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**DNA THEFT:  
RECOGNIZING THE CRIME OF NONCONSENSUAL  
GENETIC COLLECTION AND TESTING**

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*The fact that you leave genetic information behind on discarded tissues, used coffee cups, and smoked cigarettes everywhere you go is generally of little consequence. Trouble arises, however, when third parties retrieve this detritus of everyday life for the genetic information you have left behind. These third parties may be the police, and the regulation over their ability to collect this evidence is unclear.*

*The police are not the only people who are interested in your genetic information. Curious fans, nosy third parties, and blackmailers may also hope to gain information from the DNA of both public and private figures, and collecting and analyzing this genetic information without consent is startlingly easy to do. Committing DNA theft is as simple as sending in a used tissue to a company contacted over the internet and waiting for an analysis by email. A quick online search reveals many companies that offer “secret” or “discreet” DNA testing. The rapid proliferation of companies offering direct-to-consumer genetic testing at ever lower prices means that both the technology and incentives to commit DNA theft exist.*

*Yet in nearly every American jurisdiction, DNA theft is not a crime. Rather, the nonconsensual collection and analysis of another person’s DNA is virtually unconstrained by law. This Article explains how DNA theft poses a serious threat to genetic privacy and why it merits consideration as a distinct criminal offense.*

#### INTRODUCTION

The fact that you leave genetic information behind on discarded tissues, used coffee cups, and smoked cigarettes everywhere you go is generally of little consequence. Trouble arises, however, when third parties retrieve this detritus of everyday life for the genetic information you have left behind. These third parties may be the police, and the regulation over their ability to collect this evidence is unclear.<sup>1</sup>

The police are not the only ones who are interested in other people’s genetic information. Consider:

- The political party that is interested in discovering and publicizing any predispositions to disease that might render a presidential candidate of the opposing party unsuitable for office.<sup>2</sup>

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<sup>1</sup> The rules governing police collection of “abandoned DNA” are discussed in Elizabeth E. Joh, Essay, *Reclaiming “Abandoned” DNA: The Fourth Amendment and Genetic Privacy*, 100 NW. U. L. REV. 857, 862-74 (2006).

<sup>2</sup> See Robert C. Green & George J. Annas, *The Genetic Privacy of Presidential Candidates*, 359 NEW ENG. J. MED. 2192, 2192 (2008) (arguing that the motives for surreptitious sampling of a candidate’s DNA are strong and the ability to analyze information is readily available).

- An historian who wishes to put to rest rumors about those who claim to be the illegitimate descendants of a former president but refuse to submit to genetic testing.<sup>3</sup>
- A professional sports team that wants to analyze the genetic information of a prospective player, despite his protests, to screen for risks of fatal health conditions before offering him a multi-million dollar contract.<sup>4</sup>
- An individual's personal enemy who would be thrilled to analyze the genetic information of his target and post information on the internet about the target's likelihood of becoming an alcoholic, a criminal, or obese.<sup>5</sup>
- A wealthy grandparent who suspects that a grandchild is not genetically related to her and plans to disinherit him if that is the case.<sup>6</sup>
- A person involved in a romantic relationship who wants to find out whether his partner carries the gene for male pattern baldness or persistent miscarriage.<sup>7</sup>
- A couple who would like to know if their prospective adoptive child has any potential health issues before they make a final decision.<sup>8</sup>
- Fans who would pay a high price to buy the genetic information of their favorite celebrity.<sup>9</sup>

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<sup>3</sup> While the descendants of Sally Hemings did confirm their lineage to Thomas Jefferson through DNA testing, the claimed descendants of the alleged union between Warren Harding and Nan Britton have thus far refused DNA testing. See Eugene Foster et al., *Jefferson Fathered Slave's Last Child*, 396 NATURE 27, 27 (1998) (presenting genetic evidence that Thomas Jefferson was most likely the father of Eston Hemings Jefferson, Sally Hemings's youngest son); Jacob M. Appel, *History's DNA*, CHI. TRIB., Aug. 21, 2008, at C23 (reporting that neither Britton's nor Harding's descendants are particularly interested in using DNA testing to verify allegations that Harding fathered Britton's daughter, underscoring that these "historical puzzles . . . cannot be solved without the consent and assistance of living individuals").

<sup>4</sup> NBA player Eddy Curry faced a similar situation with the Chicago Bulls before they traded him to the New York Knicks. See Howard Beck, *Curry and Knicks Find It Hard to Move Forward*, N.Y. TIMES, Oct. 15, 2005, at D4.

<sup>5</sup> See *infra* Part I.C.

<sup>6</sup> See *infra* Part I.B.

<sup>7</sup> Cf. GENETICS & PUB. POLICY CTR., DTC GENETIC TESTING COMPANIES (2010), available at <http://www.dnapolicy.org/resources/AlphabetizedDTCGeneticTestingCompanies.pdf> (surveying the tests available from various direct-to-consumer genetic testing companies).

<sup>8</sup> Peter Aldhous & Michael Reilly, *How My Genome Was Hacked*, NEW SCIENTIST, Mar. 28, 2009, at 6, 9.

<sup>9</sup> See *infra* Part I.A.

If any of these curious people want to act, they can. A quick search of the internet unearths many companies that offer “secret” or “discreet” DNA testing.<sup>10</sup> An undercover investigation by the Government Accountability Office (GAO) in 2010 reported that representatives of two of the fifteen companies it targeted specifically suggested the use of surreptitious and nonconsensual genetic testing.<sup>11</sup> The proliferation of direct-to-consumer DNA tests that are increasingly inexpensive and readily accessible means that these third parties may attempt to collect and analyze anyone’s DNA without consent.<sup>12</sup> Companies like 23andMe, Navigenics, and deCODEme promise to identify predispositions to various diseases and health conditions.<sup>13</sup> A saliva DNA collection kit bought at your local Walgreens for less than three hundred dollars might be just around the corner.<sup>14</sup>

What is more, in most American jurisdictions, the nonconsensual collection of human tissue for the purposes of analyzing DNA, or “DNA theft” as I will call it, is not a crime (or even a civil violation for that matter). While a number of states and the federal government ban the disclosure of genetic testing

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<sup>10</sup> See, e.g., Victoria Colliver, *Home DNA Tests: When You Just Have to Know*, S.F. CHRON., Aug. 21, 2007, at C1 (discussing companies that offer at-home genetic testing, including discreet paternity tests). By DNA test, I mean “an analysis of human DNA, RNA, proteins(s), or metabolite(s) to diagnose or predict a heritable human disease[,] to guide treatment decisions, . . . or to predict disease recurrence on the basis of data about multiple genes or their encoded products.” Stuart Hogarth, Gail Javitt & David Melzer, *The Current Landscape for Direct-to-Consumer Genetic Testing: Legal, Ethical, and Policy Issues*, 9 ANN. REV. GENOMICS & HUM. GENETICS 161, 163 (2008).

<sup>11</sup> U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-10-847T, DIRECT-TO-CONSUMER GENETIC TESTS: MISLEADING TEST RESULTS ARE FURTHER COMPLICATED BY DECEPTIVE MARKETING AND OTHER QUESTIONABLE PRACTICES 16 (2010), available at <http://www.gao.gov/new.items/d10847t.pdf>. Note that the GAO’s observation, based on a report by the Johns Hopkins Genetics and Public Policy Center, that thirty-three states restrict surreptitious sampling, is misleading. See *id.* Thirty-three states do have laws that restrict non-consensual collection or testing, but the scope of these laws is quite limited, e.g., only in the health care or employment context. See *infra* Part III.B and accompanying notes.

<sup>12</sup> See, e.g., 1 AUSTL. LAW REFORM COMM’N, ESSENTIALLY YOURS: THE PROTECTION OF HUMAN GENETIC INFORMATION IN AUSTRALIA (ALRC REPORT 96) 360 (2003), available at [http://www.alrc.gov.au/sites/default/files/pdfs/publications/ALRC96\\_vol1.pdf](http://www.alrc.gov.au/sites/default/files/pdfs/publications/ALRC96_vol1.pdf) (“[T]he power of biomedical technology and the ubiquity of human genetic samples leaves open the potential for bodily samples to be taken and tested without the knowledge or consent of the individual to whom they relate.”).

