clarendon Press Oxford 1988) 302-303.

109 GWF Hegel *Philosophy of Right* TM Knox (tr) (Clarendon Press Oxford 1967).

110 MJ Radin *Reinterpreting Property* (University of Chicago Press Chicago 1993).

111 Hegel *Philosophy of Right* (n 109 above) [51].

112 Hegel *Philosophy of Right* (n 109 above) [44], [50], [51]-[58].

113 MJ Radin 'Property and Personhood' (1982) 34 Stanford Law Review 957, 959.

through which authors and artists have expressed their 'wills'.[114] For example, French and German copyright statutory regimes have traditionally been justified on the ground that a work embodies and helps to realize its creator's personality or will.[115] In particular, personhood arguably underpins the protection afforded in civil law systems by recognition of the 'moral rights' of integrity, attribution, disclosure and correction or withdrawal.[116] Even in common law jurisdictions, where the moral right is referred to as a 'personal right',[117] the right is enforceable generally against other members of society.

In the context of separated biological materials, a personhood argument was not explicitly developed in *Moore*. After noting that US courts found there to be a sufficient proprietary right in an individual's persona through the tort of appropriation of name and likeness, the Court of Appeal asked: 'how could one not have a right in one's genetic materials, something more profoundly the essence of one's human uniqueness than a name or face?'[118] The majority of the Court of Appeal did not explore this question any further.

Similarly, there is limited academic commentary exploring the personhood argument.[119] Danforth argues that the law should extend the property-based notion

---

114 J Hughes 'The Philosophy of Intellectual Property' (1988) 77 Georgetown Law Journal 287, 330-350; W Fisher 'Theories of Intellectual Property' in SR Munzer (ed) *New Essays in the Legal and Political Theory of Property* (CUP Cambridge 2001) 171.

115 TG Palmer 'Are Patents and Copyrights Morally Justified? The Philosophy of Property Rights and Ideal Objects' (1990) 13 Harvard Journal of Law and Public Policy 817, 841-842; Fisher (n 114 above) 174.

116 N Netanel 'Alienability Restrictions and the Enhancement of Author Autonomy in United States and Continental Copyright Law' (1994) 12 Cardozo Arts and Entertainment Law Journal 1, 14.

117 *Clark v Associated Newspapers Ltd* [1998] RPC 261 (Ch) 269 (discussing the false attribution of work within s 84(1) of the Copyright Designs and Patent Act 1988 c 48).

118 *Moore* CA (n 96 above) 508.

119 J Horton 'A Personhood Analysis of Property Rights in the Human Body' (1995) 11 Canadian Intellectual Property Review 213, 225.

of control over one's name or likeness to separated biological materials. She observes that '[t]he common law recognizes the individual's exclusive right to use what is inherently personal, and nothing is more personal than one's own genetic material'.[120] Danforth does not, unfortunately, consider whether property rights might be useful in protecting an individual's non-proprietary interest.

The application of a personhood justification to biological materials is not without difficulty. First, personhood is not a widely accepted justification for supporting property rights. An interesting analogy may be made to the domain of moral rights, which employ personhood reasoning to support inalienable rights. In the common law, moral rights are generally acknowledged as being personal and not property rights. Second, for a personhood argument to apply a source would need to demonstrate that he or she is so intimately connected with separated biological materials that any misuse of those materials amounts to an assault on his or her personal identity. This threshold is not easily satisfied. For example, if a third party unlawfully obtains a source's biological materials and then discloses the source's personal genetic information, such acts may constitute an invasion of a source's right to privacy but not an assault on his or her personal identity. Nevertheless, a personhood argument does support a source's property rights, albeit in a more limited way than a privacy justification.

(d) Creation-without-wrong

In addition to self-ownership, another justification—labelled 'creation-without-wrong'[121]—can be derived from Locke[122] and Mill.[123] It is also one of the arguments

---

120 MT Danforth 'Cells, Sales, and Royalties: The Patient's Right to a Portion of the Profits' (1988) 6 Yale Law and Policy Review 179, 193.

121 JW Harris *Property and Justice* (Clarendon Press Oxford 1996) 197.

employed by Nozick.[124] According to the creation-without-wrong justification, individuals should be allocated property rights where they add to the total wealth of society through their own actions without directly or indirectly harming others.[125] Creation-without-wrong may apply in several contexts. Mill invoked the justification in the context of manufactured property.[126] Harris, on the other hand, suggests that the justification is particularly attractive in the context of intellectual property.[127]

In the context of separated biological materials, the principal difficulty in applying this justification lies in determining whether the act of detachment, which creates a new item of social wealth, can satisfy the 'creation' requirement of the justification. The creation-without-wrong justification does not appear to require the item to be created *ex nihilo*. Mill, for example, applied the justification in the context of manufactured goods.[128] On this basis, the detachment of biological materials arguably satisfies the creation requirement. Therefore, in its present formulation, the creation-without-wrong justification also supports the recognition of a source's property rights ahead of that of a recipient.

3 Summary

This section has explored whether property justifications support the allocation of property rights to a source. The analysis commenced by noting the decisions in

---

122 J Locke *Second Treatise of Government* GW Gough (ed) (Blackwell Oxford 1976) 27.

123 JS Mill 'Principles of Political Economy: With Some of Their Applications to Social Philosophy' in JM Robson (ed) *Collected Works of John Stuart Mill* (Routledge London 1965) 215.

124 R Nozick *Anarchy, State and Utopia* (Blackwell Oxford 1974) 174–182.

125 Locke *Second Treatise of Government* (n 122 above) 27.

126 Mill (n 123 above) 215.

127 Harris *Property and Justice* (n 121 above) 202–203.

128 Mill (n 123 above) 215.

Moore and *Greenberg*, wherein US courts held that sources cannot claim property rights to biological materials removed from them. By implication, these decisions suggest that property rights should be initially allocated to the recipient. Accordingly, the chapter examined what property justifications support such a claim. Analysis illustrated that none of the three potential justifications—instrumental, first-occupancy or labour-desert—can support the allocation of property rights in separated biological materials to a recipient. However, a labour-desert justification arguably supports a recipient's claim over additional biological materials such as cell-lines. The creation of property rights to additional biological materials is considered in the next section.

This section then examined property justifications supporting the allocation of property rights to a source. Property theory supports the creation of property rights following the detachment of biological materials and also the allocation of those property rights to the source. Self-ownership does not provide the property justification for a source's property rights. Instead, privacy, personhood and creation-without-wrong justifications provide firmer support for a source's claim in property theory to property rights in separated biological materials.

D Practical Application

The remainder of this chapter examines how property principles can address questions concerning biological materials and additional biological materials. The following discussion is premised on English law accepting that either the detachment or detachment plus intention principle supports allocating property rights to the source. The section also assumes that there is no legislative regime that limits the nature of the property rights.

To engage in a practical analysis, the thesis returns to the hypothetical factual scenario first presented in Chapter 7.[129] For the discussion here, it is necessary to develop the factual scenario further. In the original scenario, biological material (X) was removed from an individual (A) by a researcher (B). A consented to X's removal and authorized B to utilize X in medical research. Additional facts are as follows. In consenting to the use of X by B, A placed several conditions on the use of X. A reserved the right to demand either the return or destruction of X and A only permitted X to be used for cancer research and for no other purposes. B accepted these conditions and proceeded to use X in research. In the course of research, B used X in four ways. First, B created amplified DNA (X_1). Second, B established a cell-line (X_2) using X as the original cells. Third, a virus was inserted into X, which had the effect of turning X into modified biological material (X_3). B then used X_3 as the original materials to create an additional cell-line (X_4). B now wishes to pass X_1, X_2, X_3 and X_4 to a third party (C) to conduct further research into diseases other than cancer.

The analysis in this section has important practical implications due to the clear potential for such factual scenarios to arise in practice through the use of biological materials in projects such as the UK Biobank. The factual scenario presented here can be used to explore two areas in the context of human genetic databases. The first area concerns the legal principles applicable following the creation of the property rights—including, importantly, how property rights may be transferred. The second area concerns the application of property law principles to additional biological materials utilized in scientific and medical research. At present there is little case law

---

129 See note 21 of Chapter 7 and accompanying text.

or academic commentary considering the legal status of and rights attaching to these materials.

1 Original Biological Materials

This section proceeds on the assumption that, following detachment, property rights to biological materials are allocated to the source. The following analysis focuses on the transfer of property rights because this question is particularly important in the context of genetic databases.

(a) Transfer

Once the property rights have been created the source has the option to transfer the property rights in X to B by way of sale or gift. The transfer of the property rights to X cannot occur until X has been removed from A's body. Transfer of the property rights from A to B occurs immediately upon removal of X. Here, an analogy may be drawn with the sale of a foal that has not yet been born. The property rights to the foal cannot pass to the purchaser until the foal has been born; but following its birth, the property rights can be transferred immediately. A further analogy may be drawn with future goods. In England, there is a statutory requirement that, before any property rights in future goods pass at law, they must become existing goods.[130]

It is important to note the significant policy concerns pertaining to the sale of separated body parts or biological materials. Policy considerations may dictate that some body parts (such as kidneys) should not be the subject of commercial dealings. The HTA 2004 creates such a limitation over controlled material that is intended for

---

130 Sale of Goods Act 1979 c 54, s 5(3); *Davy Offshore Ltd v Emerald Field Contracting Ltd* [1992] 2 Lloyd's Reports 142 (CA) 157.

transplantation.[131] Whether this limitation is correct (as a matter of policy) is beyond the scope of this thesis. Were Parliament to place such a limitation over a source's property rights, then the property rights in X could only be transferred by A by way of gift.

Alternatively, a transfer by way of gift could be achieved by obtaining the consent of the source. Indeed, a properly drafted and executed consent form could provide consent for the removal of X, as well as the necessary consent to transfer the property rights. In English law an effective gift between a donor and donee requires that the donor display a clear intention to transfer his or her rights to the donee.[132] Importantly, though, consent need not constitute a complete gift. In the factual scenario considered here, A's consent cannot constitute a complete gift. Where a source's consent sets limitations on what biological materials may be used for, or reserves the source's unilateral right to require that the biological materials be destroyed, then a better characterization may be that the consent has created a conditional gift or bailment.

A conditional gift is not a common form of transfer for chattels. The nature of the gift will be dependent on the nature of the condition(s) stipulated.[133] In contrast, a bailment is a possessory relationship whereby a bailor transfers possession of a chattel to a bailee.[134] The bailment can occur at will and, in these circumstances, the bailor is entitled to recall possession at any time. It is not settled under English law

---

131 HTA 2004, s 32.

132 *Cochrane v Moore* (1890) 25 QBD 57, 76; *Dewar v Dewar* [1975] 1 WLR 1532 (CA) 1538-1539.

133 R Chambers 'Conditional Gifts' in N Palmer and E McKendrick (eds) *Interests in Goods* (2nd edn LLP London 1998) 429-430.

134 N Palmer 'The Place of Bailment in the Modern Law of Obligations' in N Palmer and E McKendrick (eds) *Interests in Goods* (2nd edn LLP London 1998) 461.

whether there is a separate action in bailment.[135] If there is no separate action in bailment, then there are other causes of action available. At the very least, the rights are determined either by the terms of the contract and the proprietary relationship or, if there is no contract, by the law of tort.[136]

There are therefore two potential legal constructions of the factual scenario presented in this section. The first is that the transfer is a conditional gift. Under a conditional gift, A reserves the right to revoke the gift and imposes conditions on the research for which X may be used. These would appear to be conditions subsequent, meaning that B obtains the property rights by way of conditional gift at the beginning, but will lose the rights if B uses X in a way inconsistent with the terms laid down by A.

Alternatively, the relationship could be characterized as a bailment. In circumstances where A reserves the right to demand the return of X the transfer may be better characterized as a bailment at will. It is not necessary for present purposes to engage in a more detailed analysis of the legal effect of A's consent. It is sufficient to note that the law of property, through the doctrines of conditional gift and bailment, provides a set of clear principles to deal with future disputes.

(b) Abandonment

A secondary question arises where no transfer of the property rights occurs in law. If there is no transfer, then A retains the property rights to X. On these facts, the only way that B (or any other recipient) could obtain the property rights to X is in the event that A abandons X. If B can establish that A has abandoned his or her property

---

135 In support see: Palmer (n 134 above) 488. For a different view see: M Bridge *Personal Property Law* (3rd edn OUP Oxford 2002) 33-34 and G McMeel 'The Redundancy of Bailment' [2003] Lloyd's Maritime and Commercial Law Quarterly 169, 199-200.

136 *Morris v CW Martin & Sons Ltd* [1966] 1 QB 716.

rights to X then arguably such rights can be allocated to B. If B cannot establish that A has abandoned his or her rights, then B remains open to a claim in conversion.

In the context of biological materials, there has been some academic discussion of the concept of abandonment.[137] The UK Nuffield Council on Bioethics suggested that biological materials removed in the course of treatment should be regarded in law as abandoned.[138] Matthews has criticized the Nuffield Council's conclusion and argued that abandonment is 'unlikely to be implied from general consent to an operation'.[139] Furthermore, it is unclear in English law whether the doctrine of abandonment applies in relation to chattels.[140] Blackstone asserts that chattels can exist without them having an owner by noting that 'absolutely abandoned' chattels are returned to the common stock.[141] Some commentators argue that property cannot be abandoned as a matter of principle.[142] The more generally accepted view, however, is that English law recognizes a principle of abandonment.[143] Specific examples of abandonment include theft,[144] wreck[145] and salvage.[146] If it is accepted as a matter of legal principle that a chattel can be abandoned, English law recognizes

---

137 J McHale 'Waste, Ownership and Bodily Products' (2000) 8 Health Care Analysis 123, 130–132; P Matthews 'The Man of Property' [1995] Medical Law Review 251, 259–261.

138 Nuffield Council on Bioethics *Human Tissue: Ethical and Legal Issues* (Nuffield Council on Bioethics London 1995) [9.14].

139 Matthews (n 137 above) 268.

140 W Swadling 'Property' in P Birks (ed) *English Private Law* (OUP Oxford 2000) 383.

141 W Blackstone *Commentaries on the Laws on England* (9th edn Oxford 1783) vol II, 9, 402.

142 E Tyler and N Palmer (ed) *Crossley Vaines' Personal Property* (5th edn Butterworths London 1973) 427.

143 *Halsbury's Laws of England* (4th edn) vol 35, [1125]; M Bridge *Personal Property Law* (3rd edn OUP Oxford 2002) 22; S Gleeson *Personal Property Law* (FT Law & Tax London 1997) 51; AP Bell *Modern Law of Personal Property in England and Ireland* (Butterworths London 1989) 53; A Hudson 'Is Divesting Abandonment Possible at Common Law' (1984) 100 Law Quarterly Review 110, 110.

144 *Ellerman Wilson Line v Webster* [1952] 1 Lloyd's Reports 179 (CA) 180 (Lord Goddard).

145 *Arrow Shipping Co v Tyne Improvement Commissioners, The Crystal* [1984] AC 508 (HL) 519 (Lord Herschell), 521 (Lord Watson), 527 (Lord Ashbourne), 534 (Lord Morris).

146 *Bradley v Newsom* [1919] AC 16 (HL) 24 (Lord Finlay).

that the first person to take possession of the abandoned chattel acquires property rights that are effective against the world (including the original owner).[147]

The difficult question in the context of abandonment is determining whether there is a clear and unequivocal intention to abandon.[148] Some US authority has applied the abandonment doctrine in the context of materials separated from the human body. *Venner v State of Maryland*[149] concerned rights over excrement. In that case, the court held that the appellant had abandoned his excrement in accordance with the universal human practice.[150] Similarly, in *US v Cox*, a US Federal Court held that the defendant had abandoned his hair clippings by consenting to a haircut.[151]

These authorities illustrate that the law of property is capable (at least in principle) of applying the doctrine of abandonment in the context of materials detached from a human body. Abandonment is, nonetheless, very difficult to establish as a matter of fact, and may prove to be particularly difficult in the context of medical procedures.[152] If it can be established that A has abandoned X, then the first person to take possession of X is allocated the property rights. If abandonment cannot be established at law then A retains his or her property rights to X.

(c) Summary

Analysis demonstrates that personal property principles can be employed in the context of separated biological materials including, for example, bailment and

---

147 Bridge *Personal Property Law* (n 143 above) 23.

148 *Moorhouse v Angus and Robertson* [1981] 1 NSWLR 700 (NSW CA) 711.

149 554 A 2d 483 (Md App 1976).

150 554 A 2d 483 (Md App 1976) 499.

151 428 F 2d 683 (7th Cir 1970) 688.

152 J McHale 'Waste, Ownership and Bodily Products' (2000) 8 Health Care Analysis 123, 131.

abandonment. These principles can provide clear guiding principles once the underlying structure of property rights is settled.

2 Additional Biological Materials

There are also important questions that have not to date been addressed concerning additional biological materials. In the factual scenario, B utilized X to create four other forms of additional biological materials: amplified DNA (X_1), cell-lines (X_2), modified biological materials (X_3) and a cell-line created from X_3 (X_4). It is the ambition of this final section to develop further the structural foundation of property rights by discussing these materials in turn, and examining the relevant distinctions between them.

Commentators and courts have simply assumed that additional biological materials are things which are brought within the law of property simply by their physical existence. In *US v Arora*,[153] for example, the court found that a cell-line was property capable of being converted. The court was not, however, required to explain the legal principle that underpinned a property classification.

(a) Medical and Scientific Research

Additional biological materials are increasingly important in the medical and scientific community as they have become essential tools in the development of medical therapies and diagnostics.[154] Progress in biomedical research is now more

---

153 F Supp 1091 (Md DC 1994).

154 J Kahn 'Law and Authority in Patenting Human Genetic Material' (2003) 14 Stanford Law and Policy Review 417, 434; HG Drexler, Y Matsuo and RAF MacLeod 'Continuous Hematopoietic Cell Lines as Model Systems for Leukaemia-Lymphoma Research' (2000) 24 Leukaemia Research 881, 885.

cumulative and depends more heavily on research tools already in existence.[155] Increasingly, for example, research tools are transferred between researchers who use these tools to develop further materials. Over time, disputes will arise between researchers over the legal status of these materials and the property rights attaching to them.

(b) Intellectual Property

Questions as to the intellectual property rights attaching to such materials are also likely to arise. In some instances, intellectual property rights will attach to these materials as 'inventions'. There is an ever-expanding collection of secondary literature that considers what the scope of intellectual property rights should be over biological materials and genetic information.[156] Questions of intellectual property rights are important, and have also attracted the attention of law reform bodies.[157] These law reform bodies have not, however, raised the issue of what underlying property rights are applicable to these additional biological materials. This is primarily because the commercial interest in the use of these materials often lies in licensing the use of inventions, which are protected through intellectual property rights. Ownership of the physical materials is thus not the focus of protection.

---

155 JP Walsh, WM Cohen and A Arora 'Licensing Research Tools and Biomedical Innovation' in S Merrill, R Levin and M Meyers (eds) *Innovation in a Knowledge Based Economy* (National Academy Press Washington 2003) 289.

156 For recent examples see: A Warren-Jones 'Patenting DNA: A Lot of Controversy Over a Little Intangibility' (2004) 12 Medical Law Review 97; J Kahn 'Law and Authority in Patenting Human Genetic Material' (2003) 14 Stanford Law and Policy Review 417; RS Eisenberg 'Patents on DNA Sequences: Molecules and Information' in N Elkin-Koren and NW Netanel (eds) *The Commodification of Information* (Kluwer Law International Hague 2002) 415.

157 Australian Law Reform Commission *Gene Patenting and Human Health* (ALRC DP 66 Australian Government Publishing Service Canberra 2003); Nuffield Council on Bioethics *The Ethics of Patenting DNA* (Nuffield Council on Bioethics London 2002).

