

Misuse of Genetic Information: The Common Law and Professionals' Liability

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I. INTRODUCTION

Whether one begins in the United States or focuses on the law in other nations, one discovers something about genetics and the law. It is a field that has been, or is proposed to be, the subject of close regulation. The assumption is that public policy obliges a reform of the law because the body of present law is not responsive to present or emerging problems arising from our rapidly expanding knowledge of the human genome.¹ In civil law jurisdictions, a regulatory response is not surprising. But in common-law jurisdictions, usually suspicious of close state regulation, legislation is commonly promoted to avoid the dangers of genetic information.²

For those interested in analyzing the possible contribution of tort law, immediate and interesting questions are posed. Why is it that the reforms proceed by legislative edict? How far may tort law fill the gaps and provide remedies for wrongful use of genetic information? And, a second order question: What is the potential impact of tort law on any legislative remedies adopted or proposed? The common law of torts will provide avenues for redress independent of legislative regimes and at the same time will influence the implementation of those regimes. Little attention has been given to either set of questions.

This paper focuses on genetic information in two controversial areas — insurance and employment. In contrast to most scholarship, this paper does not recommend thoroughgoing law reform. I am not opposed to reform, nor am I an advocate for the status quo. The first part of the article recommends an approach, a prolegomenon, to the issue of genetic information and the law. The second part suggests that tort law can make a major contribution to address contemporary and future issues surrounding the misuse of genetic information. Ge-

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1. Jeremy A. Colby, *An Analysis of Genetic Discrimination Legislation Proposed by the 105th Congress*, 24 AM. J.L. & MED. 443, 444 (1998) (analyzing laws not written with regard to genetic discrimination).

2. See, e.g., Patrik S. Florencio & Erik D. Ramanathan, *Secret Code: The Need for Enhanced Privacy Protections in the United States and Canada to Prevent Employment Discrimination Based on Genetic and Health Information*, 39 OSGOODE HALL L.J. 77 (2001); AUSTRALIAN LAW REFORM COMM'N, DISCUSSION PAPER 66: PROTECTION OF HUMAN GENETIC INFORMATION (2002) (proposing the creation of an advisory regulatory body and detailing reforms) [hereinafter ALRC DISCUSSION PAPER].

netic information about individuals is almost exclusively created by the application of professional scientific skill. Individuals are tested in various contexts ranging from scientific programs, to pregnancy and conception, to criminal investigation.³ In these contexts a professional has applied his expertise to the carrying out and interpretation of the genetic test. Therefore, the professional duties of that person — a physician, researcher — loom large. Those duties are owed to the person whose genetic make-up is being determined. In this paper, I examine insurance and employment wherein genetic information may be used to deny or revoke insurance coverage or employment. Since the information usually has come to the insurer or employer via a professional, what duty does the professional have if the information is used in a way detrimental to the parties' or subjects' interests? It is an apposite time to require of professionals and persons receiving highly sensitive and private information a strict fiduciary obligation placing the duty to the patient or client as paramount. The optimal use of genetic information is dependent on trust, a rare element of social capital in the era of Enron and related corporate scandals.⁴

This paper will suggest that American courts should attend to comparative law in breach of confidence and to the strict fiduciary duties imposed on confidential information. Further, a rule that prohibits discrimination must carefully attend to the contexts of employer and insurer. Law must be assessed with incentives already in place that lead actors to avoid identified vices in discrimination. Social norms and market forces are critical in employment and insurance. Just as genetic information is mushrooming, employment and insurance markets are dynamic. Fear of the misuse of genetic information ought not blind policymakers to the benefits that are bestowed by the genetic revolution.⁵

The method of obtaining genetic information is rooted in the present day and near future. In a rapidly expanding scientific universe, it

3. See Jennifer M. Jendusa, *Pandora's Box Exposed: Untangling the Web of the Double Helix in Light of Insurance and Managed Care*, 49 DEPAUL L. REV. 161 n.71 (1999) (citing THE COUNCIL OF STATE GOVERNMENTS, *ADVANCES IN GENETIC INFORMATION: A GUIDE FOR STATE POLICY MAKERS* 6, 23, 81-83 (Steven R. Brown & Karen Marshall eds., 1993) (quoting Francis Crick)).

4. See generally FRANCIS FUKUYAMA, *THE GREAT DISRUPTION: HUMAN NATURE AND THE RECONSTITUTION OF SOCIAL ORDER* (1999) (setting forth the essential role of trust in governmental institutions). For a discussion of the function of social capital, see Jason Mazzone, *Freedom's Associations*, 77 WASH. L. REV. 639, 701-11 (2002). For the complexity of corporate failure, see William W. Bratton, *Enron and the Dark Side of Shareholder Value*, 76 TUL. L. REV. 1275 (2002).

5. Norman M. Bradburn, *Medical Privacy and Research*, 30 J. LEGAL STUD. 687 (2001) (recognizing privacy, but advocating a balance to allow sharing of information); Cass R. Sunstein, *Privacy and Medicine: A Comment*, 30 J. LEGAL STUD. 709, 714 (2001) (advocating for recognition of informal sanctions in the confidentiality of information in the doctor/patient relationship); *All Things Considered: DNA Search* (NPR radio broadcast, Sept. 18, 2001) (reporting on the revolution in genetic DNA identification techniques that may allow identification of the victims of the 9/11 terrorist attack).

is possible to envisage that individuals in advanced western nations will have access to “multiplex” genetic tests that will provide reliable information and that will give individuals information about genetic susceptibilities.⁶ This brave new world diminishes the regulatory ability of the law as individuals become profligate with the information. It also undermines the monopoly position of the physician. However, the lesson of social complexity is that professionals are more heavily leaned upon to diagnose and advise. Thus, the professional will continue to have a central role and, indeed, the skill to be applied to interpret, diagnose, and advise on this rapidly expanding pool of information will become demanding.

II. PART ONE

A. *The Nature of Tort Law*

Tort law is the journeyman of the law. It is asked to do many jobs. Its methods are often innovative and have changed the face of the law. But tort is often brought to bear awkwardly to social problems rendering half-baked, sometimes expensive, solutions. It is, as Calabresi has said, the law for a mixed system that opts for liability over fixed property rights, and thus compatible with skepticism of social engineering.⁷

Before the age of legislation, tort was a prime tool of the courts to transform the law to the needs of society.⁸ In medieval times, the courts operated within the constraints of the writ system and the powerful role of the jury.⁹ In the rapidly industrializing society of the late eighteenth and nineteenth centuries, the courts responded by developing the foundations of the law of negligence. This law, responding to the rash of accidents with the growth of cities and factories, began to address demands of safety and compensation.¹⁰ Legislative intervention was confined to the margins of the law; for example, legislation giving women an ability to sue in their own right¹¹ or establishing a

6. Colin S. Diver & Jane Maslow Cohen, *Genophobia: What is Wrong with Genetic Discrimination?*, 149 U. PA. L. REV. 1439, 1456-57 n.55 (2001); ALRC DISCUSSION PAPER, *supra* note 2, at 89-90, 160.

7. Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089 (1972). This article has spawned a large body of literature.

8. See D.J. IBBETSEN, *A HISTORICAL INTRODUCTION TO THE LAW OF OBLIGATIONS* 57 (1999).

9. See *id.* at 49-50; Michael Lobban, *The Strange Life of the English Civil Jury, 1837-1914*, in “THE DEAREST BIRTH RIGHT OF THE PEOPLE OF ENGLAND”: THE JURY IN THE HISTORY OF THE COMMON LAW 173, at 193-209 (John W. Cairns & Grant McLeod eds., 2002) (describing reform of the civil jury responding to historical inadequacies).

10. John Fabian Witt, *Toward a New History of American Accident Law: Classical Tort Law and the Cooperative Firstparty Insurance Movement*, 114 HARV. L. REV. 690, 726-66 (2001) (describing tort law’s response to workplace accidents, post Civil War).

11. Married Women’s Property Act, 1882, 45 & 46 Vict., c. 75 (Eng.).

right to contribution between tortfeasors.¹² The most extensive intrusion occurred with the workers compensation revolution,¹³ as it was seen that labor and management had a mutual interest in providing no-fault compensation to workers injured on the job.¹⁴

More recently, in the mid-twentieth century, the courts in the United States took judicial activism to a high level when, prompted by forceful judicial actors, a receptive legal academy, and an optimistic and booming post-war economy, they shifted to strict liability for defective products.¹⁵ That revolution continues to be absorbed as courts have adopted institutions to grant redress for mass torts.¹⁶ Often the courts in the United States were the vanguards of change, prompting feckless legislatures to either respond or acquiesce in the court-led revolution.¹⁷

Elsewhere in the common-law world, the courts were reluctant to make major innovations.¹⁸ In the civil-law world, the subservience of courts to the legislature guaranteed that little would be done until the political will was present. In relation to defective products, the European Economic Community adopted a convention that standardized product liability law throughout the member states. The law does not exactly track United States law, but was inspired by the United States experiment.¹⁹ Outside Europe, in Australia and Canada, the law of negligence prevailed, but law reform commissions and legal academics urged a stricter form of liability.²⁰ United States court innovations

12. For a detailed listing of statutes in the United States, see *Northwest Airlines, Inc. v. Transportation Workers Union of America*, 451 U.S. 77, 86 n.17 (1981).

13. George L. Priest, *The Invention of Enterprise Liability: A Critical History of the Intellectual Foundations of Modern Tort Law*, 14 J. LEGAL STUD. 461, 465-68 (1985).

14. See generally Richard A. Epstein, *The Historical Origins and Economic Structure of Workers' Compensation Law*, 16 GA. L. REV. 775 (1982) (discussing the evolution of workers compensation law).

15. See generally Gary T. Schwartz, *The Beginning and the Possible End of the Rise of Modern American Tort Law*, 26 GA. L. REV. 601 (1992).

16. PETER H. SCHUCK, *THE LIMITS OF LAW: ESSAYS ON DEMOCRATIC GOVERNANCE* 363-73 (2000) (analyzing the mass tort phenomenon and the common law's response).

17. *Id.* at 360-63; John G. Fleming, *The Role of Negligence in Modern Tort Law*, 53 VA. L. REV. 815, 839 (bemoaning the lack of legislative guidance and referring to negligence as serving the goals of enterprise liability) (1967); cf. Heidi Li Feldman, *Market Driven Manufacturing: Big-Time Risk Creation, How It's Done, and What Negligence Law Can Do About It*, (work-in-progress, draft on file with author) (urging a stronger remedial regime).

18. See *Cartledge v. E. Jopling & Sons Ltd.*, [1963] A.C. 758 (H.L. 1962-63).

19. See JANE STAPLETON, *PRODUCT LIABILITY* 66-85 (1994); Jane Stapleton, *Products Liability in the United Kingdom: The Myths of Reform*, 34 TEX. INT'L L.J. 45 (1999) (assessing the impact of directive on product liability of The European Economic Community); cf. Anita Bernstein, *Restatement Redux*, 48 VAND. L. REV. 1663 (1995) (reviewing STAPLETON, *supra*).

20. In Australia, the Australian Law Reform Commission has recommended a strict liability regime for defective products. See AUSTRALIAN LAW REFORM COMM'N, REPORT NO. 51: *PRODUCT LIABILITY REPORT* (1989). These reforms still relied upon the common-law paradigm. The most radical reform was abolished and replaced with a non-fault compensation system along the lines of the New Zealand scheme first adopted in the early 1970s. See GEOFFREY PALMER, *COMPENSATION FOR INCAPACITY: A STUDY OF LAW AND SOCIAL CHANGE IN NEW ZEALAND AND AUSTRALIA* (1979); Jeffrey O'Connell & David F. Partlett, *An America's Cup for Tort Reform? Australia and America Compared*, 21 U. MICH. J.L. REFORM 443 (1988). The New Zealand legislation followed the recommendations of a Royal Commission inquiry. ROYAL

became the laboratory for legislative reform considerations.²¹

In the world of torts, many experiments have been conducted in the United States. Although the process is messy, with contending jurisdictions, the vying opinions of a large group of talented and contentious academics, and the overlay of a constitution embodying judicial review, that complexity brings with it benefits. Some rules that do not work can be reversed and courts can select from a menu delivered by the state jurisdictions.²²

Illustrating the dynamic rule of tort law was the subject of last year's Ahrens Tort Symposium – environmental protection.²³ The environment is protected by a mixed bundle of rules stemming from the common law, administrative regulation, and newly-crafted legislative rules. The United States courts have harnessed the rules to cover the gaps in environmental protection. Problems of standing or measurement and concept of damages cause the law to fall short in its purpose of optimally deterring harm to the environment.²⁴ Old nuisance rules have been invoked to deter environmental harm.²⁵ Where they may fail because of causation requirements, for example, the courts have been prepared to relax the common law doctrine.²⁶

However, the issue of the impact of tort law in the field of genetic information starkly contrasts with the interaction of tort law and environmental protection. In product liability, environmental protection, or accidents in the nineteenth century, an evolutionary process operated. Claims of unredressed harm accumulated. It became plain that the prevailing rule failed to protect persons from harm that was the bailiwick of tort law — physical or personal harm or injury. Over time, the courts, faced with mounting claims, devised ways to give vent to the claims. Although it took late twentieth century legal schol-

COMMISSION TO INQUIRE INTO AND REPORT UPON WORKERS' COMPENSATION (1967). For a critique, see James A. Henderson, Jr., *The New Zealand Accident Compensation Reform*, 48 U. CHI. L. REV. 781 (1981) (reviewing PALMER, *supra*).