<sup>13</sup> See Melanie Swan, *Multigenic Condition Risk Assessment in Direct-to-Consumer Genomic Services*, 12 GENETICS IN MED. 279, 279 (2010).

<sup>14</sup> Pathway Genomics announced in May 2010 that it would begin selling over-the-counter DNA tests at Walgreens pharmacies, but Walgreens postponed sales after the FDA questioned whether Pathway should have received regulatory approval. Andrew Pollack, *Walgreens Delays Selling Personal Genetic Test Kit*, N.Y. TIMES, May 13, 2010, at B5; see also Andrew Pollack, *Pathway Genomics Is Expected to Sell Genetic Testing Kits Through Walgreens Stores*, N.Y. TIMES, May 11, 2010, at B2 (reporting that the tests will disclose the risk of getting diseases such as diabetes, heart disease, and some cancers).

results in some circumstances, such as health and employment, the great majority of American jurisdictions, including the federal government, do not criminalize the nonconsensual collection of human tissue for the purposes of analyzing DNA.<sup>15</sup> DNA theft is generally unconstrained by law.

A satirical website predicts that DNA theft will be a problem in 2029,<sup>16</sup> but the concern is not that remote. People are likely already collecting and analyzing genetic information from others who probably would not have consented to it.<sup>17</sup> With DNA theft, the incentives exist, the technology is available, and the costs for engaging in it are decreasing all the time. Indeed, a surprising amount of information about one's medical predispositions, family ties, or ancestry can be discovered for a few hundred dollars.<sup>18</sup> The scientific community has already expressed concerns about what it has identified as DNA theft, gene-napping, or genetic identify theft,<sup>19</sup> but legal scholars and legislators have largely ignored the topic.<sup>20</sup>

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<sup>15</sup> While this nonconsensual collection and analysis of DNA is sometimes referred to as "surreptitious sampling," this term excludes DNA collection and analysis by force (i.e., an assault). While most of the cases that are the subject of my discussion are conducted secretly without using force, the same concerns are raised even if the DNA thief takes another person's genetic material by force. Thus, the offense should take into account that collection may at times involve force.

<sup>16</sup> See *DNA Theft Prevention Tips*, FUTURE UPDATE: THE REALLY EARLY EDITION (May 25, 2009, 12:26 PM), <http://futureupdate.wordpress.com/2009/05/25/dna-theft-prevention-tips/>.

<sup>17</sup> See *infra* Part I.A-C.

<sup>18</sup> See, e.g., Chris Berdick, *Your DNA on Demand*, WASH. POST, Jan. 26, 2010, at HE1.

<sup>19</sup> See, e.g., Alan McHughen, *Technological Advances Increase the Risk of Genetic Identity Theft*, GENETIC ENGINEERING & BIOTECHNOLOGY NEWS, Aug. 1, 2009, at 6 (arguing that "the plummeting cost of genomic technologies" will mean an increase in DNA theft); Editorial, *Limit the Fallout from DNA Tests*, NEW SCIENTIST, Jan. 24, 2009, at 5, 5 (raising concerns about the lack of regulation over "'stolen' DNA"); Editorial, *Our DNA Needs Protection from 'Genome Hackers'*, NEW SCIENTIST, Mar. 28, 2009, at 3, 3 (calling for laws protecting one's "'abandoned' DNA" from others); Jacob M. Appel, Op-Ed., *'Gene-Nappers', Like Identity Thieves, New Threat of Digital Age*, NEW HAVEN REG. (Nov. 5, 2009), <http://www.newhavenregister.com/articles/2009/11/05/opinion/doc4af258b842a6d983291505.txt?viewmode=fullstory> (arguing that legislation is needed to address "gene-napping"); cf. Green & Annas, *supra* note 2, at 2193 (dismissing the possibility of a federal law banning the sequencing of a presidential candidate's DNA without consent as less effective than restraining candidates and educating the public).

<sup>20</sup> Some recent exceptions include I. Glenn Cohen, *The Right Not to Be a Genetic Parent?*, 81 S. CAL. L. REV. 1115, 1117 (2008) (citing an instance of alleged theft of sperm by a woman for purposes of insemination); Erin Murphy, *Relative Doubt: Familial Searches of DNA Databases*, 109 MICH. L. REV. 291, 346 (2010) (suggesting that future regulations over familial searches might include prohibitions on "surreptitious" sampling); Mark A. Rothstein, *Genetic Stalking and Voyeurism: A New Challenge to Privacy*, 57 U. KAN. L. REV. 539, 572-76 (2009) (providing suggestions for future legislation that might address "genetic stalking").

This Article aims to fill that gap. As I will argue, the nonconsensual collection and analysis of another person's DNA merits serious consideration as a distinct criminal offense. The existing laws on DNA analysis in the United States, with a few exceptions, fail to address the problem.<sup>21</sup> While strong similarities exist between DNA theft and traditional theft offenses, the issues surrounding DNA collection and analysis<sup>22</sup> are sufficiently complex that American jurisdictions should recognize a distinct crime of DNA theft rather than try to subsume DNA theft within traditional theft law.<sup>23</sup> Without such a law, potential victims of DNA theft have little protection. And unlike with financial records, internet data, and conventional private property, there are few if any private precautions that can prevent DNA theft.

After considering the reasons for DNA theft in Part I and the harms of DNA theft in Part II, I address, in Part III, the treatment of DNA theft under current American law and provide comparative examples. In Part IV and V, I analyze the elements and benefits of a distinct criminal statute and propose that states (or Congress) adopt a model DNA theft statute that criminalizes the nonconsensual collection of another person's bodily material for the purpose of conducting genetic analysis. My claim is that current circumstances make a compelling case for criminalizing DNA theft. Even if legislatures opt not to target the nonconsensual collection and analysis of genetic information in the way that I have suggested here, the recurring nature of the issue – and its likely increasing prevalence – urges a measured and thoughtful approach to the problem.

### I. WHY DNA THEFT OCCURS

Why would someone surreptitiously obtain someone else's DNA without consent? As discussed below, the reasons turn on motivations that are both familiar and novel to traditional criminal law because of the kind of information that someone's DNA can provide. In addition, as the price of genetic testing technology continues dropping, surreptitious testing becomes increasingly available to the general public.<sup>24</sup> DNA theft falls into one of at least three different categories: celebrity DNA theft, paternity and fidelity disputes, and blackmailers and nosy neighbors.

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<sup>21</sup> See, e.g., Gail Javitt & Kathy Hudson, *Do You Know Who's Checking Your DNA?*, L.A. TIMES, Jan. 27, 2009, at A15 (arguing that society, including its laws, has "yet to confront the impossibility of DNA shredding and the challenge of protecting our genetic identities from the prying eyes of genetic voyeurs").

<sup>22</sup> For readers who are unfamiliar with the basics of forensic DNA analysis, the introductory materials on the DNA Initiative website are a useful guide. See *About Forensic DNA*, DNA INITIATIVE, <http://www.dna.gov/basics> (last visited Nov. 20, 2010).

<sup>23</sup> For the purposes of this article, I will refer to the person who obtains genetic material without consent as a thief and the person whose DNA is analyzed as the victim.

<sup>24</sup> Peter Aldhous & Michael Reilly, *Who Is Testing Your DNA?*, NEW SCIENTIST, Jan. 24, 2009, at 8, 10.