Indeed, there is no judicial consideration of property rights in the context of additional biological materials.

The opportunity to consider an analogous question arose in a recent Canadian case—*Monsanto Canada Inc v Schmeiser*[158]—where the Canadian Supreme Court considered the appropriate intellectual property protection for a molecularly engineered gene. In that case, Monsanto accused Schmeiser (a farmer) of making, using and selling its patented invention (glyphosate-resistant canola seed) without a licence. Monsanto's private investigators discovered traces of their canola seed in Schmeiser's crop. Schmeiser claimed that the seed had blown onto his land and he had inadvertently planted the seed. Thus, the case hinged on a potential clash between the company's intellectual property rights and the underlying personal property rights of a farmer over canola seeds.

On appeal, the Canadian Supreme Court considered the question before the court to be one of patent protection rather than ownership of the seeds. For the Supreme Court, ownership of the seeds was not a defence to a breach of the Patents Act.[159] In this way, the Supreme Court arguably collapsed the questions of rights concerning the intellectual property and personal property rights over the physical property. The conflation of these issues is similar to the approach adopted by the majority of the Californian Supreme Court in *Moore*. By relying on statutory intellectual property rights for their arguments, both courts ignored the potential property rights existing over the biological materials (in the case of *Moore*) and the plant seed (in the case of *Schmeiser*). Questions over the legal status of the physical materials are, however, separate questions to those relating to patent protection.

---

158 (2004) SCC 34 (CSC).

159 *Monsanto* (n 158 above) [96].

Even accepting the approach of the Canadian Supreme Court (that intellectual property rights are superior to property rights over the physical material), the legal status of (and property rights attaching to) these additional biological materials are potentially significant issues. For example, there may be no intellectual property rights over a particular form of biological material that is being used.[160] Further, even if intellectual property rights exist over additional biological materials, such rights do not determine in whom property rights are allocated over the physical materials. It is still necessary to consider what property principles are applicable in relation to the physical status of additional biological materials.

(c) Specification and Accession

The previous chapter examined the doctrine of specification, which is a principle that applies to the creation of new things. There is an argument supporting the application of the accession and specification doctrines to the creation of additional biological materials. Recognition of such property rights is supported in property theory by the labour-desert justification as discussed in the previous section.[161]

Chapter 7 noted the distinction between the doctrines of specification and accession on the one hand and the rules governing mixing on the other.[162] The rules governing mixing are different from the principles that govern specification and accession. Importantly, the rules governing mixing are only applicable in the context of divisible mixtures such as oil or grain. For mixtures with an indivisible joinder then the applicable principles are accession and specification.[163] In the factual

---

160 Walsh, Cohen and Arora (n 155 above) 319.

161 See notes 66-74 and accompanying text.

162 See notes 44-53 of Chapter 7 and accompanying text.

163 L Smith *The Law of Tracing* (Clarendon Press Oxford 1997) 70.

scenario presented at the beginning of this section (concerning X_1, X_2, X_3 and X_4), the facts involve an indivisible joinder. Accordingly, the rules governing mixing are not relevant for the discussion here.

In considering the application of the accession and specification doctrines to additional biological materials, it is first necessary to determine whether these doctrines can apply in the case of natural matter. There is no judicial authority in England or Australia on this point, and in the US, *US v Arora*[164] stands as the sole decision to address this point. The Roman jurists did not consider the question of property rights to biological materials, because at that time such materials had no commercial value. Instead, the issues of the day concerned rights over things such as the young of animals.[165]

A recent case in Scotland—*Kinloch Damph Ltd v Nordvik Salmon Farms Ltd*[166]—addressed the question of the legal status of a natural substance and serves as a useful example of applying the specification principle (*specificatio*) to living natural substances. Scots law proved useful earlier in analysing the scope of the specification doctrine. In *Kinloch*, the pursuers sold 1.25 million smolt (young salmon in embryonic state) to the defenders. Under the contracts, title did not pass to the defenders until the price was paid. The retention of title clause set out that '[u]ntil the price for the goods is paid for in full, the goods shall, notwithstanding delivery, remain the property of the seller'. The defenders placed the smolt into cages in seawater and fed and raised them. The fish developed into salmon 30 times their original size. The defenders went into receivership and there was an outstanding balance of approximately £700,000 for the smolt. The pursuers brought proceedings

---

164 806 F Supp 1091 (Md DC 1994).

165 P Stein and WW Buckland *A Textbook of Roman Law* (3rd edn CUP Cambridge 1968) 222-223.

166 Unreported 30 June 1999 Outer House.

for the return of the salmon, claiming property rights in respect of the salmon by virtue of their reservation of title clause. The question for the court lay in deciding whether the salmon as they now existed were (by virtue of the retention of title clause) the property of the pursuers, or instead, the property of the defenders.

The defenders advanced two arguments. First, they argued that the retention of title clauses constituted an ineffective attempt to create a security over goods in the possession of the defenders. Second, the defenders argued that the smolt had ceased to exist subsequent to the addition of feeding and husbandry, such that the salmon in the defenders' possession were new things. Thus they argued property rights should be allocated to them by virtue of the specification doctrine. In response, the pursuers argued that the circumstances in question had not created a new thing, and that the doctrine of *specificatio* could not be displaced by contract.

Lord Macfadyen held that the retention of title clauses were valid and that the salmon remained the property of the pursuers.[167] He concluded that a *nova species* was not created, noting that smolt and salmon are of the same biological species.[168] Lord Macfadyen observed that the development of the smolt into mature salmon was irreversible. But, he also argued that the specification doctrine should be limited to inanimate objects or substances created by human effort that are used up and cease to exist in the process of creation. His principal justification for limiting the application of specification concerned the lack of authority determining the application of the doctrine to the natural growth of living creatures. Significantly, Lord Macfadyen observed:

> The examples in the writing on this subject contain no references to specification of growing animals. I consider that there is force

---

167 *Kinloch* (n 166 above) 7.

168 JW Jones *The Salmon* (Collins London 1959) 153–156.

> in the submission that, having regard to the much greater importance of animals in daily life in former times (whether the times of the Roman writers or those of the Scottish institutional writers), the absence of such reference is a strong indication that the doctrine had no such application.[169]

On this basis, Lord Macfadyen concluded that mature salmon were 'as objects of ownership' the same things as the smolt. The pursuers, therefore, retained title to the salmon. This thesis supports the conclusion that the specification doctrine should not have been applied in this case. Chapter 7 surmised that English law considers a new thing to be created where the original material ceases to exist and can no longer be restored to its original physical state.[170] In the case of the *natural* growth of living creatures the original material still exists, albeit in a more mature form. Therefore in the cases of natural growth where the creature or living matter develops in a way as intended by nature, the specification doctrine has no application.

This thesis does not, however, support Lord Macfadyen's broader claim that the specification doctrine has no application whatsoever to natural substances. The more difficult question pertaining to natural substances is what happens if the natural substance does not mature by a matter of natural growth or decay—if, for example, there is instead an intervention through human endeavour that affects the natural growth or decay process.

The fact that Roman texts did not refer to examples involving living animals is not in itself a substantial reason to refuse to extend the specification doctrine in the context of living material. Moreover, there are plausible explanations as to why the Roman texts do not provide such examples. Most obviously, it is conceivable that disputes simply did not arise concerning the transformation of living substances into

---

169 *Kinloch* (n 166 above) 7.

170 See notes 59-81 of Chapter 7 and accompanying text.

new things. The state of industry at that time did not require the Roman jurists to consider such issues, for they were concerned with industrial and agricultural processes. Second, if a dispute arose concerning the ownership of living or growing items, the rules on the acquisition of fruits would have provided a satisfactory answer to issues at that time.[171] The general fruits principle provides that all natural products of the animal and plant kingdoms—including the milk of a cow or apples on a tree—are accessories of the animals or plants from which they derive.[172] The owner of the animal or tree also acquires ownership of the accessory. For example, if an individual owns an apple tree then, under Roman principles, that individual also owns all the apples that it produces. These are straightforward examples. On the other hand, if someone in those times had developed a way to make someone's apple trees grow pears, and then demanded ownership of the pears, an application of the accession-by-fruits principle may not have provided a just result. An application of the accession-by-fruits principle would deem that the owner of the apple trees would be entitled to the pears as well, despite the work performed by the person who had developed the technique to grow pears.

The question for the purposes of this thesis is whether specification can apply where natural substances do not mature by a matter of natural growth or decay, but instead through human intervention. In *Kinloch*, Lord Macfadyen was not required to consider the relevant principle where a natural growth process becomes altered following human intervention. In these circumstances, it is submitted that the specification doctrine is capable of application at least in principle. The introduction

---

171 E Metzger 'Postscript on *nova species* and *Kinloch Damph Ltd v Nordvik Salmon Farms Ltd*' (2004) 2 Roman Legal Tradition 115, 118.

172 GJ Bell *Principles of the Law of Scotland* (10th edn Butterworths Edinburgh 1899) 503; B Nicholas *An Introduction to Roman Law* (Clarendon Press Oxford 1962) 138; KGC Reid *The Law of Property in Scotland* (Butterworths Edinburgh 1996) 595.

of human endeavour to biological materials is analogous to the human endeavour recognized by the Roman jurists in relation to agricultural processes; it is simply a more advanced form of industrial application. Where the natural pattern of growth or decay is altered, then the original material ceases to exist and a new thing is arguably created. In the factual scenario presented in this chapter, B intervenes in the natural decay of X through the creation of amplified DNA, cell-lines and modified biological materials. The question of whether a new thing is created in each of these cases is discussed below. But if a new thing can be said to have been created, then under the specification doctrine B should be allocated the property rights.

At present, no English authority has employed the accession or specification doctrines with respect to a natural growth or decay process. There is, however, a principle at common law dictating that offspring (with the exception of swans) belong to the owner of the female where the owner has the female in possession.[173] The principle represents an application of the maxim *partus sequitur ventrem* (the offspring follow the dam), and such cases are classified by academic commentary as examples of accession.[174] This principle has been applied to 'stray bull cases', which are concerned with allocating the ownership of progeny where a bull belonging to the defendant trespasses onto the plaintiff's land and impregnates the plaintiff's cows. There is no direct authority in England addressing such a scenario, although the English Court of Appeal has acknowledged the application of the accession principle in the 'stray bull' context.[175] The principle has also been recognized in

---

173 W Blackstone *Commentaries on the Laws on England* (9th edn Oxford 1783) vol II, 391; *Case of Swans* (1592) 7 Co Rep 15b, 17ba; 77 ER 435, 438.

174 E Tyler and N Palmer *Crossley Vaines' Personal Property* (5th edn Butterworths London 1973) 430.

175 *Tucker v Farm and General Investment Trust Ltd* [1966] 2 QB 421, 426, 430.

academic commentary.[176] Further, there are cases applying the principle in other jurisdictions.[177] These cases essentially adopt the accession doctrine with respect to the offspring of live animals. They reason that as a matter of biology, the sperm and ovum are combined to form a progenitor cell at the initial stage. The bull provides material that in the end result constitutes a small but innate part of the offspring and therefore accedes to the principal, the cow. This English law principle highlights that the common law can employ and apply Roman law principles to natural growth or decay processes.

(d) Application

This section applies the principles of specification and accession to amplified DNA, cell-lines and modified biological materials. These are important questions because these materials will increasingly become the subject of disputes, not just between sources and researchers but between researchers as well. The legal question in each case is whether a new thing is created in law. English law recognizes that a new thing is created where the original material ceases to exist and can no longer be restored to its original physical state.[178] In the alternative, the principle of accession applies where there is a principal and subordinate item and the subordinate item is subsumed into the principal.

The first form of additional biological material to be addressed is amplified DNA (X_1). In order to determine whether specification or accession is the better governing principle to be applied, it is necessary to understand the physical

---

176 M Bridge *Personal Property Law* (3rd edn OUP Oxford 2002) 107; AG Guest 'Accession and Confusion in the Law of Hire Purchase' (1964) 27 Modern Law Review 505, 506-507.

177 *Popowich v Letweniuk* [1972] 1 WWR 641 (Sask DC); *Neeb v Hoffman* [1989] OJ No 302 QL (Ont DC).

178 See notes 59-81 of Chapter 7 and accompanying text.

composition of X_1. When DNA is amplified, a copy of the original DNA is made in a test tube (*in vitro*). The chemicals that make up the new biological structures of X_1 are added and do not come from the original DNA. X_1 is, therefore, a chemical copy of the original sample. A tiny amount of the original cellular DNA remains present in X_1 because the original physical material was used as the template for making the copies. In a typical amplification about 10 nanograms of human DNA might be amplified to about 100 to 500 micrograms of DNA, which is about a 10,000 to 50,000 fold amplification.[179] Approximately 1/10,000th to 1/50,000th of the amplified DNA will consist of the original DNA from the cell. The rest of X_1 comprises new materials supplied by B.

Scientific analysis indicates that the original DNA acts as a subordinate item to the principal entity, which consists of the physical material in the amplified DNA. It is therefore unlikely that the law would view X_1 as a new thing. It would be more accurate to view the original DNA as acting as a subordinate item that is subsumed into the new materials. The better analogy may lie instead with the doctrine of accession, and at this point it is useful to recall the stray bull cases. Those cases provide a good analogy, illustrating how the common law can apply the principle of accession in the context of living matter. Under the principle of accession then, the property rights to X_1 are allocated to B as the owner of the new materials that are added.

A similar analysis applies to cell-lines (X_2). A cell-line is derived from a single cell. When that cell divides there are two cells, each of which was physically part of the first cell prior to that division. When these cells further divide, four cells are

---

179 RS Lasken and M Egholm 'Whole Genome Amplification: Abundant Samples of DNA from Precious Samples or Clinical Specimens' (2003) 21 Trends in Biotechnology 531, 532.

created. Two of these cells were physically part of one of the first of the two cells; the other two were physically part of one of the second of the two cells. The later cells in the cell-line could therefore be described as direct physical descendents of the original cell. As with amplified DNA, a mix of organic materials (including nutrients) must be added to ensure that X_2 can continue to self-replicate.[180] Arguably a new thing is created and the doctrine of specification should apply. However, it is submitted that the process is similar to the amplification of DNA and that accession offers a more appropriate analysis. As with X_1, B would still be entitled to the property rights to X_2 because the mix of organic materials would constitute the principal item. In the event that the law considers a new thing to have been created, then B is still entitled to the property rights to X_2 as the maker of the new thing.

The third example is modified biological materials (X_3). Chapter 1 detailed how foreign DNA is inserted into original biological materials and cell-lines.[181] Foreign DNA is frequently used in the context of immunology. In the case of X_3, the legal question once again becomes whether (following the insertion of foreign DNA) a new thing is created as a matter of legal principle, or whether an addition to X has simply been made. This is a difficult question: it could be, for example, that the modification to X is so insubstantial that it merely amounts to an accession. If so, the property rights to X_3 are not allocated to B, but rather to A as the original owner of X. Alternatively, it may be that a new thing is created. For example, if B inserts foreign DNA into X it may substantially alter the genetic composition of the modified biological materials. In the example of modified biological materials discussed in Chapter 1 the function of the cell can change following the insertion of foreign DNA.

---

180 GM Cooper *The Cell: A Molecular Approach* (3rd edn Sinauer Massachusetts 2004) 31.

181 See note 59 of Chapter 1 and accompanying text.

One argument might assert that the nature of the original biological materials has changed so substantially that the law can say that a new thing has been created. Yet, although the nature of the cell has changed, it remains a cell that functions as a cell. As a result, it may be difficult to argue that, in law a new thing exists.

Instead, the more persuasive characterization of X_3 arguably is that two different materials (the original biological materials and the foreign DNA) have been joined together. Accordingly, it is the law of accession that should be applicable. In these circumstances, the secondary question is whether the original biological materials or the foreign DNA inserted into them should be considered the principal entity. In the context of accession, arguably the foreign DNA has become the dominant entity and so the property rights to the modified biological materials should be allocated to B. Such a characterization is dependent upon the foreign DNA assuming the position as the principal entity. This may be problematic because although the foreign DNA has the effect of altering the nature of the original biological material, it only forms a small physical component of the modified biological material. To date, the common law has focused on the physical composition of materials. Here, it is likely that the original biological materials will remain the principal entity and the initial property rights in X_3 will be allocated to A. Chapter 1 noted that modified biological materials are then often used in scientific research to create cell-lines.[182] The modified biological material (X_3) is used as the original material to create the cell-line. In the event that X_3 is used to create a cell-line (X_4) then the analysis conducted above in relation to cell-lines applies and the property rights to X_4 should be allocated to B.

---

182 See note 59 of Chapter 1 and accompanying text.

(e) Summary

The foregoing analysis demonstrates that the doctrines of accession and specification can be useful legal principles in determining what property rights are created over additional biological materials and who should be allocated such rights. Although difficult factual scenarios remain, employing these doctrines is more principled than the approach offered by the California Supreme Court majority in *Moore*. The analysis presented here is grounded in legal principle and does not revert to secondary policy arguments to determine the creation and allocation of property rights.

E CONCLUSION

This completes the analysis of property rights and separated biological materials. Chapter 7 argued that the physical detachment of biological materials transforms such materials into things that are capable of being the subject of property rights. However, it does not necessarily follow that property rights are created upon detachment. Under the work and skill exception, for example, property rights are only created following the application of work or skill. Chapter 7 then examined this exception and concluded that the exception should not be employed by English law as the general principle to explain the creation of property rights to separated biological materials.

This chapter commenced by examining two potential property-creating events. First, the physical act of detachment was considered. There are forceful arguments that support the creation of property rights following the detachment of biological materials. English law may, however, remain reluctant to recognize detachment as sufficient to create property rights. Accordingly, this chapter explored whether

property rights could be created where an intention is also expressed for the separated biological materials to be used as property. The detachment plus intention principle provides a clear explanation for the creation of property rights in the event that the source expresses the requisite intention prior to or upon detachment of the biological materials. If a source does not express an intention then it may still be possible for property rights to be created. The chapter outlined the conceptual difficulties that arise where a person other than the source expresses the requisite intention, and the thesis suggested principles to address these difficulties. In the majority of cases, a detachment plus intention principle offers a rational alternative in the event that English law is unwilling to embrace mere detachment alone.

Importantly, this chapter also concluded that the property rights created under the detachment or detachment plus intention principle should be allocated to the living person from whom the biological materials were removed. Property theory also supports recognition of a source's property rights. Property justifications do not support a recipient's claim to priority.

The doctrinal and theoretical analysis was then placed in a practical context by applying a property-based approach to a more complicated factual scenario. This chapter analysed two areas. The first concerned the transfer and abandonment of the property rights by the source. The second focussed on additional biological materials, and here the chapter explored the application of the specification and accession doctrines to the creation of additional biological materials.[183]

---

183 This thesis cannot examine the potential remedies for the interference with property rights in any detail. Individuals are entitled to delivery up of goods and damages under section 3(2) of the Torts (Interference with Goods) Act 1977 c 32 (TIWGA). In the present context, a source is entitled to damages if a recipient utilizes biological materials: (1) without the consent of the source; or (2) goes beyond the terms of the bailment or conditional gift. In these circumstances, the tort of conversion protects unlawful interference with a source's property rights. In the event that the recipient makes a profit from the wrongful use of the biological materials a claim for compensation could also include profits. Such damages raise

There is a tide running against the recognition of property rights to separated biological materials in English law.[184] This is a tide of policy, however, and not legal doctrine. The question of whether a source's property rights should be limited (to exclude sale, for example) is a secondary question and is not examined by this thesis. Pervasive fears over commodification of the human body do present substantial obstacles to the recognition of property rights in English law. Part II noted that the law has also sought to maintain an individual's autonomy and human dignity in relation to the human body. Chapter 9 therefore examines whether English law can develop so as to protect an individual's *non-proprietary* interests in separated biological materials.