21. See W. Kip Viscusi, *Toward a Diminished Role for Tort Liability: Social Insurance, Government Regulation, and Contemporary Risks to Health and Safety*, 6 YALE J. ON REG. 65 (1989).

22. The contentiousness of the law may be noted even in corporate law, where certainty is at a premium. While Australia has created mechanisms to establish centralized rules in corporate and security regulation, the law in the United States remains an amalgam of some federal regulation and state law, which permits competition between jurisdictions.

23. Kenneth S. Abraham, *The Relation Between Civil Liability and Environmental Regulation: An Analytical Overview*, 41 WASHBURN L.J. 379 (2002) (providing a review and starting point for a series of papers dealing with tort law and the environment).

24. Heidi Li Feldman, *Science and Uncertainty in Mass Exposure Litigation*, 74 TEX. L. REV. 1 (1995) (discussing class actions and punitive damages).

25. David Howarth, *Muddying the Waters: Tort Law and the Environment from an English Perspective*, 41 WASHBURN L.J. 469, 492-94 (2002).

26. See, e.g., *Michie v. Nat'l Steel Corp.*, 495 F.2d 213 (6th Cir. 1974); Michael Anderson, *Transnational Corporations and Environmental Damage: Is Tort Law the Answer?*, 41 WASHBURN L.J. 399, 409-10 (2002); Timothy Stoltzfus Jost, *Book Review*, 24 J. LEGAL MED. 127 (2003) (reviewing CAUSATION IN LAW & MEDICINE (Ian Freckelton & Danuta Mendelson eds., 2002)).

ars to place labels on tort law as optimally deterring unsafe conduct,²⁷ as internalizing the costs of enterprise,²⁸ and as compensating the victims of accidents,²⁹ the hand of these policies has driven policy-oriented courts to mold the law as the needs arose.³⁰ The process was one in which courts would receive claims over time that, in weight of numbers, would gain salience. Victims of accidents and environmental harm were isolated and often lacked the organizational power to make political responses. But the courts' amenability to the individual claimant, aided by the rights-oriented bar, was effective in producing information about wrongs.³¹ The process of claim and response in the common law provided a dynamic background for an array of scholarship proposing ways in which regulation may improve common law shortfalls.³²

It may then be asked, why is this not the process by which the "wrongs" created by the misuse of genetic information may be redressed? Claims could accumulate, abuses could be recorded, and legal liability thus justified. Courts could, over time, respond to the injustices caused by genetic information misuse. Yet the common-law claiming process that has served well elsewhere has not been employed.³³ Genetic information has been characterized as quite extraordinary.³⁴ Its potency calls for a special regime that cannot await

27. The literature on the economic analysis of tort law is now vast; major pioneers were Richard Posner and Guido Calabresi. Gary T. Schwartz, *Mixed Theories of Tort Law: Affirming Both Deterrence and Corrective Justice*, 75 TEX. L. REV. 1801, 1803 (1997).

28. Gregory C. Keating, *Distributive and Corrective Justice in the Tort Law of Accidents*, 74 S. CAL. L. REV. 193 (2000).

29. The literature is vast in England and in the common-law world, including Professor Atiyah's book, which was and continues to be influential. See generally PETER CANE, *ATYIAH'S ACCIDENTS, COMPENSATION AND THE LAW* (6th ed. 1999). Compensationists are critical of tort law in failing to deliver compensation dollars to accident victims in an efficient way. The asbestos imbroglio has undergirded the claim that common-law adjudication is not equal to the compensation task. This claim is undeniable. Tort law never had such ambitions. The Chief Justice of New South Wales, Jim Spigelman, has criticized negligence as embracing too much liability. J. J. Spigelman, *Negligence: The Last Outpost of the Welfare State*, 76 AUSTR. L.J. 432 (2002). For a constructive critique of the "reform" movement, suggesting a complex model for tort, see Angus Corbett, *The (Self) Regulation of Law: A Synergistic Model of Tort Law and Regulation*, 25 U. N.S.W. L.J. 616 (2002).

30. See generally OLIVER WENDELL HOLMES, *COMMON LAW* (1963) (discussing the strong realist movement in the United States law).

31. See generally THOMAS H. KOENIG & MICHAEL L. RUSTAD, *IN DEFENSE OF TORT LAW* (2001). For criticism of the deterrence function of a common law in environmental protection, see Christopher H. Schroeder, *Lost in the Translation: What Environmental Regulation Does That Tort Cannot Duplicate*, 41 WASHBURN L.J. 583 (2002).

32. See Heidi Li Feldman, *Pushing Drugs: Genomics and Genetics, the Pharmaceutical Industry, and the Law of Negligence*, 42 WASHBURN L.J. 575 (2003) (proposing a more capacious tort cause of action equal to the challenges of the modern marketing of consumer goods).

33. Not to imply that the common law has a superiority over legislation. Regulation of safety may be more efficient and fair than the cumbersome, rambling liability system. See W. KIP VISCUSI, *REFORMING PRODUCTS LIABILITY* 209-15 (1991); Schroeder, *supra* note 31, at 603-05 (extolling the virtues of a property-based approach).

34. Thomas H. Murray, *Genetic Exceptionalism and "Future Diaries": Is Genetic Information Different from Other Medical Information?*, in *GENETIC SECRETS: PROTECTING PRIVACY AND CONFIDENTIALITY IN THE GENETIC ERA* 60 (1997) (arguing that genetic exceptionalism is overly dramatic); Florencio & Ramanathan, *supra* note 2; see also ALRC DISCUSSION PAPER,

evolution, but must be created in anticipation.³⁵ It seems that the wrongs caused may be so profound that a legislative guard — a prophylaxis — is needed. To wait for a common-law process is unsafe. The prevailing paradigm for tackling issues arising from misuse of genetic information calls for early prophylaxis before powerful actors may exploit the uniquely intrusive information package represented by an individual's genetic makeup. The paradigm is impatient of the common-law evolutionary process and favors a fast track regulatory response.³⁶

B. Tort Law and Genetic Information

The mapping of the human genome is a continuing project of big science that promises momentous scientific breakthroughs,³⁷ potentially yielding profound benefits to human welfare.³⁸ It is of massive importance in understanding humankind. More pragmatically, it opens up new frontiers in the cure of genetically-related diseases.³⁹ It is broadly recognized that the mapping of the genome will have repercussions beyond scientific knowledge.⁴⁰ Thus, much has been published in recent years about the ethical and legal dimensions of the project. Many scholars have been encouraged to offer ideas, often provided by those who work in the area of bioethics with the emphasis on protecting the individual.⁴¹ National and international bodies have set forth reform agendas responsive to perceived threats.⁴² Much more than the prosaic arena of accident liability, the field is replete with writers presuming that newly-uncovered and multi-factual problems arising from scientific advances require fresh legal

supra note 2, at 195-220 (discussing exceptionalism, noting a move to middleground, and advocating a view that would treat issues in context).

35. A fear of the misuse of genetic information has kept many people from submitting to potentially useful genetic testing and research. Paul Steven Miller, *Is There a Pink Slip in My Genes? Genetic Discrimination in the Workplace*, 3 J. HEALTH CARE L. & POL'Y 225, 232-34 (2000).

36. Lawrence O. Gostin, *Health Information Privacy*, 80 CORNELL L. REV. 451 (1995); see also Lawrence O. Gostin & James G. Hodge, Jr., *Personal Privacy and Common Goods: A Framework for Balancing Under the National Health Information Privacy Rule*, 86 MINN. L. REV. 1439 (2002); cf. Lawrence O. Gostin et al., *The Nationalization of Health Information Privacy Protections*, 37 TORT & INS. L.J. 1113, 1120-21 (2002) (explaining the advantages of regulation and legislation over the common law for the protection of privacy); Bradburn, *supra* note 5.

37. U.S. DEP'T OF ENERGY OFFICE OF SCI., UNDERSTANDING OUR GENETIC INHERITANCE: THE U.S. HUMAN GENOME PROJECT (1990).

38. The National Human Genome Research Institute anticipates completing the sequencing of the human genome by April 2003. THE NAT'L HUMAN GENOME RES. INST., 50 YEARS OF DNA FROM DOUBLE HELIX TO HEALTH, at <http://www.genome.gov/10005139> (last visited Apr. 19, 2003).

39. Miller, *supra* note 35, at 226.

40. *Id.*

41. See ALRC DISCUSSION PAPER, *supra* note 2, at 309-15; NAT'L BIOETHICS ADVISORY COMM'N, CLONING HUMAN BEINGS (1997).

42. Convention for the Protection of Human Rights and Dignity of the Human Being With Regard to the Application of Biology and Medicine, Apr. 4, 1997, Eur. T. S. No. 164 [hereinafter Convention].

frameworks and regulatory bodies.⁴³ My suggestion is to consider a traditional evolutionary framework in addressing the scientific revolution unleashed by the mapping of the genome, at least in the area of the misuse of genetic information.

1. *Privacy*⁴⁴

Those most concerned about misuse of genetic information opt for a broad rule of secrecy or privacy.⁴⁵ Under a broad privacy rule, certain personal information should not be allowed to be weighed, even though relevant to a decision. For example, a genetic marker for Huntington's Disease is relevant for when a person is purchasing life or health insurance. However, if an individual has an absolute right of privacy, that information must be excluded. A strong version of privacy would proscribe its use, even if an individual agreed to its disclosure. George Annas has called for the recognition of a property right in one's genetic information. He would give this ownership right a priority over later control of genetic information once collected.⁴⁶ Outside the parameters of copyright, trademark, and patent, the courts have protected information generated by individuals or activities in respect of which they have invested.⁴⁷ These may be seen as precedents for including an individual's genetic information in a protective classification.

However, the analogy to these property cases is incomplete and may militate against a broad use of genetic information. Property rights have been created by the case law or legislation to promote the development and dissemination of information. Copyright and patent laws, for instance, are premised on the policy that, absent a property right, creators would lose their investment leading to an underproduc-

43. In the United Kingdom, see the Human Genetics Commission. In Europe, see the European Life Sciences High Level Group (the European Commission, Genetics and the Future of Europe (2001)). In the United States, President Clinton established the National Bioethics Advisory Commission and President Bush established the Council on Bioethics that commenced operation in 2002. In Canada, see the Canadian Biotechnology Advisory Committee, established 1999.

44. See generally Privacy Act of 1974, 5 U.S.C. § 552A; Americans with Disabilities Act, 42 U.S.C. § 12101 (1990) (addressing privacy rights for the disabled). See also *Norman-Bloodsaw v. Lawrence Berkeley Lab.*, 135 F.3d 1260, 1269 (9th Cir. 1998) (stating that a right to privacy "clearly encompasses medical information"). Privacy is the paradigm that is applied to medical records to prevent misuse of information that is there accumulated. The balance will be between privacy and appropriate use for public health and other public policy purposes. Gostin et al., *supra* note 36.