### A. *Celebrity DNA Theft*

To sell newspapers and make headlines, some media sources may engage in “genetic trophy hunting,” which is attempting to steal the DNA of public figures and celebrities.<sup>25</sup> In a culture obsessed with celebrity, it should come as no surprise that the intensity of fans’ interest in their preferred celebrities extends to their DNA. In a widely publicized case, the British media reported in 2002 a plot to steal hair from Prince Harry to see whether he was really Prince Charles’s genetic child.<sup>26</sup> The alleged plot involved hiring a woman to befriend Prince Harry and get close enough to pluck a few hairs from his head.<sup>27</sup> The results of a genetic paternity test – if the rumors were right – would be sold to a foreign newspaper.<sup>28</sup>

Similarly, concerns about genetic trophy hunting allegedly led President Clinton’s bodyguards to save a pint glass after the President drank from it in a British pub.<sup>29</sup> Offers of sale for items containing the DNA of President Obama, Elvis, and other famous persons on websites like eBay suggest a market for genetic material taken without consent.<sup>30</sup>

### B. *Paternity and Fidelity Disputes*

In other cases, the parties and interests are private. A number of companies offer consumers a chance to surreptitiously test DNA samples in cases of suspected infidelity or disputed paternity.<sup>31</sup> A person who suspects a spouse of infidelity may send the spouse’s underwear or bed sheets to a genetic testing company to determine if a third person’s DNA is present.<sup>32</sup> Where inheritances are at stake, surreptitious sampling may provide a reason for those who wish to disinherit heirs they believe to be genetically unrelated.

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<sup>25</sup> See 1 AUSTL. LAW REFORM COMM’N, *supra* note 12, at 360.

<sup>26</sup> Stephen Bates, *Newspaper Denies Plot to DNA Test Prince Harry’s Hair*, GUARDIAN (London), Dec. 16, 2002, at 9.

<sup>27</sup> Martin Smith, *Honey Trap Plot to Hire Beauty to Snatch a Lock of Hair from Harry*, MAIL ON SUNDAY (U.K.), Dec. 15, 2002, at 3.

<sup>28</sup> *Id.*

<sup>29</sup> Gaby Hinsliff, *Bid to Outlaw DNA Trophy Hunters*, OBSERVER (U.K.), Mar. 3, 2002, at 2.

<sup>30</sup> See, e.g., *Obama’s Half-Eaten Breakfast Sold on eBay*, ABC NEWS (Apr. 22, 2008, 3:28 PM), <http://blogs.abcnews.com/politicalradar/2008/04/obamas-half-eat.html> (describing an eBay listing for President Obama’s half-eaten breakfast and silverware with his DNA on it).

<sup>31</sup> See, e.g., David Derbyshire & Claire Ellicott, *First Over-the-Counter Paternity Test Goes on Sale Amid Claims It Will Encourage ‘DNA Theft’*, MAIL ONLINE (U.K.) (Nov. 18, 2009, 10:23 AM), <http://www.dailymail.co.uk/news/article-1228681/Paternity-tests-goes-sale-counter-amid-claims-encourage-DNA-theft.html> (describing concerns that the availability of paternity test offered by an American laboratory to British consumers will promote DNA theft).

<sup>32</sup> See Aldhous & Reilly, *supra* note 24, at 9.

A suspicious father might submit a sample of his child's DNA for testing without the mother's consent or knowledge to prove he is not the genetic father.<sup>33</sup> In other cases, the DNA thief might use the sample to prove that someone else is the true genetic parent. In one very public example, millionaire film producer Steve Bing alleged that billionaire Hollywood mogul Kirk Kerkorian arranged to have Bing's discarded dental floss retrieved from his garbage to prove that the child at the center of Kerkorian's paternity dispute was Bing's genetic child, not Kerkorian's.<sup>34</sup>

C. *Blackmailers and Nosy Neighbors*

In the third category of cases are blackmailers, nosy neighbors, and others with similarly ignoble motives. Third parties may collect DNA without consent as a means of personal vengeance or mischief. DNA can reveal many facts people wish to remain secret. The would-be victims may want to avoid disclosing true genetic relationships with their children, or with children in other intact families. Other secrets might pertain to the identity of the victim. For instance, a DNA thief might want to confirm suspicions that a self-identified Native American who uses her identity for governmental recognition and tribal benefits has no such genetic ancestry at all.<sup>35</sup>

Criminals might also steal DNA to use the genetic identity of their victim,<sup>36</sup> either to deflect police suspicion or simply to assume the victim's genetic identity for illegal purposes.<sup>37</sup>

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<sup>33</sup> Such tests are sometimes referred to as "motherless testing." Michael Gilding, *DNA Paternity Testing Without the Knowledge or Consent of the Mother: New Technology, New Choices, New Debates*, 68 FAMILY MATTERS (Austl.) 68, 69 (Winter 2004) (internal quotation marks omitted), available at <http://www.aifs.gov.au/institute/pubs/fm2004/fm68/mg.pdf>. Likewise, tests conducted by mothers without the consent or knowledge of their husbands are referred to as "fatherless tests." *Id.* at 71 (internal quotation marks omitted).

<sup>34</sup> *Bing Drops Kerkorian Lawsuit*, BBC NEWS (July 4, 2002, 7:49 AM), <http://news.bbc.co.uk/2/hi/entertainment/2092488.stm>. The suit was eventually settled out of court. *Id.*

<sup>35</sup> See Amy Harmon, *Seeking Ancestry, and Privilege, in DNA Ties Uncovered by Tests*, N.Y. TIMES, Apr. 12, 2006, at A1 (reporting on DNA-based identity claims for college financial aid, inheritance rights, Israeli citizenship, and Native American casino money).

<sup>36</sup> Media accounts relate criminals' attempts, however scientifically unfounded, to eliminate evidence of their own genetic traces or to substitute someone else's genetic evidence at crime scenes. See, e.g., Leila Atassi, *DNA from Rape Trial Ties Man to 2007 Slaying*, CLEV. PLAIN DEALER, Mar. 10, 2009, at A1 (stating that a murder victim's body was sanitized in an attempt to destroy DNA evidence); Joe Milica, *TV Crime Dramas a How-to Guide for Killers*, ASSOCIATED PRESS, Jan. 28, 2006, available at Factiva, Doc. No. APRS000020060128e21s002r6 (describing a criminal defendant's attempt to eliminate traces of DNA evidence with bleach and fire as an example of an increasing trend).

<sup>37</sup> This was the central plot device of the science fiction movie *Gattaca*. GATTACA (Columbia Pictures 1997).

#### D. Cheap and Available Technology

None of these would-be DNA thieves posed much of a concern when genetic testing was prohibitively expensive and thus inaccessible to ordinary people. Today, however, a number of companies offer direct-to-consumer (DTC) genetic testing, usually through the internet, that is increasingly inexpensive and widely available.<sup>38</sup> Genetic testing of all sorts can be as easy as using your credit card to order a kit over the internet, swabbing a few cheek cells, mailing back the kit to the laboratory and receiving an email with the information for which you have paid.<sup>39</sup> Depending on the information sought, tests currently cost consumers anywhere from one hundred dollars to more than three hundred thousand dollars for an entire genome scan.<sup>40</sup> This is the growing field of “recreational genomics” or “personal genomics” in which consumers seek their genetic information for personal reasons rather than under a doctor’s supervision.<sup>41</sup>

Genetic tests to resolve doubts about paternity and other family relationships have been available since the 1990s, first over the internet and later in drug stores.<sup>42</sup> Other DTC genetic test companies like 23andMe,<sup>43</sup> Navigenics,<sup>44</sup> and deCODEme<sup>45</sup> promise to tell consumers about their predispositions to diseases

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<sup>38</sup> See Bridget M. Kuehn, *Risks and Benefits of Direct-to-Consumer Genetic Testing Remain Unclear*, 300 JAMA 1503, 1503 (2008). Despite the increasing commercial availability of genetic tests, however, scientists doubt the benefit of testing; rather than producing diagnostic results, these commercial tests “screen for surrogate genetic markers, called single-nucleotide polymorphisms (SNPs), that have been associated with an increased risk of developing a disease.” *Id.*

<sup>39</sup> Howard Wolinsky, *Do-It-Yourself Diagnosis*, 6 EUR. MOLECULAR BIOLOGY ORG. (EMBO) REP. 805, 805 (2005). This type of test is sometimes referred to as a “home brew” test, which permits consumers to access genetic laboratory services by submitting biological samples through the mail. Charles Schmidt, *Regulators Weigh Risks of Consumer Genetic Tests*, 26 NATURE BIOTECHNOLOGY 145, 145 (2008).

<sup>40</sup> See Berdick, *supra* note 18; Amy Harmon, *Gene Map Becomes a Luxury Item*, N.Y. TIMES, Mar. 4, 2008, at F1 (observing that the cost of genome sequencing, which cost the Human Genome Project three hundred million dollars in 2003, has gone from “stratospheric to merely very expensive”).