---

questions such as the market value of the biological materials at the time the conversion. These questions deserve a more detailed analysis than is possible here.

184 JV McHale 'Regulating Genetic Databases: Some Legal and Ethical Issues' (2004) 12 Medical Law Review 70, 81.

CHAPTER 9

NON-PROPRIETARY INTERESTS

A INTRODUCTION

Whilst this thesis has argued that English law can and should recognize property rights in separated biological materials, judges and legislators may not accept this proposition. This chapter examines whether English law could also, or instead, recognize an individual's *non-proprietary* interests in separated biological materials. One of the themes identified in Part II was that the law has sought to protect individual autonomy and a respect for human dignity in the context of dead bodies. Chapter 4 showed that US jurisprudence in particular has developed such protection through the law of tort.[1] This chapter suggests that English law could extend non-proprietary protection to biological materials separated from a living person.

Introducing legal protection for a source's non-proprietary interests over separated biological materials is not simply an academic exercise. Chapter 1 identified circumstances where individuals may wish to have a right to control separated biological materials.[2] English law should afford individuals effective means to exercise and enforce such a power of control, to safeguard non-proprietary interests.

The analysis in this chapter is divided into three sections. The first section identifies two individual interests that arise in relation to separated biological

---

1 See notes 180–190 of Chapter 4 and accompanying text.

2 See notes 62–68 of Chapter 1 and accompanying text.

materials: autonomy and freedom from emotional distress. The next examines whether the English law of wrongs could be developed so as to protect these two separate interests. In the alternative, the third section concludes by considering whether English law could create new liability for the non-consensual use of separated biological materials. Once again this chapter will use the hypothetical factual scenario that was introduced in Chapter 7 and expanded in Chapter 8.[3] The scenario is used to demonstrate whether the recognition of a living source's non-proprietary interests could protect a source's interests in the same factual scenario.

B PROTECTED INTERESTS

The first step in considering non-proprietary interests, as identified by Lord Steyn in *Chester v Afshar*, is to 'identify precisely the protected legal interests at stake'.[4] This thesis considers that a living person has two interests that English law could and should protect in respect of separated biological materials: (1) autonomy; and (2) freedom from emotional distress.

First, a living person may claim a right to retain control separated biological materials to ensure that their individual autonomy is respected. The question for English law, then, is do individuals retain an interest in separated biological materials such that they should have a right to control them? Two recent developments suggest that English law considers living persons do retain (at the very least) a right to control separated bodily materials, including biological materials.

---

3 See note 21 of Chapter 7 and accompanying text.

4 [2004] UKHL 41; [2004] 3 WLR 927 (HL) [18].

The first development is located in English statutes that require an individual's consent for the use of separated bodily materials. Chapter 5 outlined these statutory regimes.[5] More recently, the Human Tissue Act 2004 c 30 (HTA 2004) has established that a living person's consent (or consent from an appropriate representative) is required for the use of relevant material. Under the HTA 2004, a criminal offence is committed where appropriate consent is not obtained for the use of relevant material.[6] The HTA 2004 also establishes a separate offence relating to non-consensual testing of DNA derived from bodily materials.[7] The intent to prosecute these offences demonstrates that English law-makers have already recognized (at least to some extent) that individuals maintain an interest and a right to control separated bodily materials. Indeed, the right individuals have to control such materials was emphasized by the Government throughout the parliamentary process.[8]

The second development in English law is dicta of Lord Woolf CJ and Baroness Hale in *R (S) v Chief Constable of South Yorkshire Police; R (Marper) v Chief Constable of the South Yorkshire Police (R (S))*.[9] Lord Woolf CJ (in the Court of Appeal) considered that separated biological materials are 'personal' to the individual.[10] In the House of Lords, Baroness Hale observed that individuals have similar privacy interests over separated biological materials as over genetic information extracted from those

---

5 See notes 119–121 of Chapter 5 and accompanying text.

6 HTA 2004, s 5.

7 HTA 2004, s 45.

8 See for example: HC Standing Committee G, cols 065, 066 and 068 (27 January 2004). In the Commons Committee Debates, Dr Ladyman stated that: '[t]he right way forward is a statutory amendment with a golden thread running through it stating that people have the right to be consulted about the use of material from their own bodies' (col 068).

9 [2002] EWCA Civ 1275; [2002] 1 WLR 3223 (CA); and [2004] UKHL 39; [2004] 1 WLR 2196 (HL).

10 *R (S)* CA (n 9 above) [32].

materials.[11] While both comments were obiter, they acknowledge that a living person may have non-proprietary interests in separated biological materials that are worthy of legal recognition and protection.

Accordingly, these developments suggest that English law is moving towards accepting that individuals should retain a right of autonomy to control separated biological materials. The next section considers how English law can develop to reflect and protect a living person's right to control separated biological materials.

The second interest that English law can protect with respect to separated biological materials is the right to freedom from emotional distress. There may be circumstances where individuals suffer emotional distress following the non-consensual use of separated biological materials. This could happen, for example, in the event that they discover that their biological materials have been used to create cell-lines, or for research in which they did not wish to participate. The next section also considers how English law can protect an individual's freedom from emotional distress.

C ENGLISH LAW

Part II established that English law does not currently protect an individual's non-proprietary interests in separated biological materials. Even though the possibility of protection was raised by Baroness Hale in *R (S)*, English courts have not had the opportunity to consider the scope of an individual's non-proprietary interests. Further, Chapter 5 concluded that separated biological materials fall outside the protection afforded by the Data Protection Act 1998 c 19 (DPA).[12] The following

---

11 *R (S)* HL (n 9 above) [70].

12 See notes 171-186 of Chapter 5 and accompanying text.

analysis takes the interests of autonomy and freedom from emotional distress and considers how English law currently protects them. This section then examines the potential extension of existing wrongs to protect autonomy and freedom from emotional distress in relation to separated biological materials.

1 Autonomy

Autonomy and respect for human dignity are accepted as individual interests that are capable and worthy of protection in English law.[13] Chapter 3 set out the meaning of these interests as they have been developed and employed in English law to date. 'Human dignity' was defined as the intrinsic worth of the individual, and 'autonomy' as the capacity that competent individuals have to act independently.[14] In *McFarlane v Tayside Health Board*, Lord Millett noted that autonomy can be viewed as an aspect of human dignity and that the protection of autonomy can also be viewed as the protection of human dignity.[15]

(a) Underlying Value

It is first necessary to develop an understanding of the intersecting interests of autonomy and human dignity in English law. In other jurisdictions, human dignity is extremely important. Under German law, for example, human dignity is enshrined explicitly in the German Constitution.[16] It is not yet clear what role

---

13 The latest edition of *Clerk and Lindsell on Torts* lists autonomy as an individual interest that the English law of torts protects: AM Dugdale 'Principles of Liability in Tort' in AM Dugdale (ed) *Clerk and Lindsell on Torts* (18th edn Sweet & Maxwell London 2000) 20. See also: J Davies 'Tort' in P Birks (ed) *English Private Law* (OUP Oxford 2000) 509.

14 See notes 41-53 of Chapter 3 and accompanying text.

15 *McFarlane v Tayside Health Board* [2000] 2 AC 59 (HL) 114 (Lord Millett).

16 *Grundgesetz* (GG) (German Federal Constitution), art 1. One author has predicted that the German jurisprudence interpreting article 1 will influence the development of European law:

autonomy and human dignity will assume in English law. Birks has argued that a respect for human dignity operates as an umbrella concept for the wrongs that protect aspects of human dignity.[17] According to this view, human dignity operates as a general principle protecting a number of sub-interests, such as privacy and reputation. In this way human dignity can be viewed as a unifying concept analogous to negligence. The following analysis demonstrates that this view has not, however, been accepted in English law.

Historically, English law has been reluctant to grant remedies for infringements upon autonomy and human dignity. These interests are increasingly protected under English law, however, following incorporation of the substantive rights provisions of the European Convention of Human Rights (ECHR) into English law.[18] Article 8(1) of the ECHR provides (inter alia) that each person has 'the right to respect for his private and family life'.

It is important to note at the outset the approach of the European Court of Human Rights (ECtHR) to article 8, because of the potential impact that the ECHR and ECtHR's jurisprudence may have on the development of English law.[19] In broad terms, the ECtHR has held that the right to respect for private and family life protects both physical and moral integrity.[20] Moral integrity is related to human dignity; the ECtHR has recently noted that the protection of moral integrity is

---

J Jones 'Common Constitutional Traditions: Can the Meaning of Human Dignity Under German Law Guide the European Court of Justice' [2004] Public Law 167, 183.

17 P Birks 'Harassment and Hubris: The Right to an Equality of Respect' [1997] Irish Times 1, 44. This argument was first made in a North American context: EJ Bloustein 'Privacy as an Aspect of Human Dignity: An Answer to Dean Prosser' (1964) 39 New York University Law Review 962, 1003.

18 *Rees v Darlington Memorial Hospital NHS Trust* [2004] 1 AC 309 (HL) 349 (Lord Millett); J Wright *Tort Law and Human Rights* (Hart Publishing Oxford 2001) 14.

19 Section 2(1)(a) of the HRA requires English courts to take relevant ECtHR jurisprudence into account when determining any question arising in connection with an ECHR right.

20 *Costello-Roberts v United Kingdom* (1993) Series A, No 247-C.

intended to ensure the development 'of the personality of each individual in his relations with other human beings'.[21] The ECtHR therefore considers autonomy and human dignity to be important, integral aspects of article 8.

Even though autonomy and human dignity are sometimes considered to be elusive concepts, English law has not ignored these European developments. Recently, in *Evans v Amicus Healthcare Ltd*, Arden LJ observed:

> The fact is that each person has a right to be protected against interference with their private life. That is an aspect of the principle of self-determination or personal autonomy.[22]

Questions regarding the place of autonomy and human dignity in English law have arisen primarily in relation to arguments concerning the existence of a right to privacy. Privacy is a highly contentious and widely debated concept and is defined broadly here as the 'personal space' that an individual is entitled to control.[23] The Canadian Supreme Court recently opined that privacy interests include 'personal privacy, territorial privacy and informational privacy'.[24] The English duty of confidence is confined to informational privacy, which concerns the right that individuals have to control personal information about them.[25] Since the publication by Warren and Brandeis of their seminal article, 'The Right to Privacy',[26] the question of the existence of a privacy tort within the common law has been debated throughout the common law world. American courts have embraced a tort of

---

21 *Case of Von Hannover v Germany* (ECHR Application no 59320/00 24 June 2004) [50]; *Botta v Italy* (1998) 26 EHRR 241 [32].

22 [2004] EWCA Civ 727; [2004] 3 WLR 681 (CA) [110].

23 *R v Broadcasting Standards Commission ex parte BBC* [2001] QB 885, 900 (Lord Mustill).

24 *R v Tessling* [2004] SCC 67 (Can SC) [20].

25 *Tessling* (n 24 above) [23].

26 SD Warren and LD Brandeis 'The Right to Privacy' (1890) 4 Harvard Law Review 193.

privacy[27] as has the New Zealand Court of Appeal.[28] In contrast, the High Court of Australia[29] and the Supreme Court of Canada[30] have left open the question of whether such a tort exists.

Traditionally, English courts have approached the field of privacy with caution and reticence. Following the incorporation of the ECHR into English law, judicial suggestions were made that English law does in fact protect a right to privacy. In *Douglas v Hello! Ltd*,[31] Sedley LJ observed that the law can recognize 'privacy itself as a legal principle drawn from the fundamental value of personal autonomy'.[32] In *Wainwright v Home Office*,[33] the House of Lords rejected this contention and concluded that a general privacy tort had not emerged in English law following the incorporation of the ECHR.[34]

Wainwright concerned an unauthorized strip-search of Mrs Wainwright and her son whilst visiting a relative in prison. The prison officers failed to follow correct procedures, thereby exceeding their statutory authority. The legal issue lay in determining whether their conduct gave rise to any cause of action. The claimants

---

27 The US common law tort of privacy is generally divided into four parts: (i) intrusion upon the plaintiff's solitude or seclusion; (ii) public disclosure of embarrassing facts about the plaintiff; (iii) publicity putting the plaintiff in a false light; and (iv) appropriation of the plaintiff's name or likeness for private advantage. These categories follow the classification provided by WL Prosser 'Privacy' (1960) 48 California Law Review 383.

28 *Hosking v Runting* [2004] NZCA 34 (unreported 25 March 2004) (NZ CA) [118] (Gault P and Blanchard J), [248] (Keith J), [263] (Anderson J).

29 *Australian Broadcasting Corporation v Lenah Game Meats* (2001) 208 CLR 199 (HCA) [41]-[43] (Gleeson CJ), [132] (Gummow and Hayne JJ), [188]-[189] (Kirby J), [335] (Callinan J). A recent Queensland District Court case held that there is a tort of privacy in Australian common law: *Grosse v Purvis* [2003] QDC 151 (Qld DC) [442] (Skoien SJ). The decision was not appealed.

30 *Les Editions Vice-Versa Inc v Aubry and Canadian Broadcasting Corporation* (1998) 157 DLR (4th) 577 (SCC) [6] Lamer CJ.

31 [2001] QB 967.

32 *Douglas v Hello! Ltd* [2001] QB 967, 1001.

33 [2004] 2 AC 406 (HL).

34 *Wainwright* (n 33 above) 416 (Lord Bingham), 422-423 (Lord Hoffmann), 427 (Lord Hope), 427 (Lord Hutton), 429 (Lord Scott).

advanced two main arguments. The first was based upon the principle in *Wilkinson v Downton*,[35] which, the claimants argued, provided a cause of action for the intentional infliction of emotional distress. The *Wilkinson* principle is considered in more detail below. In the alternative, the claimants submitted that English law should recognize a general tort for the invasion of privacy. The House of Lords rejected both submissions and Lord Hoffmann delivered the leading judgment.

Lord Hoffmann opined that English law protects the privacy interests of an individual through the (much expanded) duty of confidence.[36] He suggested that in *Douglas*, Sedley LJ had not advocated 'a high-level principle of invasion of privacy'.[37] Instead, in an important passage in *Wainwright*, Lord Hoffmann observed:

> There seems to me a great difference between identifying privacy as a value which underlies the existence of a rule of law (and may point the direction in which the law should develop) and privacy as a principle of law in itself. The English common law is familiar with the notion of underlying values—principles only in the broadest sense—which direct its development.[38]

Lord Hoffmann also acknowledged the wider influence in English law of the privacy 'value':

> There are a number of common law and statutory remedies of which it may be said that one at least of the underlying values they protect is a right to privacy ... Common law torts include trespass, nuisance, defamation and malicious falsehood; there is the equitable action for breach of confidence and statutory remedies under the Protection from Harassment Act 1997 and the Data Protection Act 1998.[39]

From these passages, it is clear that privacy as a concept is an underlying value in English law. It is not, however, considered a separate right capable of direct

---

35 [1897] 2 QB 57.

36 *Wainwright* (n 33 above) 422.

37 *Wainwright* (n 33 above) 422.

38 *Wainwright* (n 33 above) 423.

39 *Wainwright* (n 33 above) 419.

application. Autonomy and human dignity are acknowledged by English courts as the twin interests underpinning privacy.[40] More recently, in *Campbell v MGN Ltd*, Lord Hoffmann noted that 'English law has so far been unwilling, perhaps unable, to formulate any such high-level principle'.[41] Similarly, Lord Nicholls confirmed in *Campbell* the refusal of English law to develop an 'over-arching, all-embracing cause of action for "invasion of privacy"'.[42] Instead, the duty of confidence remains the predominant means for protecting informational privacy in English law.

(b) Wrongs

The next question for the analysis in this chapter is whether existing causes of action in English law can be developed so as to recognize and protect a living person's right to control separated biological materials. One commentator has observed that '[i]t may be that such interests [of autonomy and human dignity] should be accorded legal protection to the extent of a tortious claim for compensation for the injury involved in the invasion of personality'.[43]

English law has demonstrated a preference for extending existing wrongs rather than creating new liability. In *Wainwright*, Lord Hoffmann approved of Sir Robert Megarry V-C's observation in *Malone v Metropolitan Police Commissioner* that 'it is no function of the courts to legislate in a new field. The extension of the existing laws and principles is one thing, the creation of an altogether new right is another'.[44] Accordingly, the following analysis starts by considering possible extensions of the

---

40 *Campbell v MGN Ltd* [2004] UKHL 22; [2004] 2 WLR 1232 (HL) [51] (Lord Hoffmann); *Douglas v Hello!* [2001] QB 967, 1001 (Sedley LJ).

41 *Wainwright* (n 33 above) 419.

42 *Campbell* (n 40 above) [11].

43 W Cornish *Intellectual Property: Omnipresent, Distracting, Irrelevant?* (OUP Oxford 2004) 22.

44 [1979] Ch 344, 372. *Wainwright* (n 33 above) 419–420 (Lord Hoffmann).

duty of confidence and the tort of battery. The section then considers the potential for an award of damages for the loss of autonomy under a negligence claim.

(i) Duty of confidence

The equitable duty of confidence is the first relevant wrong. To determine the potential application of the duty to separated biological materials the doctrinal basis of the duty will initially be examined, followed by the elements of the duty of confidence in English law. The jurisprudential foundation of the duty of confidence has been a matter of historical dispute and conceptual uncertainty existed long before the ECHR was incorporated into English law.[45] Judges and commentators have invoked various legal doctrines—including property,[46] contract[47] and equitable principles[48]—to explain the theoretical foundation for the duty of confidence. Following *Campbell*, it appears that the doctrine's foundations remain in equity.[49] The question that remains for English law is to define what role autonomy and human dignity play in the ongoing development of the duty of confidence.

---

45 *Morrison v Moat* (1851) 9 Hare 241, 255; 68 ER 492, 498 (Turner V-C).

46 *Butler v Board of Trade* [1971] Ch 680, 690; S Ricketson 'Confidential Information—A New Proprietary Interest' (1977) 11 Melbourne University Law Review 223, 234.

47 *Morrison v Moat* (1851) 20 LJ Ch 513, 522 (Turner V-C); M Warby et al 'Privacy and Confidentiality' in M Tugendhat and I Christie (eds) *The Law of Privacy and the Media* (OUP Oxford 2002) 198.

48 *Campbell* (n 40 above) [43] (Lord Hoffmann); *Attorney-General v Guardian Newspapers Ltd (No. 2)* [1990] 1 AC 109 (HL) 269 (Lord Griffiths).

49 *Campbell* (n 40 above) [43] (Lord Hoffmann). In *Campbell*, Lord Nicholls suggested at [14] that the mischief addressed by the doctrine of confidence may better be described as a tort of 'misuse of private information'. The question of whether the duty of confidence has now evolved into this tort merits a more detailed examination than is possible here. On the current state of English law, however, it appears that the doctrine of confidence has retained its classification as an equitable wrong. In *Campbell*, no other Law Lord classified the doctrine as a tort and Lord Hoffmann specifically described the duty of confidence as an 'equitable action': *Campbell* (n 40 above) [43]. Burrows has recently stated that 'it cannot yet be said that breach of confidence (as a cause of action independent from breach of contract) is a tort': A Burrows *Remedies for Torts and Breach of Contract* (3rd edn OUP Oxford 2004) 607. This thesis does not consider whether it would be more appropriate for the duty of confidence to be described as a tort.