45. See June Mary Z. Makdisi, *Genetic Privacy: New Intrusion a New Tort?*, 34 CREIGHTON L. REV. 965 (2001).

46. George J. Annas, *Genetic Privacy: There Ought to Be a Law*, 4 TEX. REV. L. & POL. 9, 13 (1999).

47. The law is usually expressed under the rubric of "right of publicity." *E.g.*, *Memphis Dev. Found. v. Factors Etc., Inc.*, 616 F.2d 956 (6th Cir. 1980) (explaining the nature of the property right); *Lugosi v. Universal Pictures*, 603 P.2d 425, 431 (Cal. 1979) (discussing the right to market the name and likeness of an artist); *cf.* *Factors, Etc., Inc. v. Pro Arts, Inc.*, 579 F.2d 215 (2d Cir. 1978) (discussing the rights to merchandise name and image of a public figure).

tion of socially useful information. Similarly, the right of publicity at common law is aimed at allowing the individual to exploit the attributes that have been hard won by him. Generally, the genetic information is not intended to be exploited, but rather buried.⁴⁸ An individual's unique genome is not attached to or diminished by a property rule. To declare that an individual has a property right in his genome may carry, at most, symbolic force. It may, moreover, give an individual a right to bring an action for conversion if the genetic information is taken by another without consent. In contrast to Annas' aims, however, the consequence would be to exacerbate accumulation of genetic information. If the genetic information is property, it can presumably be sold, leading to a market in the information. Since the information comes costlessly to the individual, it is doubtful that he will place much value on it. If it is thought that an individual may not price the information accurately, some checks would be placed on alienation. Thus, the property concept is undermined by the restriction on alienability. Property concepts will underpin a market, but commodification is the last thing that genetic exceptionalists want.

A privacy rule will have an impact on the amount of genetic information that is generated. Without confidentiality, individuals are likely to be reluctant to be tested, although the extent of this reluctance is difficult to gauge.⁴⁹

The common law of privacy began in America in the late nineteenth century. Its academic roots have given it an instability that has been only partially rescued by Prosser's later classification of the tort.⁵⁰ The essence of privacy is the right to keep information away from the public domain. Genetic information is privately held, and its disclosure may be most embarrassing. Usually, however, the harm is not in a broad publication of the information to the public, but rather in its disclosure against interest to other parties who will use it to make a decision detrimental to a person. The harm may be aggravated by publication in the world at large, but the interest is invaded once the information is disclosed.

Insurers and employers will find such personal information of possible relevance.⁵¹ It is in the rarer case that an individual's genetic information may be of interest and disclosed to the media. In this

48. Daniel J. Solove, *Conceptualizing Privacy*, 90 CAL. L. REV. 1087 (2002). Privacy is a broader notion that turns on an idea of autonomy. The issue of field testing supposes that testing, revelation of genetic information, is a public good. Cf. Diver & Cohen, *supra* note 6, at 1470-71 (discussing the justification for the public subsidization of genetic testing).

49. Miller, *supra* note 35 at 232-34.

50. See William L. Prosser, *Privacy*, 48 CAL. L. REV. 383 (1960).

51. Jennifer Krumm, *Genetic Discrimination: Why Congress Must Ban Genetic Testing in the Work Place*, 23 J. LEGAL MED. 491 (2002) (describing employer's appetite for genetic information).

case, the privacy tort of false light or defamation may, quite conveniently, be invoked. Most likely, the media publication would reveal the genetic makeup of a public figure. The trend both in the United States and other western industrialized countries is to rely upon free speech as the overriding legal and social norm.⁵² In the United States, as in most jurisdictions, the publication will not be actionable in defamation if true. In a false light action, the facts may literally be true, but in the context in which published place the plaintiff in a false light.⁵³ The genetic profile of a public figure may or may not be relevant to the performance of her public office or public role. For example, a marker that predisposes a politician to depression has a relevance for performance in office. In most common-law jurisdictions, truth will be a good defense to a defamation or privacy action.⁵⁴ The publication of genetic information may also touch the reputation of other members of the family who may not share the public figure status, and thus they will succeed without showing that the material was published with actual malice. Even though the genetic information published is accurate, it is common that the implications arising from it are false. For example, a predisposition to depression will depend on both genetic and environmental factors, and an imputation, based upon genetic makeup alone, of unfitness for public office will be false.⁵⁵

It follows that a defamation or privacy action is not a potent legal weapon in protecting against the real mischief of genetic disclosure. The natural point of legal attack is at the uncovering of the information. Unless the information is voluntarily disclosed, someone has breached a duty of confidentiality, or somebody has unlawfully unlocked that confidential information. In the latter case, either an old action in trespass is available or a more modern privacy tort of intrusion.⁵⁶ The case is clear if someone unlocks confidential medical records. The problematical case occurs when an individual discards

52. See *N.Y. Times Co. v. Sullivan*, 376 U.S. 254 (1964). In Australia, see *Lange v. Australian Broadcasting Corp.*, (1997) 189 C.L.R. 520; *Levy v. Victoria*, (1997) 189 C.L.R. 579; *Theophanous v. Herald & Weekly Times Ltd.*, (1994) 182 C.L.R. 104. In England, see *Reynolds v. Times Newspapers Ltd.*, [2001] 2 A.C. 127 (H.L. 1998-99) (formulating a test granting a defense of qualified privilege in the publication of information that the public has a right to know).

53. *Cantrell v. Forest City Publ'g Co.*, 419 U.S. 245 (1974); cf. *Blakey v. Victory Equip. Sales, Inc.*, No. A02A2430, 2002 WL 31845230 (Ga. Ct. App. Dec. 20, 2002) (insisting on publication to the world at large; disclosure to credit agency not sufficient).

54. *Sutherland v. Stopes*, [1925] A.C. 47 (H.L. 1924). Some jurisdictions, e.g., New South Wales, require an additional element of "public benefit" or "public interest." Defamation Act 1974, § 15 (N.S.W.).

55. NAT'L ALLIANCE FOR THE MENTALLY ILL, MAJOR DEPRESSION, at <http://www.nami.org/helpline/depress.htm> (last reviewed May 2001). Under *Time, Inc. v. Hill*, 385 U.S. 374 (1967), the plaintiff must prove that the defendant knew of the falsity or acted with reckless disregard to it.

56. *Food Lion, Inc. v. Capital Cities/ABC, Inc.*, 194 F.3d 505 (4th Cir. 1999) (highlighting that the problematical aspect of the privacy tort is its trenching upon news-gathering); cf. Lyrissa Barnett Lidsky, *Prying, Spying, and Lying: Intrusive Newsgathering and What the Law Should*

an organ or leaves a bodily fluid that is then tested by another to determine its genetic makeup.⁵⁷ Because an individual is unlikely to discard an organ outside the context of a physician advising a patient, the law of fiduciary obligations or informed consent may give the patient — the discarder of the organ — some protection.⁵⁸ Subsequent genetic testing is certainly material in the decision of the patient, who will be protected from harm arising from disclosure and use or share in any gain arising from the exploitation of the genetic information.⁵⁹ In other contexts, the individual's bodily fluids will be surreptitiously collected. An analogy may be made to secretive surveillance techniques that will often constitute intrusion upon private space.

C. *Tying Down the Tort*

1. Breach of Confidence

The common-law tort of privacy will provide episodic protection against the misuse of genetic information. Randall Bezanson has argued that common privacy should give way to confidentiality as protecting the essential interest in the modern production of news.⁶⁰ The same argument applies with genetic information. A strong privacy rule that classifies genetic information as private and inalienable would be highly protective but at a high cost. Genetic information is a relatively new body of information that promises to mushroom in the future and become, at the same time, more reliable and therefore predictable. This has prompted many western nations to turn to the “control of, ownership of, and intellectual property rights in relation to human genetic samples and information.”⁶¹ In Australia, the Australian Law Reform Commission (ALRC) has been asked to report on protective steps in a broad number of contexts in which “the use of genetic information may be relevant, and of potential concern.”⁶² These include employment; health, including medical research, pharmaceuticals, and health administration; insurance or superannuation (pension funds); and law enforcement.

Do About It, 73 TUL. L. REV. 173 (1998) (discussing the threat to privacy presented by intrusive news gathering).

57. See generally Smith v. State, 510 P.2d 793 (Ala. 1973) (no expectation of privacy in trash); Gordon J. MacDonald, *Stray Katz: Is Shredded Trash Private?*, 79 CORNELL L. REV. 452 (1994).

58. Moore v. Regents of the Univ. of Cal., 793 P.2d 479, 483 (Cal. 1990) (holding that physician must disclose any research or economic interest that may affect the physician's professional judgment).

59. Any harm caused to the patient may be recovered in a negligence action based on a lack of informed consent. For a patient to have a right to share in a gain would require a breach of fiduciary analysis allowing for a disgorgement remedy.

60. See generally Randall P. Bezanson, *The Right to Privacy Revisited: Privacy, News, and Social Change, 1890-1990*, 80 CAL. L. REV. 1133 (1992).

61. ALRC DISCUSSION PAPER, *supra* note 2, at 75 (citing the terms of reference).

62. *Id.*

While the clamor is for protection, prudent policy recognizes that, like all information, accumulation, synthesis, and appropriate use of genetic information may be socially efficacious.⁶³ The appropriate scope of protection is defined by the interest of individuals to guard against misuse, not any use. The individual must be given control over the occasion for divulgence of genetic information. The rhetoric and mode of analysis under privacy is not responsive to the essential problem of misuse of genetic information.⁶⁴

Insurance and employment are two prime areas where genetic information may be misused. The information may be obtained in a relationship, giving rise to a legitimate expectation of confidentiality.⁶⁵ If that information is disclosed to another, the discloser is liable for breach of confidence. The real source of the obligation is in the confidential relationship between the parties; it is a fiduciary obligation arising in equity.⁶⁶ Some American courts see the origin as exclusively contractual or tortious. This is entirely understandable, given that an important branch of confidentiality derives from trade secrets, and American jurisprudence first viewed the area as falling within the Restatement of Torts and, thereafter, under the Restatement of Unfair Competition. The elements of the claim turn on the defendant acquiring the secret "under a duty of confidence."⁶⁷ Other instances, both in American law and elsewhere, are clearly contractual, as where the government or other entity enters into an agreement that information derived in the relationship shall not be disclosed.⁶⁸ Trade secrets and confidentiality agreements, however, are a subset of confidentiality.

Paul Finn has identified three tiers of duties of confidence.⁶⁹ In the first, confidence preserves and promotes values in relationships. Generally, these are denoted by professional relationships. Enforced secrecy ungirds these value-enhancing relationships. At the second tier, Finn identifies trade secrets, where confidence is linked with the maintenance of good faith mutual dealings. At a third tier, information in the hands of government may be subject to particular considerations. The first tier is that implemented in genetic information, as

63. Bradburn, *supra* note 5, at 694-97.

64. Professor Pauline Kim, in a trenchant article, suggests a privacy paradigm to protect against misuse, but her nuanced sense of privacy comports with the confidentiality argument presented here. See Pauline T. Kim, *Genetic Discrimination, Genetic Privacy: Rethinking Employee Protections for a Brave New Workplace*, 96 Nw. U. L. Rev. 1497, 1551 (2002).

65. Lord Denning M.R. put it thus: "[H]e who has received information in confidence shall not take unfair advantage of it. He must not make use of it to the prejudice of him who gave it without obtaining his consent." *Seager v. Copydex Ltd.*, [1967] F.S.R. 211, 220 (C.A. 1967).

66. FRANCIS GURRY, *BREACH OF CONFIDENCE* (1984); STANFORTH RICKETSON, *THE LAW OF INTELLECTUAL PROPERTY*, PART V (1984).

67. *RESTATEMENT (THIRD) OF UNFAIR COMPETITION* § 40 (1995).

68. *Snepp v. United States*, 444 U.S. 507 (1980) (agreement with CIA not to reveal secrets).