<sup>41</sup> See, e.g., Berdick, *supra* note 18; Robin Marantz Henig, *The Genome in Black and White (and Gray)*, N.Y. TIMES, Oct. 10, 2004, § 6 (Magazine), at 47 (describing the growing phenomenon of “recreational genomics,” in which people curious about their heritage pay for tests that show the racial breakdown of their genome).

<sup>42</sup> Andrew Pollack, *Rite Aid Stores in West Selling a Paternity Test Kit*, N.Y. TIMES, Nov. 26, 2007, at C3 (reporting that the Identigene paternity test became the first DNA test sold through a major pharmacy chain).

<sup>43</sup> Store, 23ANDME, <https://www.23andme.com/store/> (last visited Nov. 21, 2010).

<sup>44</sup> *Conditions and Medication Responses*, NAVIGENICS, [http://www.navigenics.com/visitor/what\\_we\\_offer/conditions\\_we\\_cover/](http://www.navigenics.com/visitor/what_we_offer/conditions_we_cover/) (last visited Nov. 21, 2010).

<sup>45</sup> *deCODEme Complete Scan*, DECODEME, <https://www.decodeme.com/complete-genetic-scan> (last reviewed Feb. 18, 2010).

such as breast and ovarian cancer, propensities for behavioral characteristics like risk taking, potential receptivity to certain medications, and, for prospective parents, genetic markers for heritable conditions.<sup>46</sup> Tests also offer information about consumers' ancestry.<sup>47</sup>

Some of the testing satisfies little more than consumer curiosity. When Peter Orzag, former director of the Office of Management and Budget, was concerned about what he felt was an excessive Diet Coke habit,<sup>48</sup> he was delighted to find that he carried a gene that is supposed to help with efficient caffeine metabolism.<sup>49</sup>

The expansion of the DTC genetic testing market in the United States, where most of the world's DTC genetic testing companies are located, has been attributed primarily to the absence of strong regulatory controls.<sup>50</sup> At the federal level, neither the Federal Trade Commission nor the Food and Drug Administration regulate the vast majority of laboratories that provide DTC genetic testing services.<sup>51</sup> Indeed, the FDA has used its "enforcement discretion" and chosen not to regulate the DTC genetic testing market.<sup>52</sup>

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<sup>46</sup> See, e.g., Wolinsky, *supra* note 39, at 805 (remarking that the tests cover more than eight hundred conditions); Andrew Pollack, *Firm Brings Gene Tests to Masses*, N.Y. TIMES, Jan. 29, 2010, at B1 (describing newly formed company, Counsyl, that sells genetic tests to prospective parents). A recent survey of DTC genetic testing companies conducted by the Genetics and Public Policy Center counted thirty companies that offered information on over four hundred different diseases, health conditions, and predispositions. See GENETICS & PUB. POLICY CTR., *supra* note 7.

<sup>47</sup> See AMANDA K. SARATA, CONG. RESEARCH SERV., RS 22830, GENETIC ANCESTRY TESTING 2 (2008), available at <http://www.policyarchive.org/handle/10207/bitstreams/18866.pdf> (estimating that about two dozen companies offer genetic ancestry testing at costs ranging from one hundred to nine hundred dollars per test).

<sup>48</sup> See Mike Dorning, *Math Drills Made Child-Father-of Man Orzag into a Deficit Hawk*, <http://BLOOMBERG> (Dec. 1, 2009, 12:01 AM), <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=ar0pJnytSowo&pos=10>.

<sup>49</sup> Amanda Gardner, *Is It Worth Testing Your Genes?*, USA TODAY (Oct. 16, 2009, 6:30 PM), [http://www.usatoday.com/news/health/2009-10-16-genetic-tests\\_N.htm](http://www.usatoday.com/news/health/2009-10-16-genetic-tests_N.htm). An internet testing service offers the CaffeineGen analysis for \$179. *Id.*

<sup>50</sup> See Schmidt, *supra* note 39, at 145; Gardner, *supra* note 49. Many in the scientific and legal community have criticized the lack of significant regulation. In particular, an important review conducted in 2008 by the Secretary's Advisory Committee on Genetics Health and Society (SACGHS), a federal policy committee, was highly critical of the insufficient oversight of the industry. SEC'Y ADVISORY COMM. ON GENETICS, HEALTH, & SOC'Y, DEP'T OF HEALTH & HUMAN SERVS., U.S. SYSTEM OF OVERSIGHT OF GENETIC TESTING: A RESPONSE TO THE CHARGE OF THE SECRETARY OF HEALTH AND HUMAN SERVICES 6 (2008), available at [http://oba.od.nih.gov/oba/SACGHS/reports/SACGHS\\_oversight\\_report.pdf](http://oba.od.nih.gov/oba/SACGHS/reports/SACGHS_oversight_report.pdf).

<sup>51</sup> Hogarth et al., *supra* note 10, at 173 ("Most genetic tests sold directly to consumers . . . are not subject to any independent oversight [by the FDA] to assure their clinical validity."); *id.* at 174 (observing that, while the FTC has authority to do so, it "has not pursued enforcement action against companies that make false or misleading claims about

The federal agency now most directly responsible for regulating DTC tests is the Centers for Medicare and Medicaid Services (CMS), which enforces the Clinical Laboratory Improvement Amendments of 1988,<sup>53</sup> a law applicable to all clinical laboratories providing testing services in the United States.<sup>54</sup> Much criticism has been directed at the fact that CMS's regulatory authority addresses only analytic validity but not clinical validity.<sup>55</sup> Analytic validity refers to whether a lab performing a test reliably identifies the absence or presence of a certain genetic variation.<sup>56</sup> Clinical validity refers to whether the genetic variant actually correlates with a specific disease or health condition.<sup>57</sup>

As a result, the regulatory culture of the American DTC genetic testing market has been described as the "wild west,"<sup>58</sup> a "vacuum of regulation,"<sup>59</sup> and a "no man's land."<sup>60</sup> The absence of regulation, however, may be changing.<sup>61</sup> By July 2010, two separate inquiries into the DTC market had begun: the first, an investigation conducted by the House Committee on Energy and Commerce and its Subcommittee on Oversight and Investigations;<sup>62</sup> and the second, an announcement by the FDA that it intended

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genetic tests even when it has received complaints about a specific test").

<sup>52</sup> Schmidt, *supra* note 39, at 145. The FDA's decision to leave the majority of DTC genetic testing unregulated also has consequences for the FTC, as it often looks to the FDA's labeling requirements when considering enforcement actions. Gail H. Javitt & Kathy Hudson, *Federal Neglect: Regulation of Genetic Testing*, ISSUES IN SCI. & TECH., Spring 2006, at 59, 65.

<sup>53</sup> Clinical Laboratory Improvement Amendments of 1988, Pub. L. No. 100-578, 102 Stat. 2903 (codified as amended at 42 U.S.C. § 263a (2006)).

<sup>54</sup> Hogarth et al., *supra* note 10, at 170.

<sup>55</sup> See, e.g., *id.* ("Under CLIA, CMS certifies laboratories but does not evaluate the clinical validity of the tests those laboratories offer, instead leaving it up to the laboratory director's determination.").

<sup>56</sup> *Id.* at 169.

<sup>57</sup> *Id.*

<sup>58</sup> Wolinsky, *supra* note 39, at 806 (internal quotation marks omitted) (quoting bioethics expert Glenn McGee's description of the DTC genetic testing environment in the United States).

<sup>59</sup> *Id.* at 807.

<sup>60</sup> Gardner, *supra* note 49 (internal quotation marks omitted) (quoting senior researcher Sandra Soo-Jin Lee's depiction of regulation). Similar, though less extreme, comments have been made about the state of regulation in Western Europe. Pascal Borry, Letter to the Editor, *Europe to Ban Direct-to-Consumer Genetic Tests?*, 26 NATURE BIOTECHNOLOGY 736, 736 (2008) (citing widespread criticism of "the lack of a coherent regulatory landscape in Europe").