The nature of the duty of confidence received particular attention from the House of Lords in *Campbell*. This case concerned the publication in the *Daily Mirror* of information relating to Naomi Campbell's (then) drug addiction. The newspaper published a photograph and details of the treatment she was receiving from Narcotics Anonymous. Campbell argued that the newspaper committed a wrong by publishing the photograph and treatment details. In summary, the House of Lords held that A will commit a wrong in relation to B if A unjustifiably discloses to C information which A knows or ought to know is private information about B. In *Campbell*, the House of Lords held by a majority (Lord Hope, Baroness Hale and Lord Carswell) that the *Daily Mirror* had committed a wrong by publishing the photograph and treatment details.[50] In their dissenting speeches, Lord Nicholls and Lord Hoffmann suggested that, on the facts of the case, the defendants' freedom of expression outweighed the claimant's privacy interests.[51]

The significance of *Campbell* lies in the legal analysis of the duty of confidence, on which there appears to be 'no significant differences'[52] between the majority and minority. Importantly, Lord Hoffmann considered that the breach of confidence doctrine protects an individual's autonomy and human dignity.[53] He succinctly concluded:

> Instead of the cause of action being based upon the duty of good faith applicable to confidential personal information and trade secrets alike, it focuses upon the protection of human autonomy and dignity—the right to control the dissemination of information about one's private life and the right to the esteem and respect of other people.[54]

---

50 *Campbell* (n 40 above) [125] (Lord Hope), [158]–[160] (Baroness Hale), [169] (Lord Carswell).

51 *Campbell* (n 40 above) [28] (Lord Nicholls), [77] (Lord Hoffmann).

52 *Campbell* (n 40 above) [36] (Lord Hoffmann).

53 *Campbell* (n 40 above) [51] (Lord Hoffmann).

54 *Campbell* (n 40 above) [51].

The foundation of the right to control such information stems from a desire to protect the autonomy and human dignity of each individual.[55] There is also a legal question concerning the application of the HRA in English law. At present there is no authoritative judicial determination as to the horizontal effect of the HRA. Strictly speaking, ECHR rights under the HRA are binding on public authorities alone. Under section 6(1) of the HRA it is unlawful for a public authority (including a court) to act in a way that is incompatible with an ECHR right.[56] After *Campbell*, it appears that the court's duties under section 6 indirectly give ECHR rights horizontal effect by virtue of the section 6 requirement that judicial decisions be compatible with ECHR rights even where proceedings exclusively involve private parties.[57] As Lord Nicholls observed in *Campbell*: 'the values underlying articles 8 and 10 are not confined to disputes between individuals and public authorities'.[58]

The more significant issue for the purposes of the current analysis is the nature of the protection afforded by the duty of confidence in English law. In essence, the action for breach of confidence provides a cause of action to ensure that confidential information is not used for any unauthorized purpose or disclosed without permission. The traditional formulation of the duty was set out in *Coco v AN Clark (Engineers) Ltd*,[59] which stipulated three requirements: (1) that the information have the necessary quality of confidence about it; (2) that the information be imparted in circumstances importing an obligation of confidence; and (3) that there be an unauthorized use or disclosure of the information to the detriment of the party that

---

55 *Campbell* (n 40 above) [50] (Lord Hoffmann).

56 HRA, s 6(3)(a).

57 *Campbell* (n 40 above) [18] (Lord Nicholls), [50] (Lord Hoffmann).

58 *Campbell* (n 40 above) [18] (Lord Nicholls).

59 [1969] RPC 41.

originally communicated it.[60] More recent judicial authority has dispensed with the second requirement. In *Attorney-General v Guardian Newspapers Ltd (No. 2)*,[61] Lord Goff suggested that the duty of confidence could attach outside the context of a confidential relationship.[62] The House of Lords developed Lord Goff's suggestion in *Campbell*. Since *Campbell*, then, the second requirement—the existence of a confidential relationship—has been relaxed. Lord Nicholls made this observation:

> This cause of action has now firmly shaken off the limiting constraint of the need for an initial confidential relationship. In doing so it has changed its nature ... Now the law imposes a "duty of confidence" whenever a person receives information he knows or ought to know is fairly and reasonably to be regarded as confidential.[63]

Following this interpretation, the duty of confidence attaches whenever information is disclosed privately and in confidence, or where someone comes into possession of information that is clearly confidential.[64] Herein, the central question simply becomes whether any given information should be classified as confidential. In this way, *Campbell* represents a substantial extension of the duty of confidence.

The duty of confidence provides individuals with three potential remedies. First, claimants may be granted an injunction to prevent disclosure.[65] Second, a claimant may seek damages, although the question as to what damages are available is unsettled.[66] It seems that he or she may seek damages for emotional distress and anxiety. In *Campbell*, for example, the House of Lords upheld an award of £2,000

---

60 *Coco* (n 59 above), 47.

61 [1990] 1 AC 109 (HL).

62 *Guardian Newspapers* (n 61 above) 281.

63 *Campbell* (n 40 above) [14] (Lord Nicholls).

64 *Campbell* (n 40 above) [14] (Lord Nicholls), [51] Lord Hoffmann, [85] (Lord Hope), [134] (Baroness Hale), [163] (Lord Carswell).

65 *Douglas v Hello!* [2001] QB 967, 1007-1009.

66 For a discussion of damages see: A Burrows *Remedies for Torts and Breach of Contract* (3rd edn OUP Oxford 2004) 606-611.

damages for mental distress. It is likely, however, that such awards will be below the level of general damages for serious physical or psychiatric injury.[67] Third, a claimant may also seek delivery up of the material containing confidential information.[68]

Returning to the present context, a central issue is whether the concept of informational privacy (as developed in English law) can be extended to provide protection for separated biological materials. As already discussed, it is important for individuals to retain control over separated biological materials, not least because genetic information can be extracted from them. Genetic information is private information that can be the subject of protection, both under the duty of confidence and the DPA. What remains to be seen is whether protection could be extended to embrace biological materials *before* genetic information has been extracted from them. Lord Nicholls recognized in *Campbell* that '[a]n individual's privacy can be invaded in ways not involving publication of information. Strip-searches are an example'.[69] In this way, there may be some potential for the extension of the traditional avenues for protecting information privacy interests in English law.

Two factors support an extension of the duty of confidence to cover separated biological materials themselves. The first factor involves acknowledging that the duty of confidence has assumed the primary role of protecting privacy concerns in English law. For now, the House of Lords decision in *Campbell* has effectively foreclosed debate on whether English law recognizes a general right to privacy. The question that remains is: how should the concept of autonomy inform or influence the development of the duty of confidence? Arguably, whenever the legitimate

---

67 *Archer v Williams* [2003] EWHC 1670; [2003] EMLR 38, [76] (Jackson J).

68 *Industrial Furnaces Ltd v Reaves* [1970] RPC 605, 627 (Ch).

69 *Campbell* (n 40 above) [15].

privacy concerns of an individual are threatened, English law should be willing to extend its arm of protection. English law adapts to changing social conditions, and separated biological materials do present a novel problem requiring attention. Biological materials can be viewed as unique vehicles through which the personal genetic information of an individual can be accessed. Even if such materials are simply held without an individual's consent, there remains a potential threat to that person's privacy and a threat to his or her autonomy and human dignity. In *R (S)*, Baroness Hale observed that 'it is an interference with privacy for someone to know or have access to private information even if they make no use of it'.[70] Thus, the threat to autonomy arises because of the *potential* to extract and use personal genetic information from biological materials contrary to an individual's wishes.

An extension of the duty of confidence to encompass physical objects may, however, distort the concept of informational privacy. *Campbell* established that the duty of confidence protects private information. In that case, however, Lord Nicholls also suggested that the privacy of an individual may be threatened in circumstances beyond the wrongful disclosure of information.[71] It was not necessary in *Campbell* for the House of Lords to consider how English law might protect such wider interests. Although Lord Nicholls' remarks were obiter and delivered in the context of a dissenting speech, they suggest a willingness to expand the protection currently afforded by English law. Potentially, English law could recognize that privacy is violated by acts other than the disclosure of private information and, further, that such acts could be remedied under the duty of confidence.

---

70 [2004] UKHL 39; [2004] 1 WLR 2196 (HL) [73].

71 *Campbell* (n 40 above) [15].

The second factor supporting the extension of the duty of confidence to cover separated biological materials is the criminal offence created under section 45 of the HTA 2004. Chapter 6 analysed section 45, which creates an offence where a person holds bodily materials with the intention to submit the materials for non-consensual DNA analysis.[72] Under this offence, it is not necessary for the information to be extracted and/or analysed. One of the aims in classifying the new offence is arguably to protect the autonomy of individuals.[73] The broad ambit of the terms defining the offence indicates that Parliament considers it possible for the autonomy and human dignity of an individual to be threatened even without the extraction of personal genetic information.

In combination, these two factors conceivably support an extension of the concept of informational privacy to encompass separated biological materials. This thesis does not, however, support such a development. The most forceful objection to the proposed extension is the argument that the notion of privacy, as it has developed under the duty of confidence, should be limited to the unlawful disclosure of *information*. In English law, the duty of confidence has been traditionally limited to informational privacy.[74] The duty of confidence has not provided any wider protection with respect to physical objects. In *Campbell*, the House of Lords did extend the doctrine of confidence to the publication of a

---

72 See notes 75-83 of Chapter 6 and accompanying text.

73 Although the Explanatory Notes make no reference to autonomy, it is submitted that this is a reasonable inference because the section 45 offence was drafted on the basis of a recommendation by the Human Genetics Commission (HGC), which was proposed to protect individual privacy: *Inside Information* (Department of Health London 2002) [3.51]. Chapter 6 also noted that the Australian Law Reform Commission, when recommending a similar offence, also observed that 'the most obvious harm arising from testing of the sample is the intrusion on basic human dignity and autonomy': Australian Law Reform Commission *Essentially Yours: The Protection of Human Genetic Information* (ALRC 96 Australian Government Publishing Service Canberra 2003) [12.2].

74 *Campbell* (n 40 above) [51] (Lord Hoffmann).

photograph, thereby establishing that the publication of a photograph is analogous to the disclosure of information. But *Campbell* cannot be interpreted as extending the duty to cover physical objects in general. Although separated biological materials contain the personal genetic information of each individual source, they are not directly analogous to photographs. It is necessary to analyse and extract the genetic information from the biological materials before that information can be perceived and understood. By contrast, publication of a photograph itself—without any additional processing, analysis or extraction—presents a visual image that conveys information.

The more persuasive position (as a matter of legal principle) dictates that the duty of confidence should not be extended to encompass separated biological materials. Extending the duty of confidence to encompass physical objects which themselves do not directly reveal information would blur the external boundaries and internal conceptual coherence of the duty. Limiting the duty of confidence to informational privacy is consistent with Lord Hoffmann's warning in *Canary Wharf v Hunter Ltd* that 'the development of the common law should be rational and coherent. It should not distort its principles and create anomalies merely as an expedient to fill a gap'.[75]

The duty of confidence can provide protection in relation to personal genetic information once it is extracted from separated biological materials. But it cannot properly protect any broader right over separated biological materials—for example, to control the forms of scientific research for which the materials are used. Hence, even if the duty were to be extended in the way suggested above, it would only offer a limited form of control.

---

75 *Canary Wharf Ltd v Hunter* [1997] AC 655 (HL) 707.

(ii) Battery

Battery is the second wrong that requires examination. Chapter 3 explained that the tort of battery concerns intentional physical contact that is not generally acceptable in the ordinary conduct of daily life.[76] Importantly, battery protects individuals not only against bodily harm, but also against interference with their right to autonomy. Three points reinforce the fact that individual autonomy is also an interest that the tort of battery seeks to protect.

First, battery covers any physical contact and there is no requirement for substantial physical harm (as might be the case were the tort concerned primarily with redressing actual bodily harm). Liability attaches wherever there is unauthorised contact which is not 'generally acceptable in the ordinary conduct of daily life'.[77] Second, US judicial authority[78] and academic commentary[79] support the application of battery even where a claimant is unaware of the unlawful contact when it occurs. The claimant need not be aware of the physical contact because the law considers the mere violation of an individual's autonomy sufficient. Third, the centrality of autonomy emerged after English law considered whether the tort of battery required an intention to commit the act (of touching) or an intention to cause harm. In *Wilson v Pringle*, Croom-Johnson LJ held that an 'intention to injure is not essential to an action for trespass to the person. It is the mere trespass by itself which

---

76 See notes 63–72 of Chapter 3 and accompanying text.

77 *Collins v Wilcock* [1984] 1 WLR 1172 (CA) 1177 (Robert Goff LJ).

78 *Restatement of Torts Second*, § 18, comment (d). See also: *Hively v Higgs* 253 P 363 (Or SC 1927) 365; *Mohr v Williams* 104 NW 12 (Minn SC 1905) 271.

79 J Fleming *The Law of Torts* (9th edn LBC Sydney 2002) 30.

is the offence'.[80] This focus supports the proposition that the tort of battery seeks to protect individual autonomy.

The pertinent issue here is whether the right to bodily integrity (as protected by the tort of battery) can be extended to include the protection of separated biological materials. Again, even if it is conceptually possible such an extension would disfigure the tort of battery as it has developed in English law. The tort has evolved so as to protect invasions of a person's body. For the tort of battery to extend to separated biological materials it would be necessary to accept that, as a matter of principle, those materials remain somehow equivalent to the person. This is a significant conceptual leap, which cannot be sustained. Separated biological materials are significantly distinct from the person from whom they originated. The tort of battery should be limited to protecting the person as a whole, because forcing the tort to recognize and protect something that is not a living person would entail stretching the tort beyond its ambit.

(iii) Negligence

A third potential avenue for safeguarding an individual's non-proprietary interests in biological materials lies with an award of compensation for any loss of autonomy suffered under the tort of negligence. Traditionally, negligence has been limited to the protection of interests impaired through such acts as negligently inflicted damage to one's property or invasions of bodily integrity. Recently, in *Rees v Darlington Memorial Hospital NHS Trust*,[81] the House of Lords recognized loss of autonomy as a head of damage in the context of a negligence claim.

---

80 *Wilson v Pringle* [1987] 1 QB 237, 249.

81 [2004] 1 AC 309 (HL).

In *Rees*, the claimant suffered from a severe visual handicap. She gave birth to a healthy son, having previously undergone a sterilisation operation that was performed negligently in a hospital managed by the defendants. The claimant then brought an action claiming damages for the costs involved in raising her son. At first instance, the judge held that *McFarlane v Tayside Health Board*[82] prevented recovery of such costs. In *McFarlane*, the House of Lords considered the extent to which damages are recoverable for the birth of an unintended child following a wrongful pregnancy. The claimant became pregnant following a failed sterilisation and she brought an action claiming the costs of bringing up a normal, healthy child. In *McFarlane*, the House of Lords unanimously held that the costs of raising a child were not recoverable.[83] In *Rees*, a majority of the Court of Appeal (Hale and Robert Walker LJJ, Waller LJ dissenting) held that it was fair, just and reasonable for a disabled parent to claim the additional costs of raising a child that could be attributed to her disability.[84] The defendant appealed.

A majority of the House of Lords (Lords Bingham, Nicholls, Millett and Scott; Lords Steyn, Hope and Hutton dissenting) allowed the NHS Trust's appeal against the Court of Appeal's decision. A majority of the House of Lords held that the claimant could not recover damages for the cost of raising a normal healthy child. They did hold, however, that the claimant was entitled to an award of damages for

---

82 [2000] 2 AC 59 (HL).

83 *McFarlane* (n 82 above) 76 (Lord Slynn), 83 (Lord Steyn), 97 (Lord Hope), 106 (Lord Clyde), (Lord Millett) 113-114.

84 *Rees v Darlington Memorial Hospital NHS Trust* [2003] QB 20, 28-29 (Hale LJ), 32 (Robert Walker LJ), 35 (Waller LJ).

the pain and costs associated with the pregnancy and birth itself (as in *McFarlane*), as well as a conventional award of £15,000 for her loss of autonomy.[85]

The majority's award of £15,000 for the loss of autonomy was drawn from Lord Millett's speech in *McFarlane*, where he held that the claimant was entitled to an award of £5,000 for the denial of an aspect of her autonomy.[86] In *McFarlane*, Lord Millett observed that the parents had 'lost the freedom to limit the size of their family. They have been denied an important aspect of their autonomy' [87]

Forceful objections can be directed against the decision in *Rees* to award damages for a loss of autonomy. For example, why should the compensation be fixed at an award of £15,000? This award is arguably an insufficient and arbitrary response to the invasion of a woman's reproductive autonomy. The most interesting aspect of the decision, for present purposes, is the majority's justification for the award of general damages. Lord Nicholls and Lord Millett were concerned with protecting the claimant's loss of autonomy. Lord Nicholls concluded:

> An award of some amount should be made to recognise that in respect of birth of the child the parent has suffered a legal wrong, a legal wrong having a far-reaching effect on the lives of the parent and any family she may already have.[88]

On the same point, Lord Millett observed:

> I still regard the proper outcome in all these cases is to award the parents a modest conventional sum by way of general damages, not for the birth of the child, but for the denial of an important aspect of their personal autonomy, viz the right to limit the size of their family. This is an important aspect of human dignity, which is increasingly being regarded as an important human right which should be protected by law. The loss of this right is not an abstract or theoretical one. As my

---

85 *Rees* (n 81 above) 317 (Lord Bingham), 319 (Lord Nicholls), 349 (Lord Millett), 356 (Lord Scott).

86 *McFarlane* (n 82 above) 114.

87 *McFarlane* (n 82 above) 114.

88 *Rees* (n 81 above) 319.

> noble and learned friend Lord Bingham of Cornhill has pointed out, the parents have lost the opportunity to live their lives in the way that they wished and planned to do. The loss of this opportunity, whether characterised as a right or a freedom, is a proper subject for compensation by way of damages.[89]

On the other hand, Lord Bingham noted that the loss suffered by the claimant amounted to a denial of the 'opportunity to live her life the way that she wished and planned'.[90] Although this statement suggested that Lord Bingham was also concerned with the loss of autonomy he also commented that the conventional award was not compensatory.[91] With respect, it is difficult to understand the basis of the award if it is not compensatory. The fourth member of the majority, Lord Scott awarded damages on the basis that the claimant was 'deprived of the benefit she was entitled to expect'.[92]

This suggests that Lord Nicholls and Lord Millett, and perhaps Lord Bingham, considered that the award flowed from the loss of autonomy.[93] On this view, the award of £15,000 can be viewed as non-pecuniary damages flowing from the negligence of the sterilisation procedure. The negligence resulted in an interference with the claimant's autonomy—an infringement of an interest protected by law—and required compensation.

An alternative interpretation of the majority's approach in *Rees* is that the award of general damages did not flow from the cause of action in negligence, but instead

---

89 *Rees* (n 81 above) 349.

90 *Rees* (n 81 above) 317.

91 *Rees* (n 81 above) 317.

92 *Rees* (n 81 above) 356.

93 For a different view see: A Burrows *Remedies for Torts and Breach of Contract* (3rd edn OUP Oxford 2004) 291. Burrows argues that, based on the view of Lord Scott, the award of damages represented compensation for the claimant's mental distress at having her lifestyle plans disrupted. This thesis contends, instead, that a more forceful interpretation (on the basis of the speeches of Lord Nicholls and Lord Millett) is that the compensation represented an award for the loss of autonomy.

flowed from a distinct tort comprising wrongful interference with an individual's autonomy. Under this interpretation, interference with an individual's autonomy itself is an actionable legal wrong, and the separate tort is designed to protect the distinct interest of individual autonomy. Following this view, *negligence* protects each individual's right to bodily integrity, whereas the *separate* tort protects each individual's right to autonomy.