69. P.D. Finn, *Confidentiality and the "Public Interest"*, 58 AUST. L.J. 497, 508 (1984).

patients and clients consult with professionals and give permission to disclose and diagnose. One should not search for a contractual term, but, rather, ground the obligation in a fiduciary undertaking.⁷⁰

Liability for breach of confidence does not depend upon publicity given to the information. The harm is not the publicity, but the disclosure.⁷¹ The contours of the obligation turn on the definition of relationships generating the obligation, and when, and in what circumstances, information impressed with the obligation may nevertheless be disclosed.⁷² The potency of the law of confidence or confidentiality in protecting against misuse of medical information has been questioned. Professor Gostin and others, urging a privacy regime, state that the “duty of confidentiality is antiquated.”⁷³ The reason for this assessment stems from the authors’ assertion that “[c]onfidentiality is predicated on the existence of a physician/patient relationship” and their accurate observations that health care records contain information gathered from “primary and secondary sources: laboratories, pharmacies, schools, public health officials, researchers, insurers, and other individuals and institutions.”⁷⁴ The authors then conclude that the duty does not protect a patient from “disclosure by these secondary sources of data.”⁷⁵

The duty of confidence is described too narrowly in this criticism.⁷⁶ The duty is not limited to the physician/patient relationship, but extends to all relationships of confidence. These relationships are not closed. In recent English law, the duty is described as resting on a confidant in a sexual relationship.⁷⁷ Lord Woolf has stated that the duty of confidence arises “wherever the party subject to the duty is in a situation where he either knows or ought to know the other person

70. P.D. FINN, *FIDUCIARY OBLIGATIONS*, 130-31 (1977). Some have argued it should be conceptualized as a tort. Alan B. Vickery, Note, *Breach of Confidence: An Emerging Tort*, 82 COLUM. L. REV. 1426 (1982). It is not only the American courts that find the duty grounded in contract. See *Merryweather v. Moore*, [1892] 2 Ch. 518 (1892). The jurisprudence is eclectic. See Gareth Jones, *Restitution of Benefits Obtained in Breach of Another's Confidence*, 86 L. Q. REV. 463 (1970); John Glover, *Is Breach of Confidence a Fiduciary Wrong? Preserving the Reach of Judge-made Law*, 21 J. LEGAL STUD. 594 (2001). Breach of confidence, however, is to be contrasted with breach of fiduciary obligation. See also *Bullion v. Gadaletto*, 872 F. Supp. 303, 304, 306-07 (W.D. Va. 1995) (finding that a duty is recognized where defendant psychologist revealed patient's confidences to patient's wife to initiate a sexual liaison); cf. FINN, *supra*, at 166.

71. *Humphers v. First Interstate Bank of Oregon*, 696 P.2d 527, 536 (Or. 1985).

72. For a description, see DAVID F. PARTLETT, *PROFESSIONAL NEGLIGENCE*, 147-56 (1985). See also FINN, *supra* note 70, at 500-04.

73. Gostin et al., *supra* note 36, at 1121.

74. *Id.*

75. *Id.*

76. For a more capacious role for breach of confidence, see generally Megan Richardson, *Whither Breach of Confidence: A Right of Privacy for Australia?*, 26 MELB. U. L. REV. 381 (2002) (arguing that breach of confidence is superior in protecting rights of privacy and protecting free speech).

77. *A. v. B.*, [2003] Q.B. 195 (C.A. 2002). *But cf.* *Theakston v. MGN Ltd.*, [2002] E.M.L.R. 22 (Q.B. 2002) (stating there is no duty of confidence in a brothel to keep visit private).

can reasonably expect his privacy to be protected.”⁷⁸ The duty applies particularly to professional relationships. To be sure, some medical information is derived outside contexts of trust and confidence, but genetic information at this time requires the intervention of a professional and gives rise to the expectation that the information will be held strictly for the purposes of the relationship. Furthermore, the third parties receiving and using the information may be liable even where the information is innocently received. They must have been aware, or should reasonably have been aware, of the confidentiality of the information at the time of its receipt.⁷⁹

The information, in order to have protection, must be created or transferred exclusively for the purposes of the relationship. The interest at stake is the maintenance of relationships critical for self-realization in a society.⁸⁰ Organization of human and communal affairs depends upon individuals’ willingness to enter cooperative relationships with one another. The utility of the relationships will turn critically upon the freedom of information exchange and the confidence of the parties that the information will not be exploited for an ulterior purpose.⁸¹

Let us consider the following: If *A* is tested for the purposes of an impending birth or for a research project, the tester selling information to a prospective insurer or employer is in breach of confidence. Let us suppose that *A* agrees with *B* to undergo genetic testing in relation to a job application where that test is relevant to the safe performance of the job. Although controversial, the use of that information in deciding the employment of *A* by *B* breaches no common-law duty or, in most places, statutory obligations.⁸² If *B* should give that information to the health plan operators for insurance coverage, that disclosure is a breach of confidence.

Usually, the agent of *B* will be a physician or like professional. As we will see, that agent may have independent duties in tort of informed consent and reasonable warning. The physician’s status as professional *prima facie* will impose a duty of confidence.⁸³ Care must be taken to obtain *A*’s consent to the disclosure. The wider the

78. *A.*, [2003] Q.B. at 207 (citing Lord Goff in *Attorney-Gen. v. Guardian Newspapers (No. 2)*, [1990] 1 A.C. 109, 281 (H.L. 1988)); see also *Hellewell v. Chief Constable of Derbyshire* [1995] 1 W.L.R. 804, 809 (Q.B. 1994).

79. *Attorney-Gen.*, [1990] 1 A.C. at 148-50 (citing examples from Lord Goff); see also *Printers & Finishers Ltd. v. Holloway*, [1965] R.P.C. 239, 253 (C.H. 1965); *Nicrotherm Elec. Co. v. Percy* [1958] R.P.C. 272, 281 (C.H. 1958); GURRY, *supra* note 66, at 275-82; STEPHEN TODD, *PROTECTION OF PRIVACY IN TORTS IN THE NINETIES 190-96* (Nicholas J. Mullany ed., 1997).

80. CHARLES FRIED, *RIGHT AND WRONG 179-83* (1978) (drawing parallels between the lawyer/client relationship and friendship, both requiring selfless conduct).

81. See generally Charles J. Goetz & Robert E. Scott, *Enforcing Promises: An Examination of the Basis of Contract*, 89 *YALE L.J.* 1261 (1980) (discussing reduction of agency costs).

82. See Americans with Disabilities Act, 42 U.S.C. § 12112(d) (2000).

83. PARTLETT, *supra* note 72, at 144-45.

scope of disclosure, the greater *A*'s understanding must be. Because of the employment context, the relationship between *A* and *B* is often unequal in power, and thus, contractual and equitable doctrines will impose quite explicit requirements on *B* to insure the voluntariness and the understanding of the arrangement and its implications.⁸⁴

2. Discrimination

The second form of possible misuse is discrimination. Information is often used to make distinctions between individuals for hosts of social reasons. For example, law school admissions departments require information relating to test scores and life's experiences. This is not controversial until the basis for making distinctions strays into suspect classifications — race, gender, and ethnicity — for example.

In the provision of insurance and the job market, discrimination on the basis of genetic makeup has not loomed large in practice anywhere in the world.⁸⁵ However, among commentators, the fear of the use of information has been a major impetus for preemptory reform.⁸⁶ Insurers and employers are constantly, legally, and appropriately, discriminating to reduce risks and the associated costs.⁸⁷

The law of insurance recognizes the legitimacy of discrimination, imposing a good faith obligation on those seeking insurance to disclose material risks. In most common law regimes, the obligation is stricter than in the United States, allowing an insurer to avoid the insurance contract if the insured fails to disclose material information.⁸⁸ The good faith disclosure obligation turns on the phenomenon of adverse selection, an affliction of all insurance markets. An insured will have an economic imperative to place herself in a risk category where the premium for coverage is less. Insureds have that knowledge, and the insurer does not; hence the duty to disclose material risks. In the context of genetic information, the insured has knowledge of genetic test results and the insurer does not. The economics and law of insurance are designed to maximize the ability of an insurer to discriminate in order that the insurer can place individual insureds or classes of insureds into pools that reflect the risks. The greater the ability of the

84. Some will argue that the relationship is so intrinsically unequal that the only safe role is to ban the use of the information. The conclusion must depend on the cost of a complete ban and the competency of the courts in monitoring the voluntariness of them.

85. See COUNCIL ON ETHICAL & JUDICIAL AFFAIRS, AM. MED. ASS'N, *USE OF GENETIC TESTING BY EMPLOYERS*, 266 JAMA 1827 (1991).

86. See, e.g., Krumm, *supra* note 51; Miller, *supra* note 35; Mark A. Rothstein & Mary R. Anderlik, *What is Genetic Discrimination and When and How Can It Be Prevented?*, 3 GENETICS IN MED. 354 (2001) (advocating regulation); Anita Silvers & Michael Ashley Stein, *An Equality Paradigm for Preventing Genetic Discrimination*, 55 VAND. L. REV. 1341 (2002).

87. KENNETH S. ABRAHAM, *DISTRIBUTING RISK: INSURANCE, LEGAL THEORY, AND PUBLIC POLICY* 14-18 (1986) (discussing steps to reduce transaction costs).

88. COLINVAUX'S LAW OF INSURANCE 115-30 (Robert Merkin ed., 7th ed. 1977) (collecting cases and explaining the doctrine).

insurer to discriminate according to risk, the greater the sensitivity of pricing and the availability of insurance will be. If price reflects risk, society benefits both economically and in terms of equity. Incentives for safety will be truer and persons, to the extent they do not cross-subsidize riskier persons, will be able to take out coverage at less cost. Hence, poorer but safer individuals are given an opportunity to obtain insurance.⁸⁹

The central issue is whether genetic discrimination is legitimate in provision of insurance or employment. Discrimination on the basis of suspect classification has been a creature of constitutional or basic laws⁹⁰ and legislation.⁹¹ Tort law did not effectively protect an individual from invidious discrimination.⁹² Indirectly, the law of torts may give relief if the interest invaded was one protected by the law. In *Fisher v. Carrousel Motor Hotel Inc.*,⁹³ for example, discriminatory behavior and insulting words could found an action of battery. Intentional infliction of emotional distress and defamation have been used when overt words or actions invade human dignity.⁹⁴

Racial discrimination legislation may be invoked in the genetic area if the marker attaches to race or ethnicity, for example.⁹⁵ If a hotel discriminated against a person with a marker for sickle cell anemia, a racial animus could be established.⁹⁶ Even when the marker may be relevant, say in life insurance, the nexus between the marker and race makes its use problematical.

89. See generally George L. Priest, *The Current Insurance Crisis and Modern Tort Law*, 96 YALE L.J. 1521 (1987) (discussing the interaction of tort law and insurance). The question of equity is often raised. Trudo Lemmens, *Selective Justice, Genetic Discrimination, and Insurance: Should We Single out Genes in Our Laws?*, 45 MCGILL L.J. 347, 384-91(2000). It is clear that efficiency is not the measure, but a market infected with adverse selection is "unfair" because it flouts an equality value; like cases are not treated alike, and a forced subsidy is involved. Cf. Kenneth S. Abraham, *Understanding Prohibitions Against Genetic Discrimination in Insurance*, 40 JURIMETRICS J. 123, 127-29 (1999) (discussing the substantive limits in terms of efficiency and equity).

90. See U.S. CONST. amend. XIV; Civil Rights Act, 42 U.S.C. § 1983 (2000); Canadian Charter of Rights and Freedoms, Canada Act 1982, ch. 11 (1982); Convention, *supra* note 42 (addressing genetic information specifically). Note also Article 6 of the UNESCO Universal Declaration on the Human Genome and Human Rights which prohibits, "discrimination based on genetic characteristics that is intended to infringe or has the effect of infringing human rights, fundamental freedoms and human dignity." Universal Declaration on the Human Genome and Human Rights, at <http://www.unesco.org/ibc/en/genome/projet/index.htm> (last visited Feb. 27, 2003), adopted by G.A. Res. 152, U.N. GAOR, 53rd Sess., U.N. Doc. A/53/625/Add.2 (1998).

91. E.g., Racial Discrimination Act 1975 (Aust.); Sex Discrimination Act 1984 (Aust.).

92. In *Constantine v. Imperial Hotels Ltd.*, [1944] K.B. 693 (1944), Lord Constantine, a famous West Indian cricketeer, and his family, were refused accommodation, on racial grounds, at a London hotel. He successfully brought a tort action for the discrimination, but was awarded a derisory 5 guineas in damages.

93. 424 S.W.2d 627 (Tex. 1967).

94. *Ford v. Revlon, Inc.*, 734 P.2d 580 (Ariz. 1987) (holding employer liable for intentional infliction of emotional distress due to co-employees' actions in repeatedly subjecting plaintiff to physical assaults and vulgar remarks).

95. See Melinda B. Kaufmann, *Genetic Discrimination in the Workplace: An Overview of Existing Protections*, 30 LOY. U. CHI. L.J. 393, 424 (1999).

96. See the Title VII argument in *Norman-Bloodsaw v. Lawrence Berkeley Laboratory*, 135 F.3d 1260 (9th Cir. 1998). See also Silvers & Stein, *supra* note 86, at 1354.