<sup>61</sup> For an excellent summary of the regulatory history of the DTC genetic testing market, see Dan Vorhaus, *The Past, Present and Future of DTC Genetic Testing Regulation*, GENOMICS L. REP. (Aug. 5, 2010), <http://www.genomicslawreport.com/index.php/2010/08/05/the-past-present-and-future-of-dtc-genetic-testing-regulation/#more-4062>.

<sup>62</sup> On May 19, 2010, the Committee sent letters requesting information about personal genetic testing kits to three of the larger DTC genetic testing companies: Pathway

to increase its oversight of the DTC market.<sup>63</sup> The House Subcommittee held a public hearing on July 22, 2010, with testimony from representatives of some of the major DTC genetic testing companies.<sup>64</sup> These developments may signal the beginning of stringent government controls, but no concrete steps have yet been taken.<sup>65</sup>

The current absence of significant regulatory controls has several troubling consequences. First, DTC genetic testing companies may make claims about their services that are misleading or false. For example, one company representative promised to provide products tailored to genetic testing results that could “repair damaged DNA,” a claim without scientific basis.<sup>66</sup> Such claims may mislead consumers to purchase testing services.<sup>67</sup>

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Genomics, Navigenics, and 23andMe. See Letter from the House Comm. on Energy & Commerce and Subcomm. on Oversight & Investigations to James Plante, CEO, Pathway Genomics Corp. (May 19, 2010), available at <http://energycommerce.house.gov/documents/20100519/Plante.PathwayGenomics.2010.5.19.pdf>; Letter from the House Comm. on Energy & Commerce and Subcomm. on Oversight & Investigations to Vance Vanier, President & CEO, Navigenics, Inc. (May 19, 2010), available at <http://energycommerce.house.gov/documents/20100519/Vanier.Navigenics.2010.5.19.pdf>; Letter from the House Comm. on Energy & Commerce and Subcomm. on Oversight & Investigations to Anne Wojcicki, President, 23andMe, Inc. (May 19, 2010), available at <http://energycommerce.house.gov/documents/20100519/Wojcicki.23andME.2010.5.19.pdf>.

<sup>63</sup> On June 10, 2010, the FDA sent letters to five DTC genetic testing companies with warnings that their products were medical devices that required regulatory approval. Andrew Pollack, *F.D.A. Faults Companies on Unapproved Genetic Tests*, N.Y. TIMES, June 12, 2010, at B2. The letters state that the companies must either seek approval from the FDA or explain why such approvals do not apply. *Id.*; see also *In Vitro Diagnostics*, U.S. FOOD & DRUG ADMIN., <http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/InVitroDiagnostics/default.htm> (last updated Nov. 4, 2010).

<sup>64</sup> See Memorandum from the House Comm. on Energy & Commerce to the Subcomm. on Oversight & Investigations Members and Staff (July 20, 2010), available at <http://energycommerce.house.gov/documents/20100720/Briefing.Memo.oi.2010.7.20.pdf>; *Hearing on “Direct-to-Consumer Genetic Testing and the Consequences to the Public Health,”* COMM. ON ENERGY & COMMERCE (July 22, 2010, 1:10 PM), [http://energycommerce.house.gov/index.php?option=com\\_content&view=article&id=2083:hearing-on-direct-to-consumer-genetic-testing-and-the-consequences-to-the-public-health&catid=133:subcommittee-on-oversight-and-investigations&Itemid=73](http://energycommerce.house.gov/index.php?option=com_content&view=article&id=2083:hearing-on-direct-to-consumer-genetic-testing-and-the-consequences-to-the-public-health&catid=133:subcommittee-on-oversight-and-investigations&Itemid=73).

<sup>65</sup> Even the state response to DTC genetic testing is underwhelming. While some states ban the testing, a larger number permit it, and still others remain silent on its permissibility. SHAWNA WILLIAMS, GENETICS & PUB. POLICY CTR., *DIRECT-TO-CONSUMER TESTING: EMPOWERING OR ENDANGERING THE PUBLIC?* (updated by Gail Javitt, 2008), available at [http://www.dnapolicy.org/images/issuebriefpdfs/2006\\_DTC\\_Issue\\_Brief.pdf](http://www.dnapolicy.org/images/issuebriefpdfs/2006_DTC_Issue_Brief.pdf) (counting twenty-five states (plus the District of Columbia) that permit DTC testing, thirteen that ban it, and twelve that limit its use).

<sup>66</sup> *DIRECT-TO-CONSUMER GENETIC TESTS*, *supra* note 11, at 16 (internal quotation marks omitted).

<sup>67</sup> See Javitt & Hudson, *supra* note 52, at 65 (“[T]he absence of a designated oversight body for most genetic tests . . . means that there is no expert agency with clear authority to

Second, the science on which the DTC genetic testing companies rest their analyses is not as dependable as consumers might believe.<sup>68</sup> Scientists do not consider many of the predispositions that DTC genetic tests claim to identify to be identifiable by a genetic analysis alone.<sup>69</sup> For example, tests identifying the presence of the BRCA1 and BRCA2 genes are strongly predictive of breast cancer in women who have a family history of breast cancer.<sup>70</sup> In contrast, the alleged marker for diabetes or obesity may not mean much, since many conditions are the product of a complex and as yet little understood interplay between genes, environment, and personal habits.<sup>71</sup> And because the genetic markers for many of these conditions are subject to different interpretations by different companies, one person's DNA sample can yield wildly different results based on the methodology a DTC genetic testing company chooses.<sup>72</sup>

Third, without requiring that medical consultation accompany genetic tests, consumers may not understand the real risks posed by the presence of certain gene markers and make uninformed health care decisions.<sup>73</sup>

Finally, and perhaps most importantly for DNA theft, in a "completely unregulated" market,<sup>74</sup> DTC genetic testing companies have few incentives to

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assess whether advertisements appropriately disclose all pertinent information to consumers.").

<sup>68</sup> In one investigation, the GAO submitted fourteen fictitious profiles to four DTC genetic testing companies that promised to make lifestyle recommendations based on the consumer's genetic profile. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-06-977T, NUTRIGENETIC TESTING: TESTS PURCHASED FROM FOUR WEB SITES MISLEAD CONSUMERS 2-3 (2006), available at <http://www.gao.gov/new.items/d06977t.pdf>. The report concluded that the results made predictions that were "medically unproven and so ambiguous that they do not provide meaningful information to consumers." *Id.* at 5.

<sup>69</sup> See, e.g., *Direct-to-Consumer Genetic Tests: Flawed and Unethical*, 9 LANCET ONCOLOGY 1113, 1113 (2008) ("[A]lthough certain mutations are linked to a higher risk of developing certain cancers, this risk is not absolute.").

<sup>70</sup> Hogarth et al., *supra* note 10, at 168; see also Gardner, *supra* note 49 (describing these tests as "tried and true").

<sup>71</sup> Hogarth et al., *supra* note 10, at 168; see also Timothy Caulfield, *Direct-to-Consumer Genetics and Health Policy: A Worst Case-Scenario?*, 9 AM. J. BIOETHICS 48, 49 (2009) ("[T]he risk information provided by DTC companies generally has minimal predictive power."); Gardner, *supra* note 49.

<sup>72</sup> In a 2010 undercover investigation by the GAO, five DNA donors received wildly different risk predictions for diseases such as leukemia and hypertension from different testing companies. DIRECT-TO-CONSUMER GENETIC TESTS, *supra* note 11, at 3-8.

<sup>73</sup> See, e.g., Editorial, *Control of Direct-to-Consumer Genetic Testing*, 372 LANCET 1360, 1360 (2008) ("More harm than good is done, for example, by false reassurance from unproven genetic tests or by unreliable information that could lead patients to terminate a pregnancy or seek surgery."); Wolinsky, *supra* note 39, at 807 (describing a consumer who underwent a prophylactic mastectomy after receiving the results of genetic tests for the BRCA gene, only to discover that the results were incorrect).