By recognizing two separate causes of action, a more satisfying explanation of the award of damages may be possible. The principal difficulty with such an approach lies in separating the two interests. In this instance, the tort of negligence protects both an individual's right to bodily integrity and the right to determine the size of one's family. It is not necessary for the law to provide a separate cause of action to protect the separate autonomy interest. Further, the majority speeches in *Rees* clearly assert that the wrong committed was that of negligence. There was no discussion in the speeches of any separate tort of wrongful interference with individual autonomy and the speeches focused only on the award of damages for the negligence claim. It is therefore not possible to argue that the House of Lords implicitly supported a separate tort of wrongful interference with an individual's autonomy.

In *Chester v Afshar*,[94] the House of Lords also acknowledged the importance of autonomy and human dignity. The legal issue in *Chester* did not concern the award of damages for loss of autonomy, but instead the causation requirement in the law of negligence. In this case, the defendant (a neurosurgeon) advised the claimant to undergo a surgical procedure, but in providing her with information about the procedure he failed to inform her that the procedure involved the risk of developing

---

94 [2004] UKHL 41; [2004] 3 WLR 927 (HL).

cauda equine syndrome. The claimant agreed to the procedure and subsequently developed the syndrome. She brought an action in negligence. The trial judge found that there was a sufficient causal link between the defendant's failure to warn of the risk and the damage sustained by the claimant. The legal difficulty arose in *Chester* because the trial judge did not find that on the balance of probabilities the claimant, if properly warned, would not have undergone the procedure. In this way, the claimant could not establish a negligence claim on a normal application of causation principles. The Court of Appeal dismissed the defendant's appeal.[95]

A majority of the House of Lords (Lord Steyn, Lord Hope, Lord Walker; Lord Bingham and Lord Hoffmann dissenting) held that the scope of the duty of care requires a doctor to warn a patient of a risk even if, duly warned, the patient might still proceed.[96] Lord Steyn and Lord Hope appeared to extend the scope of the doctor's duty of care on the basis of protecting the individual right to bodily integrity (founded on autonomy).[97] Lord Steyn specifically noted that the claimant's 'right of autonomy and dignity can and ought to be vindicated by a narrow and modest departure from traditional causation principles'.[98] In dissent, Lord Bingham and Lord Hoffman held that the claimant could not show that the negligence proved against the defendant was a cause of her loss.[99] Although the analysis here cannot critique the force of these two distinct approaches, *Chester* does however demonstrate that English law is increasingly willing to protect an individual's autonomy.

---

95 *Chester v Afshar* [2003] QB 356.

96 *Chester* (n 94 above) [24] (Lord Steyn), [87] (Lord Hope), [101] (Lord Walker).

97 *Chester* (n 94 above) [24] (Lord Steyn), [87] (Lord Hope).

98 *Chester* (n 94 above) [24].

99 *Chester* (n 94 above) [9] (Lord Bingham), [32] (Lord Hoffmann).

Returning to the present context, in the event that a claimant could establish a negligence claim, English law supports a head of damage for the loss of autonomy. At present, such damages have only been awarded in the narrow context of a negligence claim for wrongful birth, but the possibility of further developing the law of negligence to include non-consensual use of separated biological materials warrants closer analysis. To bring a claim in negligence for non-consensual use, a claimant would have to establish the three main elements: (1) the existence of a duty of care; (2) a breach of that duty as a consequence of the defendant's failure to take reasonable care; (3) a sufficient causative link between the breach and the loss of autonomy sustained by the claimant.[100]

English law recognizes that damages will only be awarded if the loss that the claimant suffers fell within the scope of the defendant's duty of care.[101] Establishing a duty of care may be the principal obstacle in the context of protecting an individual's right to autonomy over separated biological materials. Even if a duty can be established the claimant must also establish that the defendant committed a negligent act. It may be that the action did not fall below the requisite standard.

The factual scenario developed in Part III concerning the removal of biological materials (X) from a source (A) for utilization in research again offers assistance for analysing non-proprietary protection.[102] In terms of negligence liability, the question is whether a duty of care falls on either the person who removes the biological materials or the researcher who uses them (B or C). *AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS Trust*[103] represents a recent extension of a duty of care in

---

100 J Davies 'Tort' in P Birks (ed) *English Private Law* (OUP Oxford 2000) 415.

101 *Chester* (n 94 above) [51] (Lord Hope).

102 See note 21 of Chapter 7 and accompanying text.

103 *AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS Trust* [2004] EWHC 644 (QB).

the context of separated bodily materials from corpses. In *AB*, Gage J found that the doctor responsible for the post-mortem examination owed a duty of care to the parents of the deceased child.[104] If English law is willing to recognize a duty of care in the context of materials removed from a deceased child, then there seems to be no basis in principle for objecting to the extension of this duty to materials removed from a living person.

Biological materials will be removed from living persons in many different circumstances. In some cases, biological materials will be removed in the course of medical treatment. In other cases, they will be removed specifically for research purposes, such as for inclusion in a biobank. There is not space here to examine potential arguments for the existence of a duty of care in these different scenarios. Nevertheless, where biological materials are collected for the specific purpose of medical research, such as in the case of UK Biobank, it is at the very least arguable that a duty of care exists.[105] The scope of the duty of care would include, for example, disclosing to the patient the purposes for which separated biological materials are intended or likely to be used.

It is not suggested that the law of negligence should be used as the main vehicle in English law to protect an individual's non-proprietary interests in separated biological materials. This is for two reasons. First, there may be instances where a negligence claim cannot be established because no duty of care exists or, if it does, there has been no breach of that duty. Second, a more principled and coherent approach most likely lies in the creation of an independent tort that would protect an

---

104 *AB* (n 103 above) [200].

105 Johnston and Kaye argue that it is likely that UK Biobank will owe a duty of care to research participants: C Johnston and J Kaye 'Does the UK Biobank Have a Legal Obligation to Feedback Individual Findings to Participants' (2004) 12 Medical Law Review 239, 252.

individual's distinct autonomy interest in separated biological materials. The development of separate liability is considered in the third section of this chapter. Before turning to the potential development of a new head of liability this section also considers whether English law can protect an individual's right to be free from emotional distress.

2 Emotional Distress

Freedom from emotional distress is the second potential interest that a living person (source) may assert over the non-consensual use of separated biological materials. English law provides protection for the negligent infliction of a psychiatric illness.[106] Although it is unlikely that a living person will suffer a psychiatric illness following the non-consensual use of their biological materials, an individual may well suffer emotional distress. This section provides a definition of emotional distress, and then examines possible avenues in English law for the protection of freedom from emotional distress.

(a) Definition

Although the distinction between emotional (or mental distress) and psychiatric injury is often not clear as a matter of medicine,[107] English law draws a distinction.[108] Smith has defined emotional distress as being any 'disagreeable disturbance of emotional or mental tranquillity'.[109] Emotional distress is defined broadly here to

---

106 *McLoughlin v O'Brian* [1983] 1 AC 410 (HL) 431 (Lord Bridge). See also: *Alcock v Chief Constable of South Yorkshire Police* [1992] 1 AC 310 (HL) 401 (Lord Ackner).

107 Law Commission *Liability for Psychiatric Illness* (Law Commission Report 249 London 1998) 51.

108 *Page v Smith* [1996] 1 AC 155 (HL) 167 (Lord Keith).

109 HW Smith 'Problems of Proof in Psychiatric Injury Cases' (1963) 14 Syracuse Law Review 586, 610.

include distress, suffering and grief, injury to pride or feelings, and diminution in self-respect, which does not amount to a psychiatric illness.

(b) Wrongs

English law does award damages for emotional distress if it is inflicted in the course of another wrong, such as trespass,[110] defamation[111] and fraud.[112] In so doing, English law acknowledges that emotional distress can be a source of loss or damage. English law does not, however, currently recognize the infliction of emotional distress as a separate cause of action. The following analysis examines three avenues by which English law could provide a cause of action where a claimant suffers emotional distress through the non-consensual use of separated biological materials: (1) the *Wilkinson v Downton*[113] principle; (2) harassment; and (3) intentional infliction of emotional distress.

(i) *Wilkinson v Downton*

Wilkinson v Downton is often referred to by academic commentators as having established a tort of intentionally or recklessly causing harm to an individual amounting to psychiatric damage.[114] *Wilkinson* concerned the actions of Mr Wilkinson, who went to the races by train and left his wife at home, and Downton, who played a practical joke on Mrs Wilkinson by telling her that Mr Wilkinson had been seriously injured in an accident. The story was false and Mr Wilkinson returned

---

110 *Drane v Evangelou* [1978] 1 WLR 455 (CA) 459.

111 *Cassell & Co v Broome* [1972] AC 1027 (HL) 1085.

112 *Archer v Brown* [1985] QB 401, 426.

113 [1897] 2 QB 57.

114 R Townshend-Smith 'Harassment as a Tort in English and American Law: The Boundaries of *Wilkinson v Downton*' (1995) 24 Anglo-American Law Review 299, 325-326; PR Handford '*Wilkinson v Downton* and Acts Calculated to Cause Physical Harm' (1985) 16 University of Western Australia Law Review 31, 63.

that evening. But the story had a dramatic impact on Mrs Wilkinson and she fell ill. A claim in negligence was likely to fail because her nervous shock was too remote.[115] Wright J found, nevertheless, that a cause of action lay:

> The defendant has, I assume for the moment, wilfully done an act calculated to cause physical harm to the plaintiff—that is to say, to infringe her legal right to physical safety, and has in fact caused physical harm to her. That proposition without more appears to me to state a good cause of action, there being no justification alleged for the act. This wilful injuria is in law malicious, although no malicious purpose to cause the harm which was caused nor any motive of spite is imputed to the defendant.[116]

It is not clear on what basis Wright J extended liability. One interpretation of Wright J's decision is that he recognized a new tort of intentionally or recklessly causing harm to an individual amounting to psychiatric damage.[117] With the exception of the US,[118] *Wilkinson* had not until recently been the subject of extensive judicial consideration. The paucity of case law in Commonwealth countries has changed over the last 10 years as courts in England,[119] Australia[120] and Canada[121]

---

115 *Wilkinson* (n 113 above) 59–60.

116 *Wilkinson* (n 113 above) 59.

117 PR Glazebrook '*Wilkinson v Downton*: A Centenary Postscript' (1997) 32 Irish Jurist 46, 48; PR Handford '*Wilkinson v Downton* and Acts Calculated to Cause Physical Harm' (1985) 16 University of Western Australia Law Review 31, 33.

118 US jurisprudence has long recognized a cause of action on similar terms to the principle in *Wilkinson*: *Voss v Boleniius* 128 SW 1 (Miss CA 1910); *Goddard v Watters* 82 SE 304 (Geo CA 1914); *Johnson v Sampson* 208 NW 814 (Minn SC 1926); *Great Atlantic & Pacific Tea Co v Roch* 153 A 22 (Md CA 1930). For a discussion of the development of this tort in the US see: WL Prosser 'Intentional Infliction of Mental Suffering—A New Tort' (1939) 37 Michigan Law Review 874.

119 *Wainwright v Home Office* [2004] 2 AC 406 (HL); *Wong v Parkside Health NHS Trust* [2001] EWCA Civ 1721, [2003] 3 All ER 932 (CA); *Wainwright v Home Office* [2002] QB 1334; *Powell v Boladz* [1998] Lloyd's Rep Med 116 (CA); *Khorasandjian v Bush* [1993] 1 QB 727; *Burnett v George* [1992] 1 FLR 525 (CA).

120 *Carrier v Bonham* [2002] 1 Qd R 474 (Qld CA); *Coyne v Commercial Equity Corporation Ltd* (1998) 20 WAR 109 (WA SC); *Gimson v Victoria Workcover Authority* [1995] 1 VR 209 (Vic SC); *Pavlovic v Commonwealth Bank of Australia* (1991) 56 SASR 587 (SA SC).

121 *Clark v Canada* (1994) 20 CCLT 241 (FCTD); *Boothman v Canada* [1993] 3 FC 381; *Timmermans v Buelow* (1984) 38 CCLT 136 (FCTD); *Rahemtulla Vanfed Credit Union* (1984) 29 CCLT 78 (BC SC).

have considered claims based on the *Wilkinson* principle. English[122] and Australian[123] law both appear to have rejected the existence of a separate *Wilkinson* tort, whilst Canadian law has embraced the tort.[124]

The scope of the *Wilkinson* principle was considered by the House of Lords in *Wainwright v Home Office*.[125] In *Wainwright*, the claimants submitted that the unauthorized strip-search infringed the principle established by *Wilkinson*. As already noted, Lord Hoffmann delivered the leading speech, and held that the principle in *Wilkinson* was now effectively part of the law of negligence.[126] Lord Scott came to a similar conclusion.[127] Lord Hoffmann noted that Wright J's decision should be viewed as an attempt to circumvent *Victorian Railways Commissioners v Coultas*,[128] where the Privy Council held that nervous shock was too remote a consequence of a negligent act to be a recoverable head of damage.[129] Seen in this light, Wright J's imputation of an intention to harm on the part of the defendant was important to the distinction that he drew with the Privy Council authority.

After *Wilkinson*, however, nervous shock became actionable in the English law of negligence early in the 20th century.[130] Indeed, in *Wainwright* Lord Hoffmann concluded that the principle in *Wilkinson* had been subsumed into the law on the negligent infliction of psychiatric injury.[131] It is unlikely that an individual will

---

122 *Wainwright* (n 119 above).

123 *Carrier* (n 120 above) 484.

124 *Clark* (n 121 above).

125 *Wainwright* (n 119 above).

126 *Wainwright* (n 119 above) 426.

127 *Wainwright* (n 119 above) 429.

128 (1888) 13 App Cas 222.

129 *Victorian Railways* (n 128 above) 225.

130 *Dulieu v White & Sons* [1901] 2 KB 669, 672.

131 *Wainwright* (n 119 above) 425.

develop a psychiatric illness following the non-consensual use of biological materials.

Further, in *Wainwright* Lord Hoffmann considered that if English law were to recognize liability for the intentional infliction of emotional distress, imputed intention would not be sufficient. For Lord Hoffmann, the defendant must 'have intended to cause harm or at least acted without caring whether he caused harm or not'.[132] On the facts in *Wainwright*, he considered that in any event, the necessary intention was not established.[133] The protection of emotional distress in English law must therefore be located elsewhere.

(ii) Harassment

In addition to *Wilkinson*, there have been judicial suggestions that English law recognizes a tort of harassment. The potential for such a tort arose in *Khorasandjian v Bush*,[134] which concerned the breakdown of a relationship and subsequent pestering of the plaintiff through threats of violence and persistent telephone calls by the defendant. In *Khorasandjian*, the Court of Appeal (Dillon, Rose LJJ; Peter Gibson LJ dissenting) made two main points. First, it held that harassment through telephone calls interfering with an individual's enjoyment of property could be restrained by a quia timet injunction as a private nuisance.[135] Second, the Court of Appeal held that harassment not amounting to threats but likely to cause physical or psychiatric

---

132 *Wainwright* (n 119 above) 426.

133 *Wainwright* (n 119 above) 426.

134 [1993] QB 727.

135 *Khorasandjian* (n 134 above) 734-735 (Dillon LJ).

illness also may be restrained by a quia timet injunction based on the principle in *Wilkinson*.[136]

If the Court of Appeal did in fact (implicitly) recognize a tort of harassment in *Khorasandjian* the tort would seem to protect the autonomy and human dignity of an individual. A more probable interpretation of *Khorasandjian* is that the decision simply represents an extension of the tort of private nuisance. Indeed, the House of Lords held in a later case—*Canary Wharf Ltd v Hunter*[137]—that the Court of Appeal overstretched the tort of nuisance in *Khorasandjian*. In *Canary Wharf*, Lord Goff ruled that the Court of Appeal had used the law of nuisance to create a tort of harassment via the 'back door'.[138] The Court of Appeal acknowledged that English law had not developed a tort of harassment in *Wong v Parkside Health NHS Trust*.[139] In that case, Hale LJ noted:

> The case law was developing in such a way that some considered that a new tort of harassment had already been created. However, in all of the cases the question was whether an injunction should be granted to prevent particular kinds of behaviour: there was no case in which damages were awarded to compensate for such behaviour in the past.[140]

The potential development of a tort of harassment was nevertheless superseded by the introduction of a new statutory tort providing a right of action for harassment under the Protection from Harassment Act 1997 c 40 (Harassment Act). As Lord Hoffmann observed in *Canary Wharf*: '[t]he law of harassment has now been put on a

---

136 *Khorasandjian* (n 134 above) 736 (Dillon LJ).

137 [1997] AC 655 (HL).

138 *Canary Wharf* (n 137 above) 691–692.

139 [2001] EWCA Civ 1721; [2003] 3 All ER 932 (CA).

140 *Wong* (n 139 above) 941.

statutory basis ... and it is unnecessary to consider how the common law might have developed'.[141] Lord Goff made a similar point.[142]

The Harassment Act, at its core, introduced criminal and civil liability for any 'course of conduct which amounts to harassment of another'.[143] The Act provides damages for anxiety and was introduced to redress the law's inadequacy when facing cases concerning the infliction of distress and humiliation by stalking and other forms of pestering.[144] At present, the Harassment Act offers the only form of protection for the infliction of emotional distress under English law. The Act cannot, however, offer protection for the non-consensual use of separated biological materials because it is unlikely that such action could constitute harassment or be classified as a course of conduct within the terms of the Harassment Act.

(iii) Intentional infliction of emotional distress

A tort of intentional infliction of emotional distress cannot currently be said to be part of English law. Lord Hoffmann has indicated, however, that English law could develop so as to provide a remedy for the intentional infliction of emotional distress. In *Canary Wharf Ltd v Hunter*, he observed that:

> I see no reason why a tort of intention should be subject to the rule which excludes compensation for mere distress, inconvenience, or discomfort in actions based on negligence ... The policy considerations are quite different.[145]

More recently, in *Wainwright*, Lord Hoffmann commented:

> I do not resile from the proposition that the policy considerations which limit the heads of recoverable damage in

---

141 *Canary Wharf* (n 137 above) 707.

142 *Canary Wharf* (n 137 above) 691–692.

143 Harassment Act, s 1.

144 Harassment Act, s 3(2).

145 *Canary Wharf* (n 137 above) 707.

> negligence do not apply equally to torts of intention. If someone actually intends to cause harm by a wrongful act and does so, there is ordinarily no reason why he should not have to pay compensation. But I think that if you adopt such a principle, you have to be very careful about what you mean by intention ... Even on the basis of a genuine intention to cause distress, I would wish, as in *Hunter's Case* [1997] AC 665, to reserve my opinion on whether compensation should be recoverable.[146]

In neither *Canary Wharf* nor *Wainwright* did Lord Hoffmann consider the potential development of such a tort in any detail. Nevertheless, for an individual to be protected from the infliction of emotional distress, it is necessary that English law develop a tort as suggested by Lord Hoffmann.

Other jurisdictions have recognized a tort along these lines. In the US, for example, the *Restatement of Torts* was amended so as to create liability for the intentional infliction of emotional distress.[147] There is now a substantial body of American jurisprudence addressing this point, and one commentator has argued that every US state recognizes this tort in one form or another.[148] An intentional tort operates in American case law as a 'gap-filler' for cases where traditional actions do not provide a remedy for emotional distress.[149] The US tort has three elements. First, the defendant must commit an act with an intention to cause emotional distress. It is sufficient if, instead of having the requisite intention, the defendant is reckless and demonstrates a disregard of the high probability that the conduct will cause emotional distress.[150] Second, the defendant's conduct must be so outrageous in

---

146 *Wainwright* (n 119 above) 425–426.

147 *Restatement of Torts*, Supplement, § 46 (1948). The *Restatement of Torts Second* (1965) approved this amendment and provided: '[o]ne who by extreme and outrageous conduct intentionally or recklessly causes severe emotional distress to another is subject to liability for such emotional distress and if bodily harm results from it, for such bodily harm'.