Most western industrialized nations now have legislation prohibiting discrimination against individuals on the basis of disability.⁹⁷ In employment in Australia,⁹⁸ Canada, New Zealand, and the United Kingdom, discrimination on the basis of disability or handicap is unlawful. The large exception, defining the scope of discrimination protection, is whether the disability disqualifies a person from performing a task critical to the job.⁹⁹ In the area of pre-symptomatic genetic makeup, the question is whether the disability law would provide protection since some urge that the genetic makeup would not itself amount to a disability.¹⁰⁰

A real concern for policy makers is the increasing tolerance of testing in the employment context. The Americans with Disabilities Act (ADA) allows employers to perform medical examinations in the post-offer and employment stages.¹⁰¹ Drug testing is a prominent and accepted part of the workplace in America.¹⁰² Testing is given even greater legitimacy if it promotes workplace safety, for example, where genetic testing can reveal certain predilection to diseases, the environmental risks of which are inherent in the workplace.¹⁰³ If the testing should reveal that the prospective employee posed risks to others in the workplace, again the testing, at least on the usual figuring of tort law, would be legitimate, if not required.¹⁰⁴ For example, if a genetic disorder gave rise to a marked increase in the incidence of a disease that caused a person to lose consciousness at high altitudes, an airline employing a pilot with the disorder may be liable if the pilot should pass out, causing an accident. The airline is, however, put into an anxious legal and moral position when it is known that the genetic condi-

97. Americans with Disabilities Act, 42 U.S.C. § 12101 (2000). Twenty-three United States jurisdictions have legislation prohibiting, to some extent, the use of genetic information in employment. DEBORAH CROSBIE, HUMAN GENETICS COMM'N, PROTECTION OF GENETIC INFORMATION: AN INTERNATIONAL COMPARISON 45 (2000); see Philip R. Reilly, *Laws to Regulate the Use of Genetic Information*, in GENETIC SECRETS, *supra* note 34, at 369-91.

98. Disability Discrimination Act 1992 (Aust.). Legislation has also been enacted in the individual Australian states.

99. Sutton v. United Air Lines, Inc., 527 U.S. 471, 491-92 (1999).

100. Patricia A. Roehle, *The Genetic Revolution at Work: Legislative Efforts to Protect Employees*, 28 AM. J. L. & MED. 271, 272, 276-80 (2002) (analyzing the circumstances surrounding the case of *EEOC v. Burlington Northern Santa Fe Railway Co.*, No. 02-C-0456 (E.D. Wis. 2002)); Stacie E. Barhorst, Note, *What Does Disability Mean: The Americans With Disabilities Act of 1990 in the Aftermath of Sutton, Murphy, and Albertsons*, 48 DRAKE L. REV. 137 (1999). The EEOC determined that genetic predispositions are disabilities under the "regarded as" prong of the ADA (this opinion is only persuasive). EEOC, EEOC COMPLIANCE MANUAL, § 902.8(a) (1996), available at <http://www.eeoc.gov/docs/902cm.html>. The Australian Law Commission, recognizing that the legislation would not encompass a person with presymptomatic genetic proclivity, recommends legislative change to Australian law. ALRC DISCUSSION PAPER, *supra* note 2, at 669-80; see also Lemmens, *supra* note 89, at 358-59.

101. 42 U.S.C. § 12112(d).

102. Cf. AUSTRALIAN LAW REFORM COMM'N, ISSUES PAPER 26: PROTECTION OF HUMAN GENETIC INFORMATION 271 (2001) (discussing similar drug testing in Australia) [hereinafter ALRC ISSUES PAPER].

103. Kaufmann, *supra* note 95, at 425-26; Silvers & Stein, *supra* note 86, at 1358.

104. Kaufmann, *supra* note 95, at 425-26; Silvers & Stein, *supra* note 86, at 1358.

tion signals predisposition for sickle cell, a genetic disease with a high incidence among persons of West-African ancestry.¹⁰⁵ Perhaps, highlighting the fluid and contingent nature of attaching genetic characteristics with risks, the link between sickle cell anemia and blacking out at high altitude is contested. The protection of employees falls far short of that described by Article 12 of the European Convention on Human Rights and Biomedicine of the Council of Europe that flatly prohibits testing except for health or scientific research purposes.¹⁰⁶

The use of genetic information in the insurance market would be relevant in setting premiums for health insurance. Yet, in most of the western industrialized world exclusion or risk rating on pre-existing health conditions is disallowed. The market, if it is private, is highly regulated, and the assumption is that the risk is to be borne by the community.¹⁰⁷ Although the healthy subsidize the unhealthy, that is accepted, as health care has a large public good effect.

The other forms of insurance in the market are less regulated.¹⁰⁸ The operative assumption is that the law should promote the capacity of insurers in the commercial endeavor of segmenting and categorizing risks. The muddying of risk pools, as explained, is anathema to fair and efficient insurance.

Ironically, the explosion of knowledge about the human genome will tend to deter an aggressive use of genetic testing. Most persons are now behind a veil of ignorance — no one knows what markers lurk in his genetic makeup. It is likely, once revealed, that many will have markers predisposing them to certain health conditions.¹⁰⁹ Because many are potentially “faulty,” it is less likely that genetic testing will be widely used to discriminate in critical aspects of an individual’s public life. To follow John Rawls, it is probable that the law as drafted and applied will have a greater measure of justice, given that the group to be discriminated against is not isolated and presently identi-

105. David Keays, *The Legal Implications of Genetic Testing: Insurance, Employment and Privacy*, 6 J. L. & MED. 357, 368 (1999) (citing a debate on this issue in *Genetic Distinctions Are Not Necessarily Examples of Genetic Discrimination*, 51 AM. J. HUMAN GENETICS 897 (1992)). The trait and disease are also found, but to a lesser extent, in persons of Middle Eastern and Mediterranean descent. Other traits are more prevalent in other instances, e.g., Tay Sachs in Ashkenazi Jews and SAT deficiency in persons of northern European descent. See Joanne Seltzer, Note, *The Casandra Complex: An Employer’s Dilemma in the Genetic Workplace*, 27 HOFSTRA L. REV. 411, 418-21 (1998).

106. Lemmens, *supra* note 89, at 358-59.

107. Timothy Stoltzfus Jost, U.S.A.: *Country Report United States of America*, in THE CONVENTION ON HUMAN RIGHTS AND BIOMEDICINE OF THE COUNCIL OF EUROPE 804-09 (Jochen Taupitz ed., 2001).

108. See William F. Mulholland, II & Ami S. Jaeger, *Genetic Privacy and Discrimination: A Survey of State Legislation*, 39 JURIMETRICS J. 317 (1999).

109. Everyone has “probably 4 or 5 really fouled-up genes and another couple of dozen that are not so great and place us at risk for something.” *Facts About Genetic Discrimination*, at <http://ghs.gresham.k12.or.us/science/ps/sci/soph/gendiscrim/discrq&a.htm> (last revised Dec. 1996) (quoting comments of the director for the National Center for Human Genome Research, Francis S. Collins); see also Silvers & Stein, *supra* note 86, at 1381.

fied, and is just as likely to be those regulating.¹¹⁰ Behind the veil of ignorance, those excluded because of their chance genetic makeup may be assured some degree of compensation through a welfare system. A system that would channel those possessing a marker that makes them susceptible to alternative employment or health care benefits would be salutary.

Nevertheless, some see the damages of genetic discrimination as so dire that the full moral outrage of racial discrimination ought to be invoked. In absence of courts acting, Congress is viewed as the vital body to pass “new protective legislation.”¹¹¹ Unless such action is taken, “terrifying consequences could soon follow.”¹¹² These include the emergence of “a genetic underclass” — mendicants relying on governmental largess, furtive use of genetics to discriminate on race or gender, and the “‘right to privacy’ could lose all significant meaning.”¹¹³

Professor Pauline Kim effectively attacks the discrimination paradigm, arguing, instead, that a privacy paradigm more accurately reflects the value at stake, namely individual autonomy.¹¹⁴ She finds it a mistake to make strong analogies with race and sex discrimination.¹¹⁵ In addition to enthroning the wrong value, a discrimination rule obliterates production of socially useful information that, while it should be kept private, may be of great worth.

Most analysis, and legal reform, of discrimination on the basis of genetic information has focused on the use of adverse information to the disadvantage of the individual — often in employment or insurance. Not all genetic information is unfavorable. Genetic analysis may indicate that an individual has a reduced chance of disease. Perhaps because of family medical records, a conclusion of increased chance of breast cancer is reached. Genetic testing may reveal that the subject woman does not have that increased propensity. Surely this information can continue to be volunteered, yet what is to deter

110. The observation dispels a point made by Ken Abraham that argues that privacy strictures are justifiable as a reaction to the baleful experience with eugenics. Abraham, *supra*, note 89, at 125. The eugenics movement was never confounded by a lack of clarity that the target group was small, insular, and weak. Ken Abraham, however, concedes that the stigma fades as scientific knowledge advances. *Id.* at 128. A Rawlsian argument is made by Professor Robert Bohrer, *A Rawlsian Approach to Solving the Problem of Genetic Discrimination in Toxic Workplaces*, 39 SAN DIEGO L. REV. 747, 767 (2002) (arguing for Rawlsian analysis grounding a conclusion “that employers should be allowed to use genetic tests to identify and exclude persons who are unusually susceptible” to workplace environments, provided compensation is provided through “a centralized system” to those excluded). Morality and justice in terms of Rawls and other moral philosophers are closely analyzed in ALLAN BUCHANAN ET AL., *FROM CHANCE TO CHOICE: GENETICS AND JUSTICE* (2000).

111. Krumm, *supra* note 51, at 521.

112. *Id.*

113. *Id.*

114. Kim, *supra* note 64, at 1501-09, 1534-37 (2002).

115. *Id.*

an insurer or employer from inferring that failure to supply positive genetic information implies the presence of an adverse marker.¹¹⁶

D. *An Appropriate Regime*

Rules, whether at common law or legislative, ought to examine and protect relevant interests and reinforce norms tending to that end. For breach of confidence, the law is well articulated; for discrimination, the law will need to be formulated, but ought to allow for growth and judicial leeway in executing discretion. In both, the problem is misuse of information. Confidence protects individual autonomy by encouraging individuals to enter value enhancing relationships. It recognizes that information exchange is vital in human exchange. Without strong assurances that information will not be abused by disclosure, individuals will enter fewer relationships, less frequently. Discrimination legislation draws on the ideal of equality, of treating people with equal respect.¹¹⁷ Every human being in a just society should have an equal opportunity to achieve her potential and life's goals.¹¹⁸

Both approaches to the regulation of genetic information are open-ended and evolutionary. The courts are permitted to fill the gaps as the need occurs. This may be called a "tort orientation." The utility of tort orientation is that courts will be consistently required to focus on the consequences of liability and to identify the relevant interests. The testing of the rules, moreover, sorts out effective rules from those not serving the social interests. The common-law tradition tends to preserve the liberty of the individual against governmental intervention.¹¹⁹

One implication of the adoption of the common-law evolutionary model is to cause policy makers to pause in their reception of the persuasiveness of European models, or respond to clarion calls for congressional or legislative action. Law in Europe is usually more *dirigiste*, relying upon and compatible with regulation, while the comparative law of common-law nations will be more relevant to those contemplated reforms in other common-law countries. The reverse aspect of this observation is that the common-law tradition will challenge legislative reform. This, of course, is even more the case in

116. Diver & Cohen, *supra* note 6, at 1453.

117. *Cf.* Kim, *supra* note 64, at 1535-38 (distinguishing between value of equality and individual autonomy).

118. BUCHANAN ET AL., *supra* note 110, at 65-68.

119. *See generally* FRIEDRICH A. HAYEK, LAW, LEGISLATION AND LIBERTY (1973); F.A. HAYEK, THE CONSTITUTION OF LIBERTY (1960).

those legal systems with a highly independent judiciary that permit active judicial review of legislative action.¹²⁰

The advantages, however, of using comparative law are substantial. Like the advantage of the second in line to manufacture or market products, lawmakers garner valuable information in observing the trials, tribulations, and triumphs of another's law reform efforts. But an understanding of social conditions and cultures is also required. One may, for example, note that English law prohibits the use of genetic information in determining eligibility for life insurance coverage. The reason for the rule is imbedded in the practice of lenders in real estate transactions. Mortgagees are required to buy a sufficient life insurance policy to protect the mortgagor.¹²¹ In western, industrialized societies, the purchase of a home is regarded as one of life's essentials, and to exclude a person from purchase is a serious impediment to social progress. And just as health insurance is written, or required to be written, to community rate the insureds, life insurance, when essential for housing, is forced to cross-subsidize.