<sup>74</sup> Mary Carmichael, *DNA Dilemma: Should I Take a Genetic Test?*, NEWSWEEK (Aug. 2, 2010), <http://www.newsweek.com/2010/08/02/dna-dilemma-one-writer-s-week-long-quest->

check that the samples mailed to them actually belong to the consumer. An investigation by journalists at *New Scientist* found that a “genome hacking” sting was relatively easy to conduct.<sup>75</sup> Journalist Michael Reilly was able to collect his colleague’s saliva from a cup (with his consent), have one company extract the DNA, have another amplify the sample to create enough DNA for analysis, and have yet another analyze the DNA for any medical predispositions.<sup>76</sup> Reilly also successfully submitted a cheek swab with his colleague’s DNA for analysis.<sup>77</sup> One test cost about \$1700; the other, about \$985.<sup>78</sup> While all of the companies’ terms and conditions required that customers submitting DNA for analysis have the legal authority to do so, none checked Reilly’s claim that the DNA submitted was his.<sup>79</sup>

In other cases, DTC genetic testing companies explicitly contemplate that they are receiving nonconsensual samples from a third party<sup>80</sup> (and sometimes charge more for these services<sup>81</sup>). Although many companies require that paternity test samples be collected with consent, some openly offer “discreet” services for surreptitiously collected samples.<sup>82</sup> For example, a company called DNA Solutions offers “a secret DNA paternity test” for consumers who do not want to “unnecessarily alarm or upset other persons.”<sup>83</sup> For \$188, the company offers to provide a comparative analysis of DNA from the child and the suspected father, and suggests samples might be taken from used toothbrushes, Q-tips with ear wax, used bandages, or hairs.<sup>84</sup>

## II. THE HARMS OF DNA THEFT

We should worry about the consequences of nonconsensual DNA collection. At least two distinct types of harms exist, although one is much more significant than the other. First, I will address collection harms, which are the less significant consequence of nonconsensual DNA collection. Second, I will discuss the more serious consequence, analysis harms.

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to-determine-if-she-should-take-an-at-home-genetic-test.html.

<sup>75</sup> Aldhous & Reilly, *supra* note 8, at 7.

<sup>76</sup> *Id.* at 7-8.

<sup>77</sup> *Id.* at 8.

<sup>78</sup> *Id.* at 9.

<sup>79</sup> *Id.* at 8.

<sup>80</sup> A recent undercover investigation by the GAO found companies that explicitly suggested nonconsensual testing. See DIRECT-TO-CONSUMER GENETIC TESTS, *supra* note 11, at 16.

<sup>81</sup> See, e.g., Colliver, *supra* note 10 (revealing that one company charges \$245 for a standard paternity test and \$645 for a discreet test).

<sup>82</sup> See, e.g., *id.*

<sup>83</sup> *Secret Paternity Test*, DNA SOLUTIONS, <http://www.dnanow.com/secret-dna-test.htm> (last visited May 22, 2010).

<sup>84</sup> *Id.*

### A. *Collection Harms*

In a small number of cases, the victim may be harmed from the collection of the biological material itself.<sup>85</sup> In other words, some DNA thieves may resort to any tactic necessary to obtain the information they want, such as forcibly restraining the victim. Yet even if the DNA thief has committed criminal battery or false imprisonment, police are unlikely to pursue the matter if physical injuries to the victim are slight or the restraint momentary.<sup>86</sup>

Violent nonconsensual collection, however, is unlikely to be a significant danger. Because people shed biological material containing DNA all the time, even the most motivated DNA thief can easily obtain a sample from the victim without the victim's knowledge and without resorting to violence.

### B. *Analysis Harms*

The more serious harm results from genetic analysis of the information after the DNA sample is taken from the victim. It is a mistake to focus on the fact that a DNA thief's actions look like hunting through the trash and other discarded objects.<sup>87</sup> A generation ago this was just trash, but today there are important concerns about the information left behind *within* a discarded object.

Analysis of DNA found on discarded objects can reveal private medical or familial information. Personal control over that information is central to individual autonomy in making basic life decisions. Thus, third parties who obtain such information threaten privacy and individual autonomy.

#### 1. Exposure of Medical Information

First, DNA theft can result in the exposure of medical information a person wishes to keep private, or may not even know herself, such as a predisposition to certain cancers or Alzheimer's disease. Genetic information can reveal a great deal about predispositions to disease, as well as existing medical conditions that might otherwise be difficult to detect. Recognizing the potential harms of this knowledge, many state and federal laws protect against the nonconsensual disclosure of genetic information in certain contexts, such as health insurance and employment.<sup>88</sup> The purpose of these laws is to prevent discrimination against persons whose genetic information may reveal a tendency to develop a particular disease that may later be a costly expense to an employer or insurer.<sup>89</sup>

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<sup>85</sup> See, e.g., 1 AUSTL. LAW REFORM COMM'N, *supra* note 12, at 361 (stating that collection of DNA may involve battery).

<sup>86</sup> For further discussion of police discretion in the context of DNA theft, see *infra* Part IV.F.

<sup>87</sup> Note, though, that courts use this precise reasoning to reject Fourth Amendment claims, finding that individuals have no expectation of privacy in their discarded DNA because, like trash, it has been abandoned. See *infra* Part V.A.

<sup>88</sup> See discussion *infra* Part III.B.

<sup>89</sup> In a highly publicized incident, the Chicago Bulls asked player Eddy Curry to take a

Private individuals may also have reasons (few of them noble) to find out the genetic information of another person, despite that person's desire for privacy. Someone may wish to analyze your medical information as a form of genetic blackmail by threatening to publicize your predisposition to a disease.

## 2. Exposure of Genetic Ties

Second, DNA theft can reveal information about victims' family relationships, such as whether a child is genetically related to them or whether they are themselves the genetic children of their parents. Someone who suspects that a celebrity or other public figure is related to a child may attempt to obtain a genetic sample surreptitiously – as in the reported attempt to obtain Prince Harry's DNA<sup>90</sup> – for journalism, extortion, or entertainment. Private individuals may also fall victim to such schemes if a blackmailer suspects that the absence or presence of a genetic link is information that the individuals wish to keep secret. Yet in other cases, a third party may secretly obtain the DNA of a child because the DNA thief suspects he is the child's genetic, though not legal or social, father.<sup>91</sup>

The harm suffered by the victims of DNA theft in these cases does not depend on their ignorance of the information that the thief wishes to expose. A victim may already know, for instance, that the child to whom he is emotionally and legally bound is not his genetic child; he may want no one else – particularly the child – to know. In other cases, the victim may be surprised to discover that his child may or may not be genetically related to him.<sup>92</sup> In either case, the harm posed by the thief's actions is the intrusion into

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DNA test to determine whether he was predisposed to hypertrophic cardiomyopathy after Curry had been diagnosed with arrhythmia and an enlarged heart. Beck, *supra* note 4. After Curry refused, the Bulls traded him to the New York Knicks rather than assume the risk of a fatal attack on the court. *Id.*

<sup>90</sup> See *supra* notes 26-28 and accompanying text.

<sup>91</sup> This example comes from the HUMAN GENETICS COMM'N, INSIDE INFORMATION: BALANCING INTERESTS IN THE USE OF PERSONAL GENETIC DATA 60 (2002) (U.K.), available at <http://www.hgc.gov.uk/UploadDocs/DocPub/Document/insideinformation.pdf>. It was also the subject of an episode of the animated cartoon series, *King of the Hill*. See *King of the Hill: Three Men and a Bastard* (Fox television broadcast Feb. 17, 2008). In the episode, the character Dale secretly collects a hair follicle from a girl who looks like his own son for a genetic analysis that shows that the two children are in fact related. *Id.*

<sup>92</sup> On the other hand, DNA theft should probably exclude situations where a father takes the DNA of his own child to determine whether or not the child is biologically related to him. In such situations, the father, who is a legal parent, presumably can provide the necessary consent for the child. The British offense contains such a definition of "qualifying consent." Human Tissue Act, 2004, c. 30, § 45, sch. 4, pt. 1, ¶ 2(2) (Eng.) (internal quotation marks omitted), available at <http://www.legislation.gov.uk/ukpga/2004/30/enacted/data.pdf> (authorizing "a person who has parental responsibility" for a child to consent to DNA analysis on behalf of that child). Even these cases, however, present a number of difficult ethical and legal issues. For instance, when a legal father discovers that

the victim's private information and the potential harm to existing social and legal family relationships.