148 ML Carpenter '*Petersen v Sioux Valley*: Reckless Infliction of Emotional Distress' (1993) 38 South Dakota Law Review 359, 365.

149 *Banks v Fritsch* 39 SW 3d (Ky CA 2001) 481.

150 *Hinkley v Baker* 122 F Supp 2d 57 (US DC 2000) 60.

character that it goes beyond all bounds of decency and must be regarded as intolerable in a civilised society.[151] The third element of the US tort stipulates that the plaintiff must suffer emotional distress. It is difficult to determine the threshold level of emotional distress; in general, US courts have required that the emotional distress inflicted be 'so severe that no reasonable person could be expected to endure it'.[152]

Significantly, US courts have applied the tort of intentional infliction of emotional distress in the context of interference with dead bodies. Chapter 4 noted that US law provides a cause of action for the next-of-kin where someone intentionally inflicts emotional distress by interfering with a dead body.[153] American jurisprudence therefore offers an analogy for the development in English law of an intentional tort, and demonstrates its application in the context of interference with dead bodies.

The desirability of a tort of intentional infliction of emotional distress has also been considered recently in Scotland. In a published report, the Scottish Law Commission recommended that Scots law should create liability where a wrongdoer acts with the deliberate intention of inflicting mental injury on the victim.[154] The Commission concluded:

> [W]e have become satisfied that a distinction should be drawn between the situation where mental harm is caused deliberately by the defender and where it has arisen as a result of his unintentional but wrongful conduct, for example negligence. In the case of intentional wrongdoing, we now think that the defender should normally be liable for the harm he intended to cause: this should include distress, anxiety, grief, anger etc,

---

151 *Restatement of Torts Second*, § 46, comment (d).

152 *Restatement of Torts Second*, § 46, comment (j). See also: *Folz v State* 797 P 2d 246 (NW SC 1990) 254.

153 *Jaynes v Strong-Thorne Mortuary Inc* 954 P 2d 45 (NM SC 1997) 50; *Christensen v Superior Court* 820 P 2d 181 (Cal SC 1990) 202.

154 Scottish Law Commission *Report on Damages for Psychiatric Injury* (Scottish Law Commission Report No 196 Edinburgh August 2004) [1.8].

> whether or not this amounts to a medically recognised mental disorder.[155]

Under this approach, liability could attach for the deliberate infliction of mere emotional distress without the need for the development of a psychiatric illness. The Commission also addressed the difficult question of what form or quality of emotional distress should suffice to create liability. It concluded that the requirement would be satisfied by 'any harm to a person's mental state, mental functioning or well-being whether or not the harm amounts to a medically recognized mental disorder'.[156]

US jurisprudence and the Scottish Law Commission Report each demonstrate that other jurisdictions have established, or are considering establishing, liability for the intentional infliction of emotional distress. There are two main objections to a cause of action based on the infliction of emotional distress. The first objection to the tort is a standard floodgates argument; namely that the traditional requirement in negligence law of psychiatric harm is required to safeguard against trivial or illegitimate claims. The US experience demonstrates that these fears may, however, be misguided because the development of control mechanisms can prevent trivial claims succeeding.[157] In the US, the 'outrageous conduct' requirement acts as the primary control mechanism.

A second objection is that emotional distress is too difficult to assess and therefore cannot provide a clearly defined basis for liability.[158] For example, emotional distress is often short-lived in comparison to a psychiatric illness, making it more difficult to quantify. This objection is not, however, sufficient to preclude

---

155 SLC *Report on Damages for Psychiatric Injury* (n 154 above) [3.7].

156 SLC *Report on Damages for Psychiatric Injury* (n 154 above) [3.8].

157 NJ Mullany and PR Handford *Tort Liability for Psychaitric Damage* (LBC Sydney 1993) 299.

158 A Burrows *Remedies for Torts and Breach of Contract* (3rd edn OUP Oxford 2004) 338.

recognition of liability for the intentional infliction of emotional distress. Temporary emotional imbalance can be intense and highly damaging to an individual.[159] Further, the difficulty of quantifying such loss has not inhibited English law from awarding damages for emotional distress in several contexts. English law recognizes that an individual can recover compensation for enduring an unsatisfactory holiday.[160] As noted above, English law also provides compensation for emotional distress suffered in the course of another tort, including trespass[161] and defamation.[162] Further, in a statutory context, the Harassment Act specifically provides damages for anxiety.[163]

Thus, English law can at least in principle develop a tort for the intentional infliction of emotional distress. Drawing on Lord Hoffmann's comments in *Wainwright*, an intentional infliction of emotional distress tort would have two essential elements: (1) the defendant commits an act which is intended to cause emotional distress; and (2) the claimant suffers emotional distress as a consequence of that act. With respect to (2), in *Wainwright* Lord Hoffmann was not clear as to what degree of distress would be required for a potential tort to attach. Although establishing a requisite standard would not be a straightforward exercise, US jurisprudence suggests that an appropriate standard may be that of 'severe' emotional distress, to preclude recovery for transient distress.

---

159 J Yiend and T Dalgleish 'Grief, Stress and Post-traumatic Stress Disorder' in A Warrell et al (eds) *Oxford Textbook of Medicine* (4th edn OUP Oxford 2004) 1289; D Goldberg 'A Classification of Psychological Distress for Use in Primary Care Settings' (1992) 35 Social Science and Medicine 189, 192.

160 *Jarvis v Swans Tours* [1973] QB 233.

161 *Drane v Evangelou* [1978] 1 WLR 455 (CA) 459.

162 *Cassell & Co v Broome* [1972] AC 1027 (HL) 1085.

163 Harassment Act, s 3(2).

The factual scenario employed throughout Part III concerns a case where A's separated biological materials (X) are used either for the creation of a cell-line without A's consent, or in research of which A does not approve. If either event occurs, it is conceivable that A could suffer emotional distress. The question then becomes whether a tort of intentional infliction of emotional distress could offer A any meaningful protection. Closer analysis suggests that the application of an intentional tort is unlikely to provide substantial protection.

The first element of the projected tort would require that the person who uses X to have formed an intention to inflict emotional distress on A. An intention to perform the non-consensual act (research or cell-line creation) is not sufficient. In most of the practical situations considered here, researchers use separated biological materials for medical and scientific research. It is highly unlikely that they would possess the requisite intention to inflict emotional distress. The second element of the proposed tort would stipulate that A to have suffered severe emotional distress. Again, it may be difficult to establish severe emotional distress (even though this standard is more easily met than the requirement of a psychiatric illness under the law of negligence).

Even assuming that these elements can be satisfied, the question remains: what compensation should be available for a tort of intentional infliction of emotional distress? Lord Hoffmann deliberately left this question open in *Wainwright*,[164] and there is little guidance in English law as to what principles should guide the quantum of such damages. It is therefore useful to consider analogous damage awards. In the context of the duty of confidence, damages have been awarded for

---

164 *Wainwright* (n 119 above) 426.

injury to feelings. Recently, in *Archer v Williams* Jackson J observed that such awards are likely to be modest:

> General damages for injury to feelings should be kept to a modest level and should be proportionate to the injury suffered. Such awards should be well below the level of general damages for serious physical or psychiatric injury.[165]

In the event that the two elements of the suggested tort of intentional infliction of emotional distress could be established, then by analogy it is likely that English law would provide at most a modest award of damages. Although this thesis does not explore the question of remedies in any detail, English law may also provide a remedy for the suggested tort by way of an injunction to prevent the future infliction emotional distress.[166]

3 Summary

There are two interests that English law could and arguably should protect in relation to separated biological materials: (1) autonomy; and (2) freedom from emotional distress. This section has examined whether existing causes of action in English law could be extended to provide meaningful protection. First, the section considered wrongs that protect autonomy. *Campbell*, *Rees* and *Chester* all demonstrate the increasing importance of autonomy in English law. Analysis showed that neither the duty of confidence nor the tort of battery should logically be extended to provide protection in respect of separated biological materials. A better avenue may be an award of damages for the loss of autonomy in the law of negligence, by way of analogy with *Rees*.

---

165 *Archer v Williams* [2003] EWHC 1670; [2003] EMLR 38, [76] (Jackson J).

166 A Burrows 'Judicial Remedies' in P Birks (ed) *English Private Law* (OUP Oxford 2000) 877-879.

The section then examined the protection of emotional distress in English law and outlined three potential causes of action. The first of these—deriving from the *Wilkinson* principle—has been incorporated into the English law of negligence. Second, the statutory tort of harassment cannot provide protection in the context of separated biological materials. Third, the section considered a separate tort for the intentional infliction of emotional distress. A similar tort has developed in the US which has been applied in the context of dead bodies. An intentional tort is unlikely, however, to offer substantial protection for the misuse of separated biological materials. Thus the current limitations of English law warrant exploring the creation of additional liability.

D Developing Liability

This final section considers whether English law can offer protection for separated biological materials through the creation of a new tortious head of liability. The thesis acknowledges that English common law is not readily open to the recognition of new forms of liability because the extension of liability is generally considered a matter for Parliament alone.[167] This section explores the common law and statutory avenues that are available.

1 Common Law

There is at present no recognizable tort of non-consensual use of separated biological materials in the common law jurisdictions of England, Australia or the US. Part II noted Canadian and Scottish decisions concerning the tort of wrongful interference

---

167 *Wainwright* (n 119 above) 423 (Lord Hoffmann); *Malone v Metropolitan Police Commissioner* [1979] Ch 344, 372 (Megarry V-C).

with a cadaver,[168] but these judgments do not provide persuasive comparative judicial authority. First, they only concern interference with cadavers and not living persons. Second, and perhaps more significantly, the existence of a tort of wrongful interference with cadavers is a matter of contention even in these jurisdictions, and has been questioned by a wide spectrum of academic commentators.[169] The potential for a separate common law tort of wrongful interference with separated biological materials was raised in Chapter 4. In *AB*, the claimants argued that there should be a tort of wrongful interference with cadavers in English law, although they based the existence of this wrong on the law of conversion and, hence, on alleged property rights.[170]

This chapter is concerned instead with the protection of non-proprietary interests in separated biological materials. The following analysis examines the potential shape that new tortious liability could take and it is divided into three parts. The first part considers the protected interests. The next part considers the conduct which should attract liability. The third part concludes by sketching the elements of the proposed liability.

(a) Protected Interests

Autonomy and freedom from emotional distress have already been identified as the two non-proprietary interests that individuals have over separated biological materials. Although an individual may suffer emotional distress following the non-

---

168 *Edmonds v Armstrong Funeral Home* [1931] 1 DLR 676 (Alb SC); *Pollok v Workman* (1900) 5th Series Vol II 355 (Court of Session).

169 GHL Fridman *The Law of Torts in Canada* (Carswell Toronto 2002) 81 (Canada); JK Mason, RA McCall-Smith and GT Laurie *Law and Medical Ethics* (6th edn Butterworths London 2002) 437 (Scotland).

170 *AB v Leeds Teaching Hospital NHS Trust & Cardiff & Vale NHS Trust* [2004] EWHC 644 (QB) [152].

consensual use of biological materials, it is more appropriate for the infliction of emotional distress to be protected through the development of a tort of general application. Such a general tort of intentional infliction of emotional distress was discussed in the previous section and could apply in the specific context of non-consensual use of biological materials. Autonomy is the other individual interest that this chapter identified. Although the law of negligence offers one avenue of protection for autonomy, the protection of an individual's autonomy over separated biological materials warrants more specific protection under English law.

The previous section identified the circumstances in which English law already protects an individual's autonomy. The duty of confidence provides individuals with a right to control confidential information, while the law of battery provides individuals with a right to control invasions of their bodies. The law of negligence also protects the right of individuals to determine the size of their families. These are three concrete examples of English law protecting individual autonomy. The first section of this chapter noted that English law has recognized a living person's continued interests in separated biological materials. Specifically, the HTA 2004 has established a statutory regime that (in broad terms) requires persons who wish to use separated biological materials to obtain the consent of the individual from whom those materials were removed. This, however, raises a subsequent question: how can English law develop liability in order to better protect this continued interest?

(b) Conduct

The answer to this question lies, in part, by determining the conduct to which liability should attach. The spectrum of conduct includes: (1) intentional conduct; (2) reckless conduct; (3) negligent conduct; and (4) accidental conduct. A tort that encompassed all four would be classified as a strict liability tort. The common law is

generally reluctant to impose a strict liability rule and, as Lord Goff observed in *Cambridge Water Co v Eastern Countries Leather plc*,[171] as a general principle, it is more appropriate for Parliament rather than the courts to impose new forms of strict liability.[172]

For present purposes it is not necessary to use a principle of strict liability, in order to allow for accidental conduct to be covered by the proposed tort. There must be a strong justification for such liability. Sufficient protection can, however, be provided to individuals without the imposition of a strict liability rule in the context of non-consensual use of biological materials. This conclusion is consistent with the approach of Parliament as evidenced in the HTA 2004. Even though the HTA 2004 provides for the prosecution of criminal offences, it offers defences where a person 'reasonably believes' either that appropriate consent has been obtained for the activity being performed, or that obtaining such consent is not necessary.[173]

This thesis also considers that it is not necessary for liability to encompass negligent conduct. Negligent conduct can be adequately addressed through the tort of negligence as discussed in the previous section.[174] Thus, liability under the new tort should be limited to the intentional or reckless non-consensual use of separated biological materials.

Reckless conduct is included in the suggested tortious liability on the basis that 'reckless indifference to consequences is as blameworthy as deliberately seeking such consequences'.[175] In tort, recklessness is usually sufficient to establish liability

---

171 [1994] 2 AC 264 (HL).

172 *Cambridge Water* (n 171 above) 305.

173 HTA 2004, s 5(1).

174 See notes 81-106 and accompanying text.

175 *Three Rivers v Bank of England (No 3)* [2003] 2 AC 1 (HL) 192 (Lord Steyn).

for an intentional tort.[176] The distinction between intentional and reckless conduct, should however, be noted. To this end, the American *Restatement of Torts Second* is illuminating. There, conduct is defined as intentional when a person either desires to cause particular consequences of their act, or they believe that the consequences are substantially certain to result from it.[177] Conduct is defined as reckless when the person is aware of the potential consequences of the act but is indifferent to the outcome, whether they happen or not.[178] Returning to the factual scenario, an act will therefore be reckless where B believes that consent has not been obtained (for the use of biological materials) from A, but proceeds to use the biological materials nevertheless. Intentional and reckless conduct covers the spectrum of behaviour to adequately protect individuals without using the extreme mechanism of strict liability.

(c) Elements

Thus far, this thesis has concluded that an individual's autonomy is the central interest that the proposed liability ought to protect and that liability should only extend to intentional and reckless conduct. This part sketches the elements of the suggested liability. In essence, the proposed wrong that the tort should redress may be characterized as the intentional or reckless non-consensual use of separated biological materials. This definition can be broken down into two elements.

First, biological materials must be separated from a living person. The requirement for physical detachment immediately raises the question of what bodily

---

176 AM Dugdale 'Principles of Liability in Tort' in AM Dugdale (ed) *Clerk and Lindsell on Torts* (18th edn Sweet & Maxwell London 2000) 30.

177 *Restatement of Torts Second*, § 8A.

178 *Restatement of Torts Second*, § 500.

materials fall within the scope of the tort. This thesis is particularly concerned with the non-consensual use of separated biological materials in the context of medical and scientific research. There is no reason in principle why a tort could not also extend to the non-consensual use of other separated bodily materials such as body parts, even though the current discussion is limited to biological materials.

The second element of the tort stipulates that the defendant must use the biological materials with knowledge (or reckless indifference) that no consent has been obtained. Biological materials are likely to be used most frequently in research, as in the factual scenario analysed throughout Part III. B's use of X for research constitutes a non-consensual use of A's separated biological materials. It would therefore satisfy the second element of the tort proposed here. In the event that B has a reckless disregard for whether A's consent has been obtained, then liability should also attach. For careless conduct, the law of negligence offers an appropriate vehicle for protection. The thesis acknowledges that the concepts of negligence and recklessness intersect and in some situations conduct may be categorized as both reckless and negligent.

The creation of new liability also raises the issue of defences. It is submitted that a defence should lie in the event that the claimant consented to the use of separated biological materials. The doctrine of consent would therefore assume a primary role in determining liability, as it does in the context of battery.[179] In a criminal context, the HTA 2004 has recognized the pivotal role of consent for rendering lawful the use of separated biological materials for the scheduled purposes covered by the Act.

In a similar way, the common law doctrine of consent could also be applied in the context of civil liability for the non-consensual use of separated biological

---

179 See note 71 of Chapter 3 and accompanying text.

materials. The difficult question in this context will be establishing what level of information B must provide for A's consent to be legally effective. Drawing on the standards established under the HTA 2004, by analogy it would seem sufficient if B disclosed to A that X was to be used for research purposes. Chapter 6 noted that the level of information required to be disclosed under the HTA 2004 will be determined by the Human Tissue Authority in the form of a Code of Practice.[180] The requisite standard for a proposed tort may draw on the standard set by the Human Tissue Authority. This thesis contends that in any event, the guiding principle should be that each individual has the right to control what his or her separated biological materials are used for. On the basis of this guiding principle, it is likely, for example, that B should be required to disclose whether X will be used for commercial purposes or the creation of a cell-line. It suffices to note for present purposes that, assuming B discloses sufficient information to A so as to constitute effective consent, then a defence to the proposed tort should exist.

Finally, the creation of liability suggested here also raises the issue of remedies. It is not possible to engage with this question in any detail. In *Rees*, the House of Lords held that damages can be awarded for the infringement of an individual's autonomy. An analogy can be developed with *Rees*. As in *Rees*, an award of damages for the proposed tort should flow from the infringement of autonomy. The quantum of damages is a difficult question that also cannot be fully explored here. It is unlikely, though, that a fixed sum (as was awarded in *Rees*) provides a satisfactory solution. There will be different factual scenarios. A fixed sum cannot hope to provide a level of compensation capable of general application because the quantum of damages should relate to the particular circumstances of the claimant. There is not

---

180 See note 21 of Chapter 6 and accompanying text.

an established body of jurisprudence in English law (or other jurisdictions) concerning the award of compensation for the loss of autonomy. Even cases that have awarded compensation for the tort of battery provide limited guidance.[181] In any event, in the context of the factual scenario presented in this chapter it is likely that compensation would be relatively modest. As with the intentional infliction of emotional distress, an injunction (to prevent future misuse) would also provide further protection.

As was acknowledged earlier, English courts are reluctant to establish new forms of liability. This hesitation may be heightened by the fact that Parliament had the opportunity to consider the creation of civil liability for misuse of separated biological materials (through the HTA 2004) but established only criminal sanctions. Accordingly, the final part of this chapter considers statutory intervention.

2 Statute

In the event that English courts are reluctant to fashion new liability (as was the case in *Wainwright*), Parliament has two options. The first is to amend the DPA. The second is the development of a separate statutory tort of intentional or reckless non-consensual use of separated biological materials.

(a) DPA Amendment

Chapter 5 concluded that at present it is not possible for 'data' to be interpreted under the DPA to include separated biological materials.[182] Estonia includes biological materials in its definition of data for the purposes of the Gene Bank

---

181 See, for example: *Mallette v Schullman* (1996) 67 DLR (4th) 321 (Ontario SC) [48].

182 See notes 171-186 of Chapter 5 and accompanying text.

legislation,[183] and in a common law context, the Australian state of New South Wales includes genetic samples within its legislative definition of 'information'.[184] In England, it would be necessary to extend the definition of 'data' in the DPA by way of statutory amendment in order to include separated biological materials.