Laws of nations of dissimilar economic, social, and legal traditions may provide insight, if differences are born in mind. All those tort scholars working in the vineyard of compensation schemes thank small New Zealand for abolishing tort recovery for personal injury and replacing it with a state-funded compensation system. Australia, in the early 1970s, toyed with the idea,¹²² and American reformers, dissatisfied with the tort system's cost, used New Zealand as a laboratory. The New Zealand experiment continues to reveal information relevant to compensation schemes.¹²³ The power of the experiment arises from the affinity of New Zealand's political and legal traditions, although its differences in size, unicameral parliament, and its essential homogeneity make the reforms of less salience.¹²⁴

Reforms that depart from the common law evolutionary tradition come at a cost only partially mitigated by investigation of comparative law. A comprehensive reform, say the strong privacy rule, will bring in its train sunk costs. The future is uncertain. A rule, once enacted, may be ineffective or undesirable, and its repeal inconvenient and

120. P.S. ATIYAH & ROBERT SUMMERS, *FORM AND SUBSTANCE IN ANGLO-AMERICAN LAW* (1987).

121. For the details of the English life insurance arrangement, see Julie-Anne Tarr, *Regulatory Approaches to Genetic Testing in Insurance*, 24 SYDNEY. L. REV. 189, 204 (2002).

122. REPORT OF THE COMMITTEE OF INQUIRY INTO COMPENSATION AND REHABILITATION IN AUSTRALIA 1974; see O'Connell & Partlett, *supra* note 20.

123. Richard S. Miller, *An Analysis and Critique of the 1992 Changes to New Zealand's Accident Compensation Scheme*, 52 MD. L. REV. 1070 (1993); Richard S. Miller, *An Analysis and Critique of the 1992 Changes to New Zealand's Accident Compensation Scheme*, 5 CANTERBURY L. REV. 1 (1992); Stephen Todd & John Black, *Accident Compensation and the Barring of Actions for Damages*, 1 TORT L. REV. 197 (1993).

124. O'Connell & Partlett, *supra* note 20, at 454-55.

slow. Parisi and others have suggested that a rational lawmaker should take into account the benefits from waiting, whenever investments are irreversible and can be postponed.¹²⁵ This calls for the “option of waiting” to be valued. What are the main determinants of optimal timing of legal intervention? The staying of a reform is likely to have a positive value. A legislature once engaged in lawmaking abandons “the possibility of waiting for new events and information that might influence the desirability of legislative innovation.”¹²⁶ It follows that “legal innovation should be carried out only when the expected value of lawmaking exceeds the lawmaking costs by an amount equal to the value of keeping the lawmaking option alive.”¹²⁷ The usual assumption that lawmaking is advisable once the present value of expected benefits outweigh the expected costs will lead to non-optimal decisions.¹²⁸ The analysis implies that the value of waiting in lawmaking increases when the sunk costs are high or when uncertainty is greater. The value also increases in an area that needs more intensive legal attention as time goes by. In less complex areas, an immediate legal fix may render short-term benefits that can be adjusted later.

In order to be more complete, the model ought to recognize that some legal experimentation provides valuable information about attendant legal rules. The model gains salience from a consideration that the lawmaker is not driven solely by social preferences.¹²⁹ The lawmaker faces incentives stemming from his status as a political actor. A lawmaker may gain electoral advantage by championing legislation early before competing lawmakers.¹³⁰

The implications of the model are that much will depend upon the nature of legal innovation. Some rules will foreclose future balancing of interests that are newly emerging. Others will be open-textured, allowing courts and other tribunals to weigh new interests, venting the expectations of parties, and considering the role of legal proscriptions against social norms, newly discovered information, and economic imperatives that align with scientific innovation.

125. Francesco Parisi & Nita Ghei, *The Value of Waiting in Lawmaking* 3 (George Mason University School of Law Faculty Working Papers, 2001), available at <http://www.gmu.edu/departments/law/faculty/papers/docs/01-16.pdf>.

126. *Id.* at 8.

127. *Id.* at 9.

128. *Id.* at 8-9.

129. The argument is often put in public choice terms. Usually legislatures are the target, but courts also are beset by interests influencing the decision-making of judges. See generally Einer R. Elhauge, *Does Interest Group Theory Justify More Intrusive Judicial Review*, 101 YALE L.J. 31 (1991) (analyzing how interest groups affect judicial decision-making).

130. See MANCUR OLSON, *THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS* (1971).

The model has implications for law reform in the regulation of genetic information. If a legal rule is highly proscriptive in the sense that the use of genetic information is banned in the context of insurer and employer, the option cost is likely to be high. The rule, by its application, freezes the use of genetic information preventing development of rules that may be more sensitive to the present and future interests at play. This is an especial problem because the rapid development of genetic information, and the ways in which it may be exploited, increases uncertainty and thus the cost of the option. The costs are likely to be masked by a public clamor for regulation that will advantage lawmakers who are the first to deliver regulation. The demand is driven by a heightened concern for risk, where the benefits are difficult to calculate. Lawmakers have as handmaidens a group of powerful and articulate academics who gain when suggested reforms are adopted. In the enthusiasm for the regulation of genetic information, an opportunity is opened to press for a neglected cause, proper privacy protections to be accorded to health care information.¹³¹

The nature of the rules makes a large difference. It is my contention that reform should carefully attend to comparative models. It should, as far as possible, be open-textured in the common-law tradition, allowing for growth and subtle application in light of future developments.¹³² It ought to give the courts an ability to craft and refine, and to mitigate the option cost and recognize the influences that drive toward early law reform to the detriment of legal quality.

Having outlined, in a general fashion, the way the reform should be viewed, I turn now to the law and its application. Genetic information is usually derived in a physician-patient relationship, giving rise to a duty of confidentiality. The same relationship will impose a duty of care in negligence to the patient and, more broadly, to third parties. At the same time, the norms of conduct in the professional relationship will be brought to bear to reduce potential abuses. Cass Sunstein has warned about “privacy guarantees” whose “costs and burdens out-run the benefits.”¹³³ He finds it “easy to imagine,” as I do, that a “heavily bureaucratized system of privacy guarantees . . . [would not] be in the interests of patients themselves.”¹³⁴ In accord with his influential scholarship on norms, Sunstein suggests that the “best line of

131. The logic is powerful: it is hard to give special protection to genetic information if the privacy of other health records is not similarly protected. See Lemmens, *supra* note 89, at 369-76 (genetic exceptionalism); see also Jennifer S. Geetter, *Coding for Change: The Power of the Human Genome to Transform the American Health Insurance System*, 28 AM. J.L. & MED. 1 (2002).

132. Cf. Ronald A. Heiner, *Imperfect Decisions and the Law: On the Evolution of Legal Precedent and Rules*, 15 J. LEGAL STUD. 227 (1986) (examining the doctrine of stare decisis and its influence in the making of reliable decisions).

133. Sunstein, *supra* note 5, at 713.

134. *Id.*

defense — of privacy-respecting principles and privacy-abridging principles — lies not in law, but in social norms and in informal sanctions for violations.”¹³⁵

III. PART TWO

The emerging law throughout the western-industrialized world is a maze of legislation, regulation, and common law. Legislative reform has sometimes been narrowly tailored to abuses, and at other times, been broadly prophylactic. The former is exemplified by attempts to prevent “insurers from denying insurance if an applicant carried a recessive trait (e.g., sickle-cell, thalassemia-minor, hemoglobin C, Tay-Sachs).”¹³⁶ Because the trait was recessive, it was reasoned that its presence would not increase the likelihood of the use of health care services. This pattern of regulation accepted the legitimacy of discrimination, if the trait were causally relevant. However, the trend has been to the latter, the broadly prophylactic, to prohibit the use of the information whether or not it would be relevant to the risk created.¹³⁷ The action is not always at the legislative frontier. In the shadow of legislative action concerned about insurance discrimination, the insurance industry has adopted codes of conduct.¹³⁸ The norms established in the competitive, increasingly internationalized market for insurance are often self-generated.¹³⁹ The power of the industry, its international reach, and its tradition of regulation, dictate that if legal regulation is adopted, lawmakers need to be sensitive to whether genetics ought to be compartmentalized from other like problems, to the ramifications of any enhanced role of the state, and to “inherent differences in culture, commercial infrastructure and philosophical vision” extant in the various jurisdictions touched by regulation.¹⁴⁰

The impetus for genetic discrimination in employment is greatest in the United States because health care insurance is provided via the medium of employment. Elsewhere, the schemes are more intensely governmental or, when partially private, take the form of government-

135. *Id.* at 714.

136. Nancy E. Kass, *The Implications of Genetic Testing for Health and Life Insurance*, in *GENETIC SECRETS*, *supra* note 34, at 312.

137. *Id.* at 312-13.

138. In the U.K. and Australia, industry undertakings are the norm. INVESTMENT AND FINANCIAL SERVICES ASS'N OF AUSTRALIA, IFSA'S POLICY ON GENETIC TESTING (February 1999). This policy was approved by the Australian Competition and Consumer Commission (ACCC). ALRC ISSUES PAPER, *supra* note 102, at 62; *see also* Margaret Otowski, *Review of the ACCC's Decision on the IFSA Genetic Testing Policy*, 16 *AUSTL. INS. L. BULL.* 9 (2001).

139. Mark A. Hall, *Legal Rules and Industry Norms: The Impact of Laws Restricting Health Insurers' Use of Genetic Information*, 40 *JURIMETRICS J.* 93 (1999). *Cf.* Christopher M. Keefer, *Bridging the Gap Between Life Insurer and Consumer in the Genetic Testing Era: The RF Proposal*, 74 *IND. L.J.* 1375 (1999).

140. Tarr, *supra* note 121, at 190.

tally subsidized coverage.¹⁴¹ Thus with currently rapidly increasing health care costs reflected in premium increases, employers will rationally seek to make more cuts in risk. If genetic testing can produce a healthier work force for employers, it would be embraced. Much depends upon the health insurers' risk rating. Individual employees would not likely benefit from a lowering of claims because the market is more broadly segmented.

Employment law is more balkanized than insurance. Some labor markets are highly regulated with many exacting protections for workers.¹⁴² Others, like the United States, are less regulated, turning on the ebb and flow of collective bargaining. The law in the United States has assigned to tort law a greater role in regulating the conditions of employment.¹⁴³ For example, a course of action would be available for wrongful dismissal where in-house legal counsel was dismissed for presenting a legal agenda that he regards as ethically binding, but that corporate management finds incompatible with the profit-seeking motivation of the corporation.¹⁴⁴ One would expect an even greater willingness to see the necessity of tort to achieve ends not accommodated in the usual dynamic of the employer contract, given the disparity of power. This is a departure from contract law and is only permissible in a narrow band of relationships. Insurance is the paradigm in which an insurer denies coverage in bad faith. The courts are reluctant to extend the tort to other contexts.¹⁴⁵ Judicial review of hiring and dismissal, in the absence of legislation, is limited.¹⁴⁶ The presumption is that private ordering between employer and employee will adequately balance the interests. Occasionally the employer may egregiously abuse his position in testing, sufficient in the United States to implicate the worker's constitutional rights.¹⁴⁷

Reforms have focused upon the direct liability for misuse by insurers and employers. This article adopts a view that professionals should be seen as the protectors of their patients and subjects. They owe them fiduciary obligations and duties of care in negligence, outside any contractual obligations. A new appreciation of liability

141. See Jost, *supra* note 107.

142. For a review, see *COMPARATIVE LABOUR LAW AND INDUSTRIAL RELATIONS IN INDUSTRIALIZED MARKET ECONOMIES* (R. Blanpain & C. Engels eds., 7th rev. ed. 2001). For a general discussion of how labor markets are in transition, see *LABOUR LAW AT THE CROSSROADS: CHANGING EMPLOYMENT RELATIONSHIPS* (J. R. Bellace & M. G. Rood eds., 1997).

143. *Foley v. Interactive Data Corp.*, 765 P.2d 373, 380-81 (Cal. 1988).