C. *The Right to Informational Privacy*

Whatever the nature of the information that the DNA thief seeks, the nonconsensual collection and analysis of his victim's genetic information substantially interferes with the victim's ability to control her personal information.<sup>93</sup> The right to informational privacy is not just a bioethical principle;<sup>94</sup> it is also an aspect of a more general right to privacy in a variety of contexts, such as paper records, cyberspace, and physical security.<sup>95</sup> This privacy right is recognized as a matter of federal constitutional law<sup>96</sup> as well as in the constitutional law of some states.<sup>97</sup>

In the context of genetic information, the right to informational privacy has two quite different and apparently contradictory aspects. The first is a person's ability to control the circumstances in which his personal information might be exposed to third parties.<sup>98</sup> With genetic information, the ability to take private precautions is limited; no locks or private security can protect the genetic traces we leave behind everywhere. Moreover, unlike a stolen credit card or bank account number, once your genetic information is exposed without your consent, nothing can be done to sever your connections to that information.

The second aspect of the right to informational privacy is the right *not* to know about personal information. Many bioethicists have recognized the

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he is not a biological father, many states require him to retain financial responsibility for the child. See Ruth Padawer, *Losing Fatherhood*, N.Y. TIMES, Nov. 22, 2009, § 6 (Magazine), at 38 (“[M]ost judges conclude that these men must continue to raise their children – or at least pay support – no matter what their DNA says.”).

<sup>93</sup> See 1 AUSTL. LAW REFORM COMM'N, *supra* note 12, at 361 (stating that the violation of the right to informational privacy is the “most obvious harm” of nonconsensual genetic testing).

<sup>94</sup> Some have referred specifically to the right to *genetic privacy*. See, e.g., HUMAN GENETICS COMM'N, *supra* note 91, at 41-42.

<sup>95</sup> See Charles Fried, *Privacy*, 77 YALE L.J. 475, 482 (1968) (“Privacy is not simply an absence of information about us in the minds of others; rather it is the *control* we have over information about ourselves.”). The content of the right to privacy, however, has been subject to varying interpretations. See Daniel J. Solove, *Conceptualizing Privacy*, 90 CALIF. L. REV. 1087, 1091-92 (2002) (arguing that privacy is multidimensional and context dependent).

<sup>96</sup> See, e.g., *Whalen v. Roe*, 429 U.S. 589, 599-600 (1977) (stating that right to privacy cases involve protecting the nondisclosure of information and autonomy in making decisions); Solove, *supra* note 95, at 1090 n.14.

<sup>97</sup> See, e.g., CAL. CONST. art. I, § 1 (recognizing an inalienable right to privacy).

<sup>98</sup> The right is implicated even if the third party analyzes the genetic information for personal curiosity and has no interest in publicizing it. See 1 AUSTL. LAW REFORM COMM'N, *supra* note 12, at 370 (“Once the information comes into existence, the potential for improper use and disclosure will exist.”).

importance of such a right in the genetic context.<sup>99</sup> Autonomy over one's genetic information includes the choice to shield oneself from knowledge, whether it is a genetic predisposition to disease, a health condition, disorders that one might pass on to future children, or the presence or absence of genetic family relationships. Some may not want to find out about genetic propensities to develop incurable diseases out of fear that this discovery will lead to feelings of hopelessness, depression, or even suicide.<sup>100</sup> In cases of disputed paternity, the revelation of true genetic parentage can create extreme emotional distress.<sup>101</sup>

#### D. *Limits on Genetic Privacy*

Like other important individual interests, however, genetic privacy cannot be absolute. Some aspects of our genetic information are obvious to a casual observer. One's eye color or hair type is a phenotypic expression of one's genes, but it would be difficult to shield these from ordinary public view.<sup>102</sup> In other circumstances, the information in question is private, but the individual's right must give way to other important social interests. Consequently, as Part IV discusses, at least two important exceptions would be necessary in a DNA theft statute.

### III. WHY A DISTINCT DNA THEFT OFFENSE?

Even if there are identifiable harms suffered by individuals when third parties collect and analyze their DNA without consent, a proposal for a new criminal offense may be met with skepticism. A tendency in the criminal law to reach ever more categories of conduct – overcriminalization – counsels caution whenever a new offense is contemplated. Some may wonder whether existing laws are adequate for the task or whether such an offense would be a

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<sup>99</sup> See HUMAN GENETICS COMM'N, *supra* note 91, at 47-48 (recognizing a right not to know, although recommending that the right not be absolute). The right has also been recognized in some international documents such as the Universal Declaration on the Human Genome and Human Rights. See Universal Declaration on the Human Genome and Human Rights, E.S.C. Res. 1997/29, art. 5(c), U.N. Doc. C/RES/1997/16 (Nov. 11, 1997) ("The right of each individual to decide whether or not to be informed of the results of genetic examination and the resulting consequences should be respected.").

<sup>100</sup> See, e.g., Tiffany Y. Latta, *Many with Cancer Gene Don't Want to Know*, MIDDLETOWN J. (Oct. 30, 2009, 7:41 PM), <http://www.middletownjournal.com/news/middle-town-news/many-with-cancer-gene-dont-want-to-know-376455.html?showComments=true> (describing the reluctance of those with a genetic predisposition to cancer to submit themselves to genetic testing).

<sup>101</sup> See Olga Craig, *I Love My Son, but I Have to Know: Is He Mine?*, SUNDAY TELEGRAPH (U.K.), June 15, 2003, available at Factiva, Doc. No. stel000020030615dz 6f000cg (describing interviews with fathers who ordered DNA tests because they suspected that their legal children were not genetically related to them).

<sup>102</sup> HUMAN GENETICS COMM'N, *supra* note 91, at 41.

radically new idea. To that end, it is useful to examine how DNA theft has been addressed outside the United States, as well as the state of American law on the subject.

A. *DNA Theft Outside of the United States*

While most American jurisdictions do not currently recognize a distinct DNA theft offense,<sup>103</sup> the fact that it exists or is under contemplation in other countries supports the idea that a new offense merits serious consideration.

Since 2006, United Kingdom law has recognized DNA theft as a criminal offense. Under a provision of the Human Tissue Act 2004 – a British law that regulates all activities involving human tissue<sup>104</sup> – the nonconsensual taking of another person’s bodily material for genetic analysis is a criminal offense, unless an “excepted purpose” is present.<sup>105</sup> The absence of the tissue provider’s consent (or its equivalent) is central to the offense of DNA theft under the British law.<sup>106</sup> The Act does, however, provide for a number of exceptions to the offense’s application. First, several special purposes are exempted from criminal liability, including using human tissue for the person’s medical treatment, the fulfillment of a court order, or law enforcement purposes.<sup>107</sup> Second, some kinds of tissue are exempted from the Act, including human tissue obtained from a person who died at least one hundred years before the Act went into effect and human tissue from an unknown source.<sup>108</sup> Third, the Act excuses those who reasonably believe that they are

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<sup>103</sup> See *infra* Part III.B.

<sup>104</sup> DEP’T OF HEALTH, HUMAN TISSUE ACT 2004: EXPLANATORY NOTES ¶ 4 (2004) (U.K.), available at <http://legislation.data.gov.uk/ukpga/2004/30/notes/data.pdf>. Concerns about organs removed without consent from the bodies of children at two British hospitals motivated passage of the Act. *Id.* ¶ 5.

<sup>105</sup> Human Tissue Act, 2004, c. 30, § 45(1) (Eng.), available at <http://www.legislation.gov.uk/ukpga/2004/30/enacted/data.pdf>. More specifically, a person is guilty of the offense if “he has any bodily material intending that any human DNA in the material be analysed without qualifying consent.” *Id.* § 45(1)(a)(i). While the entire Act applies only to England, Wales, and Northern Ireland, the offense of DNA theft, which is found in section 45 and Schedule 4 of the Act, applies throughout the United Kingdom. DEP’T OF HEALTH, *supra* note 104, ¶ 3.

<sup>106</sup> See Human Tissue Act § 45(1)(a)(i); HUMAN GENETICS COMM’N, *supra* note 91, at 42 (defining consent as the “principle which requires that the choices which the individual makes for himself or herself be respected”).