A report produced for the Nuffield Trust concluded that genetic materials should not be considered data.[185] It is submitted that there are benefits nevertheless to such an extension, and the advantages of extending this privacy protection have been recognized by research undertaken in the US.[186] The regulation of biological materials means that legal obligations arise at the point of collection of the physical materials, rather than at the point of extraction of genetic information. One benefit, therefore, of amending the DPA would be to increase the privacy protection of individuals, because individuals or corporations who come into possession of biological materials would have to comply with obligations under the DPA whether or not they extract genetic information from the materials.

The broad aim of the DPA is to ensure the protection of individual privacy,[187] and the importance of the concept of privacy (in the context of the DPA) was emphasized by the Court of Appeal in *Durant v Financial Services Authority*.[188] In response to this decision, the Information Commissioner issued a public statement confirming the centrality of the concept of privacy to the definition of 'personal

---

183 Human Genes Research Act 2000 (*Inimgeeniuuringuteseadus*, RT I 2000, 104, 685).

184 Health Records and Information Privacy Act 2002 (NSW) s 5(2); Privacy and Personal Information Act 1998 (NSW) s 4(2).

185 W Lowrance *Learning from Experience: Privacy and the Secondary Use of Data in Health Research* (Nuffield Trust London 2002) 34-35.

186 J Hustead, A Cunningham and J Goldman *Genetics and Privacy: A Patchwork of Protections* (California HealthCare Foundation Oakland 2002) 27.

187 *Hansard* HC Deb vol 310 col 531 (20 April 1998). See also: *Campbell v MGN Ltd* [2003] QB 633, 664 (Phillips LJ).

188 [2003] EWC Civ 1746 (CA) [4].

data'.[189] In this way, the DPA gives statutory recognition to the need to protect individual privacy and ensures this protection by establishing an individual's statutory rights to control and to access private information. Extending the statutory definition of 'data' to include separated biological materials would strengthen existing privacy protection.

A second benefit of amending the DPA 'data' definition is that the same legal requirements would be required for the use of both biological materials and information extracted from those materials. In *R (S)*, Baroness Hale recognized the desirability of such consistency when she observed that the same privacy principles should apply to the use of samples as to information.[190] Academic commentary has also acknowledged that a common set of legal rules would also be beneficial for researchers.[191] Amending the DPA as suggested above would offer such consistency.

One objection to the suggested amendment is that this extension would confuse the protection that the law affords to informational privacy with that afforded to bodily integrity. Even though this objection was raised earlier in the context of the duty of confidence, a statutory regime offers greater flexibility. Biological materials are a unique source of personal genetic information and, as such, warrant privacy protection. Such a statutory development would not impact upon, or interfere with, the law's protection of the right to bodily integrity. It would simply recognize the unique nature of biological materials as sources of information.

Importantly, though, the statutory proposal considered here would only extend an individual's *privacy* protection over separated biological materials. A living

---

189 Information Commissioner 'The *Durant* Case and its Impact on the Interpretation of the Data Protection Act' (Office of Information Commissioner London 2 February 2001) 2.

190 [2004] UKHL 39; [2004] 1 WLR 2196 (HL) [68]-[70].

191 T Hervey and J McHale *Health Law and the European Union* (CUP Cambridge 2004) 188.

person may wish to control separated biological materials for many reasons other than privacy concerns. The opening section noted that these reasons may include abstaining from participation in particular forms of research or preventing the immortalization of biological materials in cell-lines. Even if amended in the manner this section recommends, the DPA would not provide individuals with a sufficient degree of control over separated biological materials to address additional interests such as these. Separate legislative intervention would be necessary for such purposes.

(b) Statutory Tort

The final option for English law lies in the development of a specific statutory tort as a new head of liability. This statutory tort could be based upon the definition and elements outlined above in relation to a common law tort. It is not possible, nor necessary, in this chapter to set out a detailed statutory proposal. Instead, the analysis conducted here has focused on identifying instances where it would be appropriate for the law to protect an individual's interests in separated biological materials, and has identified the underlying principles that should be recognized and reflected in English law.

It is unfortunate that Parliament did not consider the creation of civil liability in the recent parliamentary debates concerning the HTA 2004. The offences included in the HTA 2004 accorded with those recommended by the Department of Health.[192] The Government's principal concern in drafting the HTA 2004 was to set up a regulatory regime to ensure that events such as the organ retention scandal which

---

192 HC Standing Committee G, col 131-135 (29 January 2004) (Andrew Lansley).

occurred at the Alder Hey hospital do not occur again.[193] Although the HTA 2004 addresses these concerns, the question of what non-proprietary interests individuals retain over separated biological materials remains unaddressed. The regulatory regime that will be established under the HTA 2004 will not and should not be the end of the story.

3 Summary

This section has canvassed potential common law and statutory avenues for the development of liability for the non-consensual use of separated biological materials. In summary, the proposed common law or statutory liability has two key features. First, the interest that such liability should protect is the ongoing right of autonomy that individuals retain in respect of separated biological materials. The second key feature is that liability should only apply in relation to intentional or reckless conduct.

E Conclusion

There is potential for English law to develop so as to protect a living person's non-proprietary interests in separated biological materials. Two interests warrant legal protection: autonomy and freedom from emotional distress. These interests were considered separately. In relation to autonomy, the chapter noted that English law does not recognize a generalized right to privacy, but instead views autonomy and human dignity as underlying interests informing the development of English law. The duty of confidence and the tort of battery should not, however, be over-stretched to protect separated biological materials. If a claimant can establish a

---

193 HTA 2004, Explanatory Notes, [5]. See also: HL Grand Committee, col 454 (15 September 2004) (Lord Warner).

negligence claim, then, drawing on *Rees*, English law can provide compensation for the loss of autonomy.

Next, the chapter examined the protection of a freedom from emotional distress. Neither the *Wilkinson* principle nor harassment can be invoked here. There is scope, nevertheless, for the future development of a specific, separate tort in English law for the intentional infliction of emotional distress. It is unlikely, however, that such a tort would offer meaningful protection in the context of separated biological materials.

In the alternative, the chapter considered the development of liability in English law to protect against the infringement of an individual's autonomy concerning separated biological materials. The principal difficulty here rests in securing legal recognition that an individual retains a right to control the use and disposal of separated biological materials. Although developments in English law (including the HTA 2004) support the development of new liability, it is likely that English courts will defer to Parliament.

To enhance privacy protection, the definition of 'data' in the DPA should be expanded to include separated biological materials. Providing individuals with broader protection beyond privacy concerns requires the creation of separate statutory liability. To this end, the most appropriate path now appears to rest with amendment of the HTA 2004 to include civil liability.

Part III is now complete. The view developed here is that English law can and should develop a rational structure for separated biological materials based on property rights. Although English law can provide non-proprietary protection, limitations in the English law of wrongs suggest that Parliamentary intervention may be necessary. Only the concluding chapter remains. Its task is to draw together the three parts of the thesis.

CHAPTER 10

CONCLUSION

The treatment of separated biological materials in English law requires urgent reform. This urgency is broadly borne of two factors: first, the powerful and intersecting individual, medical research and societal interests in this area; and second, the haphazard and inconsistent development of the law to date. The overarching question that this thesis has addressed is: what property rights and non-proprietary interests does the separation of biological materials from living persons generate?

The thesis divided into three parts. Part I established the theoretical foundation for the thesis and set out the legal principles that protect property rights and the right to bodily integrity. Importantly, Part II then demonstrated that English law does not provide a clear set of legal principles for determining the legal status of, and rights pertaining to, biological materials that have been separated from a living person. Regrettably, the uncertainty set out in Chapters 4 and 5 has informed the development of the Human Tissue Act 2004 c 30 (HTA 2004).

Part III then sought to develop and articulate a more rational foundation for the creation of property rights to separated biological materials in English law. This thesis has argued that English law can recognize the creation of property rights in respect of biological materials. The work or skill exception should not, however, be adopted as the governing principle. Not only is this exception a misapplication of the specification doctrine, the exception is also incapable of general application. Chapter 8 examined two other principles to explain the creation of property rights: (1) the

detachment principle; and (2) the detachment plus intention principle. Both principles offer a more coherent foundation for the creation of property rights than the work or skill exception. The thesis then proceeded to demonstrate how these property principles could be applied in the practical context of scientific and medical research.

Finally, Chapter 9 examined the potential protection of a living person's non-proprietary interests in separated biological materials. English law can develop so as to protect such interests although analysis demonstrated the limitations that exist for the protection of an individual's non-proprietary interests.

The thesis acknowledges that there is a tide of legislative policy running against the recognition of property rights in human biological materials. These policy considerations are however, within the context of the legal treatment of biological materials, second-level concerns. They should not, it has been submitted, inhibit English law from recognizing the creation of property rights as a matter of legal principle.

BIBLIOGRAPHY

1 BOOKS, BOOK CHAPTERS, AND DISSERTATIONS

Austin J, *Austin's Lectures on Jurisprudence or the Philosophy of Positive Law* Campbell R (ed) (5th edn Murray London 1885)

Bailey JB, *The Diary of a Resurrectionist* (Swan Sonnenschein & Co London 1986)

Baker JH, *An Introduction to English Legal History* (4th edn Butterworths London 2002)

Barton C and G Douglas, *Law and Parenthood* (Butterworths London 1995)

Becker LC, *Property Rights: Philosophical Foundations* (Routledge London 1977)

Bell AP, *Modern Law of Personal Property in England and Ireland* (Butterworths London 1989)

Bell GJ, *Principles of the Law of Scotland* (10th edn Butterworths Edinburgh 1899)

Benjamin J, *Interests in Securities: A Proprietary Analysis of the International Securities Markets* (OUP Oxford 2000)

Benson P, 'Philosophy of Property Law' in J Coleman and S Shapiro (eds) *The Oxford Handbook of Jurisprudence and Philosophy of Law* (OUP Oxford 2002)

Beyleveld D and R Brownsword, *Human Dignity in Bioethics and Biolaw* (OUP Oxford 2001)

Birks P, 'Definition and Division: A Meditation on Institutes 3.13' in P Birks (ed) *The Classification of Obligations* (OUP Oxford 1995)

Birks P, 'Mixtures' in N Palmer and E McKendrick (eds) *Interests in Goods* (2nd edn LLP London 1998)

Birks P, 'Receipt' in P Birks and A Pretto (eds) *Breach of Trust* (Hart Publishing Oxford 2002)

Birks P, *Unjust Enrichment* (OUP Oxford 2003)

Blackstone W, *Commentaries on the Laws on England* (9th edn Oxford 1783)

Brazier M, *Medicine, Patients and the Law* (3rd edn Penguin Books London 2003)

Bridge MG, *Personal Property Law* (3rd edn OUP Oxford 2002)

Burn R, *Ecclesiastical Law* (9th edn Sweet & Stevens Dublin 1842)

Burrows A, 'Judicial Remedies' in P Birks (ed) *English Private Law* (OUP Oxford 2000)

Burrows A, *Remedies for Torts and Breach of Contract* (3rd edn OUP Oxford 2004)

Carey Miller DL, *Corporeal Moveables in Scots Law* (W Green Edinburgh 1991)

Chambers R, 'Conditional Gifts' in N Palmer and E McKendrick (eds) *Interests in Goods* (2nd edn LLP London 1998)

Chambers R, 'Tracing and Unjust Enrichment' in JW Neyers, M McInnes and SGA Pitel (eds) *Understanding Unjust Enrichment* (Hart Publishing Oxford 2004)

Chambers R, 'Integrating Property and Obligations' in A Robertson (ed) *The Law of Obligations: Connections and Boundaries* (UCL Press London 2004)

Coke E, *The Third Part of the Institutes of the Laws of England* (4th edn London 1669)

Cooper GM, *The Cell: A Molecular Approach* (3rd edn Sinauer Massachusetts 2004)

Cornish W, *Intellectual Property: Omnipresent, Distracting, Irrelevant?* (OUP Oxford 2004)

Davies J, 'Tort' in P Birks (ed) *English Private Law* (OUP Oxford 2000)

Davies M and N Naffine, *Are Persons Property? Legal Debates about Property and Personality* (Ashgate Dartmouth Aldershot 2001)

Dickens B, 'Donation and Transplantation of Organs and Tissues' in A Grubb (ed) *Principles of Medical Law* (2nd edn OUP Oxford 2004)

Dorries C, *Coroners' Courts* (2nd edn OUP Oxford 2004)

Dugdale AM, 'Principles of Liability in Tort' in AM Dugdale (ed) *Clerk and Lindsell on Torts* (18th edn Sweet & Maxwell London 2000)

Dworkin RM, *Law's Empire* (Harvard University Press Cambridge 1986)

Edelman J, *Gain-Based Damages* (Hart Publishing Oxford 2002)

Eisenberg RS, 'Patents on DNA Sequences: Molecules and Information' in N Elkin-Koren and NW Netanel (eds) *The Commodification of Information* (Kluwer Law International Hague 2002)

Feinberg J, *The Moral Limits of the Criminal Law* (OUP Oxford 1986)

Fisher W, 'Theories of Intellectual Property' in SR Munzer (ed) *New Essays in the Legal and Political Theory of Property* (CUP Cambridge 2001)

Fleming J, *The Law of Torts* (9th edn LBC Sydney 1998)

Fridman GHL, *The Law of Torts in Canada* (Carswell Toronto 2002)

Gardner S, *An Introduction to the Law of Trusts* (2nd edn OUP Oxford 2002)

Gleeson S, *Personal Property Law* (FT Law & Tax London 1997)

Goode R, *Hire-Purchase Law and Practice* (2nd edn Butterworths London 1972)

Goode R, *Commercial Law* (3rd edn Butterworths London 2004)

Grubb A, 'Consent to Treatment: The Competent Patient' in A Grubb (ed) *Principles of Medical Law* (2nd edn OUP Oxford 2004)

Hansson M and M Levin (eds), *Biobanks As Resources for Health* (Research Program Ethics in Biomedicine Uppsala 2003)

Harris JW, *Property and Justice* (Clarendon Press Oxford 1996)

Hegel GWF, *Philosophy of Right* TM Knox (tr) (Clarendon Press Oxford 1967)

Hervey T and J McHale, *Health Law and the European Union* (CUP Cambridge 2004)

Honoré AM, 'Ownership' in AG Guest (ed) *Oxford Essays in Jurisprudence* (OUP Oxford 1961)

Jackson E, *Regulating Reproduction* (Hart Publishing Oxford 2001)

Jones JW, *The Salmon* (Collins London 1959)

Kant I, *Foundations of the Metaphysics of Morals* LW Beck (tr) (2nd edn Prentice Hall New Jersey 1989)

Kennedy I and A Grubb, *Medical Law* (3rd edn Butterworths London 2000)

Laurie G, *Genetic Privacy* (CUP Cambridge 2002)

Lawson FH and B Rudden, *The Law of Property* (3rd edn OUP Oxford 2002)

Linden AM, *Canadian Tort Law* (5th edn Butterworths Toronto 1993)

Locke J, *Second Treatise of Government* Gough GW (ed) (Blackwell Oxford 1976)

Magnusson R, 'Property Rights in Human Corpses' in N Palmer and E McKendrick (eds) *Interests in Goods* (2nd edn LLP London 1998)

Mason JK, RA McCall-Smith and GT Laurie, *Law and Medical Ethics* (Butterworths London 1999)

Matthews P, 'The Legal and Moral Limits of Common Law Tracing in P Birks (ed) *Laundering and Tracing* (Clarendon Press Oxford 1995)

McHale J, 'Clinical Research' in A Grubb (ed) *Principles of Medical Law* (2nd edn OUP Oxford 2004)

McMeel G, 'The Redundancy of Bailment' in A Hudson (ed) *New Perspectives on Property Law, Obligations and Restitution* (Cavendish Publishing London 2004)

Merz JF, 'On the Intersection of Privacy, Consent, Commerce and Genetics Research' in BM Knoppers (ed) *Populations and Genetics: Legal Socio-Ethical Perspectives* (Kluwer Legal International New York 2003)

Mill JS, 'Principles of Political Economy: With Some of Their Applications to Social Philosophy' in JM Robson (ed) *Collected Works of John Stuart Mill* (Routledge London 1965)

Morgan D, *Issues in Medical Law and Ethics* (Cavendish London 2000)

Mullany NJ and PR Handford, *Tort Liability for Psychaitric Damage* (LBC Sydney 1993)

Munzer S, *A Theory of Property* (CUP Cambridge 1990)

Munzer S, 'Property, Patents and Genetic Material' in J Burley and J Harris (eds) *A Companion to Genethics* (Blackwell Oxford 2002)

Nicholas B, *An Introduction to Roman Law* (Clarendon Press Oxford 1962)

Nigri DF, 'Theft of Information and the Concept of Property in the Information Age' in JW Harris (ed) *Property Problems: From Genes to Pension Funds* (Kluwer Law International London 1997)

Nozick R, *Anarchy, State and Utopia* (Blackwell Oxford 1974)

O'Neill O, *Autonomy and Trust in Bioethics* (CUP Cambridge 2002)

Ossorio PN, 'Property Rights and Human Bodies' in D Magnus et al (eds) *Who Own Life* (Prometheus Books New York 2002)

Palmer N, *Bailment* (2nd edn Sweet & Maxwell London 1991)

Palmer N, 'Information as Property' in N Palmer and E McKendrick (eds) *Interests in Goods* (2nd edn LLP London 1998)

Palmer N and A Hudson, 'Improving Stolen Chattels' in N Palmer and E McKendrick (eds) *Interests in Goods* (2nd edn LLP London 1998)

Penner JE, *The Idea of Property in Law* (2nd edn Clarendon Press Oxford 1997)

Pollock F and RS Wright, *An Essay on Possession in the Common Law* (Clarendon Press Oxford 1888)

Posner R, *Economic Analysis of Law* (5th edn Aspen New York 1998)

Pretto A, 'Primary Rights and Rights in Rem' in P Birks and A Pretto (eds) *Themes in Comparative Law* (OUP Oxford 2002)

Pretto A, *Boundaries of Personal Property: Shares and Sub-Shares* (Unpublished D Phil University of Oxford 2002)

Rabinow P, *Making PCR: A Story of Biotechnology* (University of Chicago Press Chicago 1996)

Radin MJ, *Reinterpreting Property* (University of Chicago Press Chicago 1993)

Radin MJ, *Contested Commodities* (Harvard University Press Boston 1996)

Rawle FC, 'UK DNA Sample Collections for Research' in BM Knoppers (ed) *Populations and Genetics: Legal and Social-Ethical Perspectives* (Kluwer Legal International New York 2003)

Reid KGC, *The Law of Property in Scotland* (Butterworths Edinburgh 1996)

Richardson M, 'Owning Secrets: 'Property' In Confidential Information' in A Roberston (ed) *The Law of Obligations: Connections and Boundaries* (UCL Press London 2004)

Richardson R, 'Fearful Symmetry, Corpses for Anatomy: Organs for Transplantation' in SJ Youngner (ed) *Organ Transplantation: Meaning and Realities* (University of Wisconsin Press Madison 1996)

Richardson R, *Death, Dissection and the Destitute* (Phoenix Press London 2001)

Rudden B, 'Things as Thing and Things as Wealth' in JW Harris (ed) *Property Problems: From Genes to Pension Funds* (Kluwer Law International London 1997)

Salmond JW, *Jurisprudence* (Stevens & Haynes London 1902)

Scott R, *The Body as Property* (Allen Lane London 1981)

Simmons AJ, 'Original Acquisition Justifications of Private Property' in EF Paul, FD Miller and J Paul (eds) *Property Rights* (CUP Cambridge 1994)

Smith SA, *Contract Theory* (OUP Oxford 2004)