144. *GTE Prods. Corp. v. Stewart*, 653 N.E.2d 161 (Mass. 1995).

145. See, e.g., *Cates Constr., Inc. v. Talbot Partners*, 980 P.2d 407 (Cal. 1999).

146. *Foley*, 765 P.2d at 389-70 (restricting tort remedies in the context of breached employment contracts). The vulnerability of employees is revealed, but their capacity to report wrongdoing is protected by whistleblower protection laws. Whistleblower Protection Act of 1989, 5 USC § 1201 (2000). The reach of the law can be controversial. Christopher Lee, *Labor Department Shifts Whistle-Blower View*, WASH. POST, Jan. 28, 2003, at A19.

147. *Norman-Bloodsaw v. Lawrence Berkeley Lab.*, 135 F.3d 1260, 1269 (9th Cir. 1998).

may reinforce the ethical norms that will evolve in the development and use of genetic information.

I first discuss the positive contributions that professional liability may make. I then turn to how tort law interacts with discrimination reforms. Given the inherent advantages of tort law as open-textured law reform, and the emphasis on professionals' liability in other theaters of law, the time is ripe for a review and appraisal.

A. *Professionals' Duties*

1. Confidence

The law has been explicated earlier. In the insurance context, an insurer may require that an insured be tested prior to the issuance of coverage. Alternatively, the insurer may require, or the insured may be obliged to disclose, knowledge of her genetic makeup that is material to the insurance. Testing is carried out by a medical practitioner or counselor, and the immediate question is the duty of the medical practitioner or counselor in the disclosure. The information is the patient's, unless otherwise agreed. If the insured knowingly volunteers the information to the insurer by asking his medical practitioner to furnish it, no objection can be raised.

Unfortunately, and predictably, legal rules that are premised upon exchange of complete information, disclosure, and consent are often transformed into the most wooden compliance with the law's dictates. Such is the fate of the doctrine of informed consent in the modern practice of medicine. Too often, meaningful exchange and conversation is replaced by the ritualistic production of mind-numbing lists of risks and perfunctory words.¹⁴⁸ It does not, therefore, require a fertile imagination to predict that physicians and others may seek to routinize a perceived legal burden. To have patients execute blanket releases on standard forms may appear to be an efficient *modus operandi*. The releases would recite the patient's understanding that the information will be disclosed, his free acknowledgment of that, and a release of liability. Such an empty ritual, however, would not pass muster if the courts recognize that the duty is fiduciary in character. A physician or other professional is expected to act in the best interests of his patient or client. In equity, a court will require more than mere compliance with a formula. The relationship is one of trust, fraught with concerns about self-dealing, overreaching, and conflict of interest. To see the source of this duty in equity, not in contract, is

148. See generally JAY KATZ, *THE SILENT WORLD OF DOCTOR AND PATIENT* (1984); Walter Wadlington, *Breaking the Silence of Doctor and Patient*, 93 *YALE L.J.* 1640 (1984) (reviewing KATZ, *supra*).

critical in avoiding resort to empty formula and adherence to true and thoroughly plumbed intent.

An employer receiving genetic information on its employees is under an obligation to use that information for the limited purposes for which it was given. It is likely to be incorporated in the employee's health records and entitled to statutory protection for its use and privacy.¹⁴⁹ Information may be put to uses not agreed to either intentionally or negligently. Both will breach the employers' duty of confidence in addition to statutory infractions.¹⁵⁰

The duty is not solely protected by a damages remedy; the fiduciary obligation involves the panoply of potent equitable remedies. The duty may be protected by an injunction, a super-compensatory remedy that will force close scrutiny of the adequacy of any agreement to disclose the subject information. Other equitable remedies will come into play. Any profits may be disgorged and a constructive trust imposed.¹⁵¹

2. Negligence

A professional's duty will, at its widest, extend to all those who will foreseeably be harmed as a result of his actions. The duty is at its broadest when the foreseeable harm is physical — to either person or property. It is more limited when the harm is economic, as it will be most often in the insurance and employer context.

The professional duty reflects the expectations of the parties in the relationship and acts to ensure the reliability of the genetic information. Testing is subject to error.¹⁵² A medical practitioner or counselor faces liability on two fronts. The information may be provided to the patient or client who is tested. That information, if inaccurate, may have significant implications. For example, a person may be unwilling to bear children when a diagnosis is made that he has an inheritable genetic disorder trait. If children are conceived in reliance upon faulty information, the physician may be liable to the parents and the child for the resulting birth defect. The action depends on the defendant's destruction of the plaintiff-parents' ability to choose. Accurate advice would have led to a decision either not to conceive or to abort

149. See Jost, *supra* note 107, at 803-04.

150. Finn, *supra* note 69, at 506.

151. See PAUL LAVERY, *COMMERCIAL SECRETS: THE ACTION FOR BREACH OF CONFIDENCE IN IRELAND* 220-54 (1996).

152. "A positive test result is not a guarantee of disease." Miller, *supra* note 35, at 231-32. The testing process itself is subject to error as is the insurer's use of the results.

the fetus.¹⁵³ The child's action is rarely recognized because of the imponderables of weighing a "defective" life against non-existence.

Central here is that the information may be used to make decisions on insurance and employment. If the former, an insurer could argue that the inaccurate genetic information caused it harm. If the latter, the employer may submit that if the test had been accurate, it would not have employed the person tested. Liability would turn on whether the doctor owed a duty of care to the insurer or employer. That duty must usually be based on a nexus between the information given and the recipient, denoted by the information giver's knowledge that the information will be put to a certain use.¹⁵⁴ Some courts would find a duty on the foreseeability of the information's use — a test that would impose broad liability on those generating and interpreting genetic information.¹⁵⁵ If we accept that genetic testing will become more common, and that it is to be used for a variety of reasons, liability will loom large. As noted, the law will encourage the accuracy of the information. Liability to third parties will oblige doctors to anticipate that possibility and negotiate to limit the use of the information. The employer or insurer may demand that the prospective employee or insured be tested by a physician employed by the employer or insurer. Whether the physician is an employee or an independent contractor, the physician may have an independent duty to the prospective employee or insured, at least so far as the duty is not incompatible with the obligation to the employer or insurer.¹⁵⁶

The breach of the duty of care will depend upon proof that a reasonably competent physician would have performed the test and interpreted it as to give the patient or third person accurate information.¹⁵⁷ In a rapidly-developing area of science, the standard is unstable. A court will rely upon expert testimony, but that is not easily obtainable. The physician will, in giving information on genetics, be placed in an anxious conflict of rendering understandable and useful

153. *Procanik v. Cillo*, 478 A.2d 755, 760 (N.J. 1984); cf. Philip G. Peters, Jr., *Rethinking Wrongful Life: Bridging the Boundary Between Tort and Family Law*, 67 TUL. L. REV. 397 (1992) (arguing for the adoption of non-tort remedies for wrongful life).

154. The most sustained articulation of this rule is the context of the liability of auditors to third parties. Courts are agreed that an auditor may owe a duty of care to a third party who relies upon the false information. However, the courts usually require a close nexus between plaintiff and defendant, turning on the plaintiff's known identity and known use to which the information will be put. *Bily v. Arthur Young & Co.*, 834 P.2d 745, 767 (Cal. 1992); *Credit Alliance Corp. v. Arthur Andersen & Co.*, 483 N.E.2d 110, 112 (N.Y. 1985).

155. Foreseeability is seen by some courts as the appropriate degree of nexus. *Citizens State Bank v. Timm, Schmidt & Co.*, 335 N.W.2d 361, 365-66 (Wis. 1983).

156. This is the primary factor in many cases where it is argued that the professional's duty ranges beyond privity. For an articulation of this argument, see David F. Partlett & Barry Nurcombe, *Recovered Memories of Child Sexual Abuse and Liability: Society, Science, and the Law in a Comparative Setting*, 4 PSYCHOL. PUB. POL'Y & L. 1253 (1998).

157. *Wash. Hosp. Ctr. v. Butler*, 384 F.2d 331, 335 (D.C. Cir. 1967) (stating the standard as the "degree of care which a reasonably prudent person would have exercised under the same or similar circumstances").

advice on the one hand and technically accurate and arcane information on the other.

The dynamic quality of genetic information provides a challenge to physicians. It is clear that they have a duty to obtain the patient's informed consent. Whether or not the physician is retained by the employer or insurer, she will owe a duty to inform the patient of the risks of the procedure and the probabilities that the information may be inaccurate.¹⁵⁸ The duty may continue beyond the test itself to inform the patient of new treatments for disorders to which the patient may be susceptible.¹⁵⁹ In addition, the physician may be obliged to keep the patient abreast of pertinent new knowledge bearing on the patient's genetic makeup.¹⁶⁰ Genetic testing has repercussions beyond the patient. A duty may thereby arise to warn that class of person beyond the patient.¹⁶¹ Where the physician is retained or employed by the insurer or prospective employer, that insurer or employer will be vicariously liable for the physician's negligence. Certainly, a physician will, by a contractual arrangement, want to shift the cost of continuing liability on to the employer or insurer. This will have the salutary consequence of employers and insurers acting to monitor the quality of physicians engaged in genetic testing.

The professional client relationship has received judicial attention over the past decade. The courts have been concerned to impose and extend obligations of informed consent. They have insisted that disclosure must be made of any personal interest that may affect the physician's professional judgment.¹⁶² This ranges to economic and research interests of which the patient ought to have been aware. Personal and professional characteristics may also be material.¹⁶³ The increasing duty recognizes the critical role of the profession in making decisions for the welfare of the patient or client. In the era of Enron, it is unlikely that professionals' legal and ethical duties will be diluted.

At the outset of the article, I raised the possibility that technology may usher the professional genetic-tester — the physician, scientist — to the sideline. I urged that the professional will, nevertheless, be often required to interpret the test results flowing from multiplex ge-

158. *Canterbury v. Spence*, 464 F.2d 772, 781 (D.C. Cir. 1972).

159. *Roberson v. Menorah Med. Ctr.*, 588 S.W.2d 134, 137 (Mo. Ct. App. 1979).

160. *Truman v. Thomas*, 611 P.2d 902, 905-06 (Cal. 1980).

161. See *infra* notes 178-80 and accompanying text.

162. *Moore v. Regents of the Univ. of Cal.*, 793 P.2d 479, 483 (Cal. 1990) (holding that physician must disclose any research or economic interest that may affect the physician's professional judgment).

163. *Bray v. Hill*, 517 N.W.2d 223, 224 (Iowa Ct. App. 1994) (surgeon placed on probationary status by Board of Medical Examiners); *Hidding v. Williams*, 578 So.2d 1192, 1196 (La. Ct. App. 1991) (surgeon suffered from alcoholism); *Faya v. Almaraz*, 620 A.2d 327, 333 (Md. 1993) (surgeon was HIV positive); cf. *Shea v. Esensten*, 107 F.3d 625 (8th Cir. 1997) (physician failed to disclose incentives offered by HMO). For a close analysis of the complex causation implications of such a duty, see the Australian case of *Chappel v. Hart*, (1998) 195 C.L.R. 232.

netic tests that will give an individual information about his genetic susceptibilities.¹⁶⁴ The specter of the technology revolution calls forth a regulatory response.¹⁶⁵ A regulatory response, together with the implications of product liability, is likely to follow in the wake of the merchandizing of this technology. Manufacturers will have to disclose inherent dangers of which they knew, or should have known, in the use of the product.¹⁶⁶ Where health-care products are designed and marketed to appeal to consumers, diminishing the professional's gate-keeping role, it is arguable that the level of disclosure is akin to that under the doctrine of informed consent. In *Perez v. Wyeth Laboratories, Inc.*,¹⁶⁷ the court found that where the product Norplant, a contraceptive, was marketed directly to consumers, disclosure of the product's risks must be provided at the level recognizing the "informed role of the patient in health-care decisions."¹⁶⁸ In the absence of the physician as a learned intermediary, a burden of disclosure of risks and safety falls to the manufacturer. The same reasoning will hold for direct marketing of genetic testing kits. Manufacturers will have a significant burden of warning consumers.

B. *The Interaction of the Common Law and Legislative Reforms*

1. Discrimination

A challenge for the law will be to define the circumstances in which insurers and employers are prohibited from discriminating on the basis of genetic makeup. I have argued earlier that insurers and employers are likely to be slow to use genetic information to distinguish between insureds or employees. There are market and behavioral reasons why insurers will be reluctant to draw risk distinctions. The aetiology of many genetic markers is complicated with the influence of environmental factors.¹⁶⁹ An across-the-board categorization can appear arbitrary — the very vice at which discrimination laws are aimed. In addition, discrimination suits impose real costs on employers. Those suits exert pressure by dint of their notoriety, and the very celebrity of genetics weighs on an employer's reputation. Employers naturally are reluctant to bear the costs of being the innovator or first mover in using genetic information to discriminate. Litigation and

164. See *supra* text accompanying note 1.

165. See generally Michael J. Malinowski & Robin J. R. Blatt, *Commercialization of Genetic Testing Services: The FDA, Market Forces, and Biological Tarot Cards*, 71 TUL. L. REV. 1211 (1997); Richard A. Merrill, *Genetic Testing: A Role for FDA?*, 41 JURIMETRICS J. 63 (2000).

166. *Anderson v. Owens-Corning Fiberglass Corp.*, 810 P.2d 549, 557-58 (Cal. 1991).

167. 734 A.2d 1245 (N.J. 1999).

168. *Id.* at 1257.

169. Multifactorial disorders are influenced by a combination of factors — alterations in one's genetic structure, lifestyle, environment, and occupational factors. Their onset can be predicted with low accuracy. Eric Mills Holmes, *Solving the Insurance/Genetic Fair/Unfair Discrimination Dilemma in Light of the Human Genome Project*, 85 KY. L.J. 503, 527-29 (1997).

reputation costs would be set against advantages of discrimination. Recognize that because causation of disease is multifaceted, employers, in respect of diseases with a genetic root, but overlaid with environmental factors, can take ameliorative steps to reduce the incidence of such diseases.

Note, however, that tort liability imposes an impetus to discriminate.¹⁷⁰ The genetic makeup of a prospective employee may predispose that employee to health hazards in the workplace¹⁷¹ or endangerment of others because of that predisposition.¹⁷² Those favoring regulation have suggested that screening should be prohibited unless the condition poses a direct and substantial risk to the public.¹⁷³ In the case of a predisposition that has health consequences in the workplace, an employee suffering that health consequence would have a claim under workers' compensation legislation and no claim at common law in the usual case. If testing became widespread in particular industries, it may be that a failure to test would be akin to an intentional or grossly negligence act and, thus, employer immunity could be stripped away.¹⁷⁴ However, it is more likely that an employer or insurer may retain a physician to test for health conditions that would touch upon the increased vulnerability of the employee to workplace hazards or the insured that would increase radically the possibility of an insurable event. Should the physician, in addition to usual medical tests, propose a genetic examination? If this is the case, a positive duty arises for the physician to warn. The insurer or employer may be vicariously liable if the physician is in an employer-employee relationship with the insurer or employer. Further, the employer seized with the information, and reasonably knowing the increased risk, must warn the employee or applicant who has undergone testing.¹⁷⁵

The alive issue will turn on the standard of care. This may be predominantly set by the insurer or employer limiting the scope of the health examination.¹⁷⁶ But the physician owes an independent duty to his or her patient that is not definitively set by the contractual obliga-

170. Seltzer, *supra* note 105, at 419.

171. *Cf.* HUMAN GENETICS COMM'N, WHOSE HANDS ON YOUR GENES? 39 (2000).

172. Kaufmann, *supra* note 95, at 425-26. Note conditions predisposing one to alcoholism when handling super oil tankers or the genetic precursor of deep vein thrombosis in the airline industry, for example. *Cf.* *Kay v. Cargill Foods Australia* (Unreported, Industrial Relations Court of Australia, Sept. 6, 1996), *cited in* ALRC ISSUES PAPER, *supra* note 102, at 288 n.85; *Danbo v. Transadelaide* (Unreported, Australian Industrial Relations Commission, Sept. 7, 1999), *cited in* ALRC ISSUES PAPER, *supra* note 102, at 288 n.86.

173. Keays, *supra* note 105, at 365.

174. *See* Kaufmann, *supra* note 95, at 425-26.

175. Mark A. Rothstein, *Genetics and the Work Force of the Next Hundred Years*, 2000 COLUM. BUS. L. REV. 371, 395 (2000).

176. *Coffee v. McDonnell-Douglas Corp.*, 503 P.2d 1366, 560-61 (Cal. 1972) (discussing failure to disclose to patient disease discovered in physical examination for health purposes).

tions. If the professional standard calls for testing, if the dangers are significant, or if the costs of genetic testing are low, the standard of the professional may be second guessed by the court.¹⁷⁷

Take the possible duty to third parties. This implicates often the employment context, but may touch insurance where a person requires that insurance perform tasks that endanger third parties. Outside employment and insurance, the issue of a professional's liability arises when a physician treats a person for a disease that has very strong genetic links. The duty, as mentioned, may be to warn the patient in order that he or she can make informed decisions about reproduction. The duty might go further to warn the issue of the patient of their susceptibility to that disease, allowing them to take preventative steps. As might be expected, the authority is conflicted.¹⁷⁸ Although some authority would limit the scope of professionals' liability to clients or patients, the prevalent view relies upon the more capacious foreseeability test.¹⁷⁹ Therefore, a duty is owed to all those who would be foreseeably injured by the physician's negligence. If the employment risks to others stem from a disorder that the physician should have diagnosed, liability would follow. The duty is more confidently extended to third parties if the professional's duty to the third party is compatible or reinforces the duty to the patient.¹⁸⁰ The question is whether the duty would extend beyond an actually manifested disorder to genetic testing. If a marker for alcoholism is identified by a physician, a strong argument may be made that he should warn the employer to take special precautionary steps when the danger is grave, for example, if the employer is the captain of a super tanker. The duty is discharged by the warning.

If the professional withholds information, precluding a person from undergoing therapy, causation is immediately at issue. The plaintiff must show that the information would have avoided the disorder. Often causation will be less than clear. In these cases, the plaintiff will argue that the warning has destroyed his chances of a normal life free of the disorder. The valuation of this chance has troubled the courts.¹⁸¹

177. *Helling v. Cary*, 519 P.2d 981, 983 (Wash. 1974) (holding an ophthalmologist negligent as a matter of law for failing to routinely test patients under forty for glaucoma, despite undisputed testimony that the test was not required).

178. *See, e.g., Pate v. Threlkel*, 661 So.2d 278, 281-82 (Fla. 1995); *cf. Safer v. Estate of Pack*, 677 A.2d 1188 (N.J. 1996).

179. *See, e.g., DiMarco v. Lynch Homes-Chester County, Inc.*, 583 A.2d 422, 425 (Pa. 1990); *cf. Praesel v. Johnson*, 967 S.W.2d 391, 398 (Tex. 1998).

180. *See generally Partlett & Nurcombe, supra* note 156.

181. *Cahoon v. Cummings*, 734 N.E.2d 535, 541 (Ind. 2000) (allowing damages to be measured in proportion to increased risk); *cf. Johnson v. Kokemoor*, 545 N.W.2d 495, 510 (Wis. 1996) (denying proportional damages).

2. A Clash of Aims

Much is speculative in the area of genetics. Certainly, the law of confidence and discrimination should stake out a bounded and justifiably protected area of protection for individuals. To the extent that genetic information is generated or revealed within a relationship, it can only be used for those limited purposes. And further, genetic information that is used in insurance or employment in an arbitrary — non-rational — way to exclude individuals should be considered unlawful and actionable by the aggrieved party. As in disability law, the central issue is whether genetic information is relevant and appropriate in insurance cover or in employment. It is preferable to give the courts a guided discretion to apply, in concrete cases, on this issue.¹⁸² It follows that the strong privacy rule that would prohibit the use of genetic information in employment and insurance reaches too far. Its scope to freeze the production of harm-relieving, socially-useful information is too great. It fails the test of balance.¹⁸³

Even without soothsaying on the future of genetic information as it is accumulated and used in research,¹⁸⁴ the tensions with the purposes of tort law are obvious. The law of tort works to reduce risks of personal injury. The interest in risk reduction often trumps other interests. A physician seized with knowledge that a patient poses significant dangers to third parties owes a duty to warn those third parties of the danger.¹⁸⁵ A precisely-worded statute will expunge any duty of a physician, or other similarly placed professional, to warn potential victims. But tort law reveals a social cost of such a statute. Potential victims who could be warned would proceed blindly when warning may have avoided the danger. It will be put that this is appropriate because the vice of disclosure is greater than the potential benefits of warning. Note, however, that the strong privacy rule, by fiat, decides the balance, without subtle examination and regardless of scientific developments. The costs of such a strong rule, when contrasted with the evolutionary common law method, are outlined in the first part of this paper.

The duty to warn also implicates another principle often urged by reformers in this area of genetics. A person should have a right not to

182. ALRC DISCUSSION PAPER, *supra* note 2, at 681 (expressing a view that “existing anti-discrimination and occupational health and safety laws should be clarified, and that certain safeguards should be put in place in relation to the collection and use of genetic information in the workplace”).

183. See Sunstein, *supra* note 5, at 711-14; cf. Catherine M. Valerio Barrad, Comment, *Genetic Information and Property Theory*, 87 NW. U. L. REV. 1037 (1993).

184. See generally Bradburn, *supra* note 5, at 687-89; Diver & Cohen, *supra* note 6, at 1440-44.

185. *Tarasoff v. Regents of Univ. of Cal.*, 529 P.2d 553, 561 (Cal. 1974).

know his or her genetic makeup.¹⁸⁶ This is seen as an aspect of self-autonomy enthroned in the doctrine of informed consent. One can agree with this, except that it may clash with the risk analysis of tort law. If a person has a genetic marker for Huntington's Disease, and he or she proposes to conceive a child, the spouse and the child have a vital interest in the information that may override confidentiality. It, of course, may not override a precisely-worded privacy statute. Again, that statute prevents an examination of real and potential harm of nondisclosure.

I suggest that the paradigm of professionals' liability will be an appropriate lens through which to regulate misuse of genetic information. The law's capacity to balance competing interests is superior to broad legislative efforts that make secret individuals' genetic information. The courts must be stern guardians of the integrity of contractual arrangements that reallocate liability or waive responsibility. Given the stakes, it is not apparent that the courts lack a desire to make those checks. Recall that the professional relationship involves equitable protections that will permit courts a greater scope to take a hard look; unconscionability and undue influence with equitable remedies are powerful discretionary tools of review.

IV. CONCLUSION

I had never thought that the Enron debacle would have relevance in the protection against the misuse of genetic information. The analogy, however, is not a far stretch. Modern complex society depends upon the intervention of professionals to execute our society's transactions. The integrity of those professionals is central to the proper culmination of those transactions. Professionals are the conduits for trust — that essential ingredient in the efficient operation of modern complex societies.¹⁸⁷ Just as in financial corporate transactions, where we have witnessed the baleful results of professional weakness, I submit that an appropriate and extended reexamination of professional's duties in respect of genetic information will reassure individuals and allow an appropriate harnessing of that information.¹⁸⁸ To be sure,

186. Colby, *supra* note 1, at 458 (emphasizing the value of autonomy).

187. Menachem Mautner, *Contract, Culture, Compulsion, or: What Is So Problematic in the Application of Objective Standards in Contract Law?*, in 3 THEORETICAL INQUIRIES IN LAW, NEGLIGENCE AND THE LAW (PART 1) 12 (claiming that "the rise of the objective approach in contract law, as part of the rise of reliance-based liability in twentieth-century law in general, is a product of the prevalence of the experience of trust in modern life"). For observation on trust in construction of social capital, see generally Fukuyama, *supra* note 4.

188. For examination of the fabric of professional gate-keepers in Enron, see John C. Coffee, Jr., *Understanding Enron: It's About the Gatekeepers, Stupid*, 57 BUS. LAW 1403 (2002). For lawyers liability and ethical obligations, see Roger C. Cramton, *Enron and the Corporate Lawyer: A Primer on Legal and Ethical Issues*, 58 BUS. LAW 143 (2002). For a thorough analysis of the Enron breakdown, see Bratton, *supra* note 4.

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this paper does not perform that task. But, a start cannot be made until reformers shift from their broad regulatory frameworks. To look at professional's liability as a way forward is not as arresting as bold imaginative regulatory schemes. It is certainly against the trend. But, it is the way forward. As the new frontiers are rolled back, at the heart of the issue will stand the professional with her set of legal and ethical responsibilities.