Stein P (ed), WW Buckland A *Textbook of Roman Law from Augustus to Justinian* (3rd edn CUP Cambridge)

Steinbock B, 'Sperm as Property' in J Harris and S Holm (eds) *The Future of Human Reproduction* (Clarendon Press Oxford 2000)

Swadling W, 'Property' in P Birks (ed) *English Private Law* (OUP Oxford 2000)

Tettenborn A, 'Wrongful Interference with Goods' in AM Dugdale (ed) *Clerk and Lindsell on Torts* (18th edn Sweet & Maxwell London 2000)

Thorne SE (ed), *Bracton on the Laws and Customs of England* (Harvard University Press Cambridge 1968)

Tyler E and N Palmer, *Crossley Vaines' Personal Property* (5th edn Butterworths London 1973)

Van der Merwe GG, 'Law of Things and Servitudes' in R Zimmermann and D Visser (eds) *Southern Cross: Civil Law and Common Law in South Africa* (OUP Oxford 1996)

Waldron J, *The Right to Private Property* (Clarendon Press Oxford 1988)

Walker DM, *The Law of Delict in Scotland* (2nd edn Green & Son Edinburgh 1981)

Walsh JP, WM Cohen and A Arora, 'Licensing Research Tools and Biomedical Innovation' in S Merrill, R Levin and M Meyers (eds) *Innovation in a Knowledge Based Economy* (National Academy Press Washington 2003)

Warby M et al, 'Privacy and Confidentiality' in M Tugendhat and I Christie (eds) *The Law of Privacy and the Media* (OUP Oxford 2002)

Weir T, 'The Staggering March of Negligence' in P Cane and J Stapleton (eds) *The Law of Obligations* (Clarendon Press Oxford 1998)

Worthington S, *Equity* (OUP Oxford 2003)

Wright J, *Tort Law and Human Rights* (Hart Publishing Oxford 2001)

Yiend J and Dalgleish T, 'Grief, stress and post-trautmatic stress disorder' in A Warrell et al (eds) *Oxford Textbook of Medicine* (4th edn OUP Oxford 2003)

Younger SJ, MW Anderson and R Schapiro (eds), *Transplanting Human Tissue* (OUP New York 2004)

2 ARTICLES

—'UKCCCR Guidelines for the Use of Cell Lines in Cancer Research' (2000) 82 British Journal of Cancer 1495

Arneson R, 'Lockean Self-ownership: Towards a Demolition' (1991) 39 Political Studies 36

Arnold EC, 'Law of Possession Governing the Acquisition of Animals Ferea Naturae' (1921) 55 American Law Review 393

Barbour V, 'UK Biobank: A Project in Search of a Protocol' (2003) 361 Lancet 1734

Beyleveld D and E Histed, 'Anonymisation is not Exoneration' (1999) 4 Medical Law International 69

Birks P, 'The Roman Law Concept of Dominium and the Idea of Absolute Ownership' [1985] Acta Juridica 1

Birks P, 'Harassment and Hubris: The Right to an Equality of Respect' [1997] Irish Times 1

Bloustein EJ, 'Privacy as an Aspect of Human Dignity: An Answer to Dean Prosser' (1964) 39 New York University Law Review 962

Boukhart B, 'What is Property' (1990) 13 Harvard Journal of Law and Public Policy 775

Cardon LR and JI Bell, 'Association Study Designs for Complex Diseases' (2001) 2 Nature Reviews 91

Carpenter ML, 'Petersen v Sioux Valley: Reckless Infliction of Emotional Distress' (1993) 38 South Dakota Law Review 359

Chandwick RF, 'The Market for Bodily Parts: Kant and Duties to Oneself' (1989) Journal of Applied Philosophy 129

Cohen FS, 'Dialogue on Private Property' (1954) 9 Rutgers Law Review 357

Collins A, C Lonjou and NE Morton, 'Genetic Epidemiology of Single-Nucleotide Polymorphisms' (1999) 96 Proceedings of the National Association Science 15173

Danforth MT, 'Cells, Sales, and Royalties: The Patient's Right to a Portion of the Profits' (1988) 6 Yale Law and Policy Review 179

Dickens B, 'The Control of Living Body Materials' (1977) 27 University of Toronto Law Journal 142

Drexler HG, Y Matsuo and RAF MacLeod, 'Continuous Hematopoietic Cell Lines as Model Systems for Leukemia-Lymphoma Research' (2000) 24 Leukemia Research 881

Drexler HS and RAF MacLeod, 'Leukemia-lymphoma Cell Lines as Model Systems for Hematopoietic' (2003) 35 Annuals of Medicine 404

Dworkin G and I Kennedy, 'Human Tissue: Rights in the Body and its Parts' [1993] 1 Medical Law Review 291

Dyer C, 'Human Tissue Bill is Modified because of Research Needs' (2004) 328 British Medical Journal 1518

Epstein R, 'Possession as the Root of Title' (1979) 13 Georgia Law Review 1221

Feldman D, 'Human Dignity as a Legal Value—Part I' [1999] Public Law 682

Feldman D, 'Human Dignity as a Legal Value—Part II' [2000] Public Law 61

Feng TK, 'Failure of Medical Advice: Trespass or Negligence' (1987) 7 Legal Studies 149

Gitter DM, 'Ownership of Human Tissue: A Proposal for Federal Recognition of Human Research Participants' Property Rights in Their Biological Material' (2004) 61 Washington and Lee Law Review 257

Glazebrook PR, '*Wilkinson v Downton*: A Centenary Postscript' (1997) 32 Irish Jurist 46

Gold R, 'Owning Our Bodies: An Examination of Property Law and Biotechnology' (1995) 32 San Diego Law Review 1167

Goldberg D, 'A Classification of Psychological Distress for Use in Primary Care Settings' (1992) 35 Social Science and Medicine 189

Grantham RB and CEF Rickett, 'Property Rights as a Legally Significant Event' (2003) 62 Cambridge Law Journal 717

Greely HT, 'Iceland's Plan for Genomics Research: Facts and Implications' (2000) 40 Jurimetrics 153

Grubb A, 'Theft of Body Parts: Property and Dead Bodies' (1998) 6 Medical Law Review 247

Grubb A, 'I, Me, Mine: Bodies, Parts and Property' (1998) 3 Medical Law International 299

Guest AG, 'Accession and Confusion in the Law of Hire Purchase' (1964) 27 Modern Law Review 505

Handford PR, '*Wilkinson v Downton* and Acts Calculated to Cause Physical Harm' (1985) 16 University of Western Australia Law Review 31

Hammond C, 'Property Rights in Human Corpses and Human Tissue: The Position in Western Australia' (2002) 4 University of Notre Dame Australia Law Review 97

Hardiman R, 'Toward the Right of Commerciality: Recognising Property Rights in the Commercial Value of Human Tissue' (1986) 34 UCLA Law Review 207

Hartley LC et al, 'Collection of Buccal Cell DNA Using Treated Cards' (2000) 9 Cancer Epidemoil 501

Hohfeld WN, 'Some Fundamental Legal Conceptions As Applied in Judicial Reasoning' (1913) 23 Yale Law Journal 16

Hori S, T Nomura and S Sakaguchi, 'Control of Regulatory T cell Development by the Transcription Factor Foxp3' (2003) 299 Science 1057

Hosono S et al, 'Unbiased Whole-Genome Amplification Directly from Clinical Samples' (2003) 13 Genome Research 954

Holloway JE and DC Guy, 'The Utility and Validity of TDRs under the Takings Clause (2002) 11 Pennsylvania State Environmental Law Review 45

Horton J, 'A Personhood Analysis of Property Rights in the Human Body' (1995) 11 Canadian Intellectual Property Review 213

Hudson A, 'Is Divesting Abandonment Possible at Common Law' (1984) 100 Law Quarterly Review 110

Hughes J, 'The Philosophy of Intellectual Property' (1988) 77 Georgetown Law Journal 287

Huttner KM, GA Scangos and FH Ruddle, 'DNA-Mediated Gene Transfer of a Circular Plasmid into Murine Cells' (1979) 76 National Academy of Sciences USA 5820

Jaffey P, 'In Rem Claims to Wealth and Surviving Value' [2002] Current Legal Problems 263

Jones J, 'Common Constitutional Traditions: Can the Meaning of Human Dignity Under German Law Guide the European Court of Justice' [2004] Public Law 167

Kahn J, 'Law and Authority in Patenting Human Genetic Material' (2003) 14 Stanford Law and Policy Review 417

Kennedy IM, 'Further Thoughts on Liability for Non-Observance of the Provisions of the Human Tissue Act 1961' (1976) 16 Medicine, Science and Law 49

Korts K et al, 'Genetic Databases and Public Attitudes: A Comparison of Iceland, Estonia and the UK' (2004) 8 Journal of the Humanities and Social Sciences 131

Lasken RS and M Egholm, 'Whole Genome Amplification: Abundant Samples of DNA from Precious Samples or Clinical Specimens' (2003) 21 Trends in Biotechnology 531

Lehmann U and H Kreipe, 'Real-Time PCR Analysis of DNA and RNA Extracted from Formalin-Fixed and Paraffin-Embedded Biopsies' (2001) 25 Methods 409

Liddell K, D Menon and R Zimmern, 'The Human Tissue Bill and the Mental Capacity Bill' (2004) 328 British Medical Journal 1510

MacKnight KT, 'The Polymerase Chain Reaction (PCR): The Second Generation of DNA Analysis Methods Takes the Stand' (2003) 20 Santa Clara Computer and High Technology Law Journal 95

Magnusson RS, 'The Recognition of Proprietary Rights in Human Tissue in Common Law Jurisdictions' (1992) 18 Melbourne University Law Review 601

Mahoney J, 'The Market for Human Tissue' (2000) 86 Virginia Law Review 163

Marusyk RW and MS Swain, 'A Question of Property Rights in the Human Body' (1989) 21 Ottawa Law Review 351

Mason K and G Laurie, 'Consent or Property? Dealing with the Body and its Parts in the Shadow of Bristol and Alder Hey' (2001) 64 Modern Law Review 710

Matthews P, 'Whose Body? People as Property' (1983) 36 Current Legal Problems 193

Matthews P, 'The Man of Property' [1995] Medical Law Review 251

McEwen JE and PR Reilly, 'Stored Guthrie Cards as DNA Banks' (1994) 55 American Journal of Human Genetics 196

McHale J, 'Waste, Ownership and Bodily Products' (2000) 8 Health Care Analysis 123

McHale J, 'Regulating Genetic Databases: Some Legal and Ethical Issues' (2004) 12 Medical Law Review 70

Merrill TW and HE Smith, 'The Property/Contract Interface' (2001) 101 Columbia Law Review 773

Naldini L et al, 'In Vivo Gene Delivery and Stable Transduction of Non-dividing Cells by a Lentiviral Vector' (1996) 272 Science 263

Nederhand RJ et al, 'Logistics and Quality Control for DNA Sampling in Large Multicentre Studies' (2003) 1 Journal of Thrombosis and Haemostasis 987

Netanel N, 'Alienability Restrictions and the Enhancement of Author Autonomy in United States and Continental Copyright Law' (1994) 12 Cardozo Arts and Entertainment Law Journal 1

Nitz G and C Dierks, 'Research Involving Substances Taken from the Human Body: When is the Consent of the Person from Whom They Are Removed Required?' (2002) 8 Medical Review 400

Nwabueze R, 'Biotechnology and the New Property Regime in Human Bodies and Body Parts' (2002) 24 Loyola of Los Angeles International and Comparative Law Review 19

Orfao A and A Ruiz-Arguelles, 'General Concepts About Cell Sorting Techniques' (1996) 29 Clinical Biochemistry 5

Palmer TG, 'Are Patents and Copyrights Morally Justified? The Philosophy of Property Rights and Ideal Objects' (1990) 13 Harvard Journal of Law and Public Policy 817

Penner JE, 'The Bundle of Rights Picture of Property' (1996) 43 UCLA Law Review 711

Pennington R, 'Can Shares in Companies Be Defined' (1989) 10 Company Lawyer 140

Pergament D, 'Its Not Just Hair: Historical and Cultural Considerations for an Emerging Technology' (1999) 75 Chicago-Kent Law Review 41

Price D, 'From Cosmos and Damian to Van Velzen: The Human Tissue Saga Continues' (2003) 11 Medical Law Review 1

Prosser WL, 'Intentional Infliction of Mental Suffering—A New Tort' (1939) 37 Michigan Law Review 874

Radin MJ, 'Market-Inalienability' (1987) 100 Harvard Law Review 1849

Rao R, 'Property, Privacy and the Human Body' (2000) 80 Boston University Law Review 359

Raz J, 'Incorporation by Law' (unpublished paper 2004)

Ricketson S, 'Confidential Information—A New Proprietary Interest' (1977) 11 Melbourne University Law Review 223

Robling MR et al, 'Public Attitudes Towards the Use of Primary Care Patient Record Data in Medical Research Without Consent: A Qualitative Study' (2004) 30 Journal of Medical Ethics 104

Roche P, L Glantz and G Annas, 'The Genetic Privacy Act: A Proposal for National Legislation' (1996) 31 Jurimetrics 1

Rudden BA, 'Things as Thing and Things as Wealth' (1994) 14 Oxford Journal of Legal Studies 81

Ryan A, 'Self-ownership, Autonomy and Property Rights' (1994) 11 Social Philosophy and Policy 241

Schunemann HJ et al, 'Short-term Storage of Blood Samples and DNA Isolation in Serum Separator Tubes for Application in Epidemiological Studies and Clinical Research' (2000) 10 Ann Epidemiol 538

Skene L, 'Arguments Against People Legally "Owning" Their Own Bodies, Body Parts and Tissues' (2002) 2 Macquarie Law Journal 165

Skene L, 'Proprietary Rights in Human Bodies, Body Parts and Tissue' (2002) 22 Legal Studies 102

Smith HW, 'Problems of Proof in Psychiatric Injury Cases' (1963) 14 Syracuse Law Review 586

Smith MJ, 'Population-Based Genetic Studies: Informed Consent and Confidentiality' (2001) 18 Santa Clara Computer and High Technology Law Journal 57

Smith SA, 'Taking Law Seriously' (2000) 50 University of Toronto Law Journal 241

Stern K, 'Strict Liability and the Supply of Donated Gametes' [1994] Medical Law Review 261

Terry SF and CD Boyd, 'Researching the Biology of PXE: Partnering in the Process' (2001) 106 American Journal of Medical Genetics 177

Terry SF, 'Learning Genetics' (2003) 22 Health Affairs 166

Thomas JAC, 'Form and Substance in Roman Law' (1966) 19 Current Legal Problems 145

Townshend-Smith R, 'Harassment as a Tort in English and American Law: The Boundaries of Wilkinson v Downton' (1995) 24 Anglo-American Law Review 299

Trinidade FA, 'Intentional Torts: Some Thoughts on Assault and Battery' (1982) 2 Oxford Journal of Legal Studies 211

Tung JW et al, 'New Approaches to Fluoresence Compensation and Visualization of FACS Data' (2004) 110 Clinical Immunology 277

Turner JWC, 'Some Reflections on Ownership in English Law' (1941) 19 Canadian Bar Review 342

Ulph J, 'Retaining Property Rights at Common Law Through Mixtures and Changes' [2001] Lloyd's Commercial and Maritime Law Quarterly 449

Van der Merwe C, 'Nova Species' (2004) 2 Roman Legal Tradition 97

Wagner DM, 'Property Rights in the Human Body: The Commercialization of Organ Transplantation and Biotechnology' (1995) 33 Duquesne Law Review 931

Warren SD and LD Brandeis, 'The Right to Privacy' (1890) 4 Harvard Law Review 193

Warren-Jones A, 'Patenting DNA: A Lot of Controversy Over a Little Intangibility' (2004) 12 Medical Law Review 97

3 OFFICIAL REPORTS AND WORKING PAPERS

American Law Institute, *Second Restatement on the Law of Torts 2d* (American Law Institute Washington 1965)

Australian Law Reform Commission, *Human Tissue Transplants* (ALRC Report 7 Canberra 1977)

Australian Law Reform Commission, *Essentially Yours: The Protection of Human Genetic Information* (ALRC 96 Australian Government Publishing Service Canberra 2003)

Bristol Royal Infirmary Inquiry, *Report of the Royal Liverpool Children's Inquiry* (January 2001)

Chief Medical Officer, *The Removal, Retention and use of Human Organs and Tissue from Post-mortem Examination* (Department of Health London 2001)

Chief Medical Officer, *Report of a Census of Organs and Tissues Retained by Pathology Services in England* (Department of Health London 2001)

Department of Health, *Human Bodies, Human Choices: The Law on Human Organs and Tissue in England and Wales* (Department of Health London 2002)

Department of Health, *Proposals for New Legislation on Human Organs and Tissues* (Department of Health London 2003)

Department of Health, *Protocol for the UK Biobank* (Department of Health London February 2002)

Department of Health, *UK Biobank Ethics and Governance Framework* (Department of Health London September 2003)

House of Lords Select Committee on Science and Technology, *Human Genetic Databases: Challenges and Opportunities* (HMSO London 2001)

Human Fertilisation and Embryology Authority, *Code of Practice* (6th edn HFEA London 2003)

Human Genetics Commission, *Public Attitudes to Human Genetic Information – People's Panel Quantitative Study Conducted for the Human Genetics Commission* (HGC London 2001)

Human Genetics Commission, *Inside Information* (HGC London 2002)

Independent Review Group, *Retention of Organs at Post-Mortem Final Report* (Edinburgh November 2001)

Information Commissioner, *The Durant Case and its Impact on the Interpretation of the Data Protection Act* (Office of Information Commissioner London February 2001)

Law Commission, *Liability for Psychiatric Illness* (Report 249 1998)

Law Reform Committee, *Conversion and Detinue* (18th Report Cmnd 4774, 1971)

Lowrance W, *Learning from Experience: Privacy and the Secondary Use of Data in Health Research* (Nuffield Trust London 2002)

New Zealand Law Commission, *Coroners* (New Zealand Law Reform Commission Report 62 Wellington 2000)

New Zealand Ministry for Health, *Review of the Regulation of Human Tissue and Tissue-based Therapies* (New Zealand Ministry of Health Discussion Paper Wellington 2004)

Nuffield Council on Bioethics Human, *Tissue: Ethical and Legal Issues* (Nuffield Council on Bioethics London 1995)

Parry B et al, *A Critique of the Human Tissue Bill: A Discussion Paper* (Cambridge Genetics Knowledge Park Cambridge 2004)

Redfern Inquiry into the Royal Liverpool Children's NHS Trust-Alder Hey (January 2001) (available at www.rlcinquiry.org.uk)

Retained Organs Commission, *Tissue Blocks and Slides: A Consultation Paper* (NHS London November 2002)

Scottish Law Commission, *Report on Damages for Psychiatric Injury* (Scottish Law Commission Report No 196 Edinburgh August 2004)

UK Biobank, *Sample Handling and Storage Protocol and Recommendations* (UK Biobank Manchester July 2004)

US Congress Office of Technology Assessment, *New Developments in Biotechnology: Ownership of Human Tissue and Cells – Special Report* (US Government Printing Office Washington DC 1987)

4 GENERAL NEWS

–'Nelson hair fetches 5,000 pounds' *The Times* (19 February 1988)

Boseley S, 'Payments Plan for Egg Donors' *The Guardian* (6 November 2004)

Moss L, 'Tissue Bill Amended Amid Research Fears' Scotsman (23 June 2004) (available at http://news.scotsman.com/latest.cfm?id=3104403)

Onion A, 'Should You Own Your Own Genes' ABC News (US) (10 May 2001) (available at http://www.abcnews.go.com/sections/News/ geneprivacy.html)