<sup>107</sup> Human Tissue Act § 45, sch. 4, pt. 2. Law enforcement purposes are interpreted to mean “establishing by whom, for what purpose, by what means and generally in what circumstances any crime was committed, and the apprehension of the person by whom any crime was committed.” *Id.* § 45, sch. 4, pt. 2, ¶ 5(2)(a)-(b).

<sup>108</sup> *Id.* § 45(2)(a)-(b); DEP’T OF HEALTH, *supra* note 104, ¶ 60.

exempted from the offense.<sup>109</sup> Those found guilty of the offense are subject to a three year prison sentence, a fine, or both.<sup>110</sup>

The offense of non-consensual DNA-taking was initially recommended by the Human Genetics Commission, an advisory body charged by the British government to provide advice on the ethical and legal impact of new genetic development.<sup>111</sup> Concerned about the increasing availability of inexpensive genetic testing in the private market and the ease of obtaining tissue capable of genetic analysis,<sup>112</sup> the Commission argued that existing law either did not address the subject of nonconsensual DNA collection or was sufficiently vague such that DNA theft may or may not have been covered.<sup>113</sup>

In Germany, the Bundestag (Parliament) in 2009 passed the Human Genetic Examination Act,<sup>114</sup> which greatly restricts genetic testing in several contexts, including employment, insurance, and prenatal diagnosis.<sup>115</sup> Only certain qualified doctors, who have received the consent of all parties involved, may conduct genetic tests.<sup>116</sup> The failure to obtain the necessary consent can result in a fine or a prison term of up to one year.<sup>117</sup> The law was passed in part because of a controversial court case involving a man who secretly tested the

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<sup>109</sup> Human Tissue Act § 45(1)(c); DEP'T OF HEALTH, *supra* note 104, ¶ 60.

<sup>110</sup> Human Tissue Act § 45(3)(b).

<sup>111</sup> See HUMAN GENETICS COMM'N, *supra* note 91, at 62; *About HGC*, HUMAN GENETICS COMM'N, <http://www.hgc.gov.uk/Client/Content.asp?ContentId=5> (last visited Mar. 19, 2010).

<sup>112</sup> In Europe, direct-to-consumer tests may one day soon be banned entirely. In 2008, the Council of Europe approved an additional protocol to the Convention on Human Rights and Biomedicine that would permit genetic testing only when "performed under individualised medical supervision." Additional Protocol to the Convention on Human Rights and Biomedicine Concerning Genetic Testing for Health Purposes art. 7, *opened for signature* Nov. 27, 2008, C.E.T.S. No. 203. The effect of this proposed ban will depend on how many member states approve the proposed protocol. See Borry, *supra* note 60, at 736.

<sup>113</sup> See HUMAN GENETICS COMM'N, *supra* note 91, at 60.

<sup>114</sup> Gesetz über genetische Untersuchungen bei Menschen [GenDG] [Human Genetic Examination Act], Apr. 24, 2009, BUNDESANZEIGER [BANZ.] (Ger.). The organization EuroGentest distributes a translation of the Act, upon which some of the information in this paragraph is based. See EUROGENTEST, NEW GERMAN LAW ON GENETIC TESTING TRANSLATED INTO ENGLISH (2009), available at [http://www.eurogentest.org/uploads/1247230263295/GenDG\\_German\\_English.pdf](http://www.eurogentest.org/uploads/1247230263295/GenDG_German_English.pdf). EuroGentest is a project funded by the European Union to harmonize genetic testing laws throughout the EU. *EuroGentest's Jean-Jacque Cassiman on Genetic Testing Harmonization and PGx*, PHARMACOGENOMICS REP. (Sept. 6, 2006), <http://www.genomeweb.com/dxpgx/eurogentests-jean-jacques-cassiman-genetic-testing-harmonization-and-pgx>.

<sup>115</sup> *Germany Limits Genetic Testing*, ASSOCIATED PRESS, Apr. 24, 2009, available at Factiva, Doc. No. APRS000020090424e54o0014q; *New German Law Restricts Genetic Testing*, DEUTSCHE WELLE, Apr. 24, 2009, available at Factiva, Doc. No. DEUEN00020090424e54o000gs.

<sup>116</sup> Human Genetic Examination Act §§ 7-8.

<sup>117</sup> Human Genetic Examination Act § 25(1).

DNA of his ex-partner's daughter – by taking her chewing gum – to prove that he was not the child's genetic father.<sup>118</sup> His claim to deny legal responsibility for the child, based on the nonconsensual genetic test, was rejected by the German Federal Constitutional Court as a breach of the child's right to privacy.<sup>119</sup>

Similar concerns also prompted the Australian Attorney General and Minister of Health to request in 2001 that the Australian Law Reform Commission<sup>120</sup> provide written recommendations for a regulatory framework regarding genetic privacy.<sup>121</sup> Among its formal recommendations was the creation of a new criminal offense prohibiting nonconsensual DNA collection and analysis,<sup>122</sup> influenced in part by the consideration and passage of the British DNA theft law.<sup>123</sup>

In 2008, the Australian Model Criminal Law Officers Committee, upon the request of the Commission and with the support of the Australian government,<sup>124</sup> drafted and released three model offenses.<sup>125</sup> Each model offense criminalizes the collection, testing, or disclosure of another person's genetic information.<sup>126</sup> The model offenses specify prison terms of up to two years for each violation.<sup>127</sup> Like the British law, the Australian model offenses focus on the absence of the victim's consent.<sup>128</sup> In 2009, the Committee was in the process of collecting public commentary on the model offenses in advance of preparing a final report.<sup>129</sup>

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<sup>118</sup> *Secret Paternity Tests Raise Tough Legal Questions*, DEUTSCHE WELLE, Nov. 21, 2006, available at Factiva, Doc. No. DEUEN00020061121e2b1000gp.

<sup>119</sup> *Constitutional Court Rules Secret Paternity Tests Still Illegal*, DEUTSCHE WELLE, Feb. 13, 2007, available at Factiva, Doc. No. DEUEN00020070213e32d000b5.

<sup>120</sup> The ALRC is an independent and permanent federal body whose chief purpose is to provide legal advice and recommendations to the government. *About*, AUSTL. LAW REFORM COMM'N, <http://www.alrc.gov.au/about/index.htm> (last modified Aug. 31, 2010).

<sup>121</sup> 1 AUSTL. LAW REFORM COMM'N, *supra* note 12, at 13-15.

<sup>122</sup> *Id.* at 35.

<sup>123</sup> *See id.* at 362-63.

<sup>124</sup> *ESSENTIALLY YOURS: THE PROTECTION OF HUMAN GENETIC INFORMATION: GOVERNMENT RESPONSE TO RECOMMENDATIONS 15* (2005), available at [www.nhmrc.gov.au/\\_files\\_nhmrc/file/about/committeess/hgac/eyfr.pdf](http://www.nhmrc.gov.au/_files_nhmrc/file/about/committeess/hgac/eyfr.pdf).

<sup>125</sup> MODEL CRIMINAL LAW OFFICERS' COMM. OF THE STANDING COMM. OF THE ATTORNEYS-GEN., DISCUSSION PAPER: NON-CONSENSUAL GENETIC TESTING 2, 16 (2008), available at [http://www.clrc.gov.au/www/agd/agd.nsf/Page/Modelcriminalcode\\_Non-ConsensualGeneticTestingDiscussionPaper](http://www.clrc.gov.au/www/agd/agd.nsf/Page/Modelcriminalcode_Non-ConsensualGeneticTestingDiscussionPaper)

<sup>126</sup> *See id.* at 16.

<sup>127</sup> *Id.*

<sup>128</sup> *See id.* at 16-17.

<sup>129</sup> *See id.* at 3. The Committee has not yet released a final report on this issue. E-mail from Fyfe Strachan, Project Officer, Standing Comm. of Attorneys-Gen., to Elizabeth E. Joh, Professor of Law, U.C. Davis Sch. of Law (Sept. 12, 2010, 9:57 PM) (on file with author).

B. *American Law and DNA Theft*

In the U.S., legislative attempts to protect genetic privacy have been sporadic and non-comprehensive. Most legislative efforts have focused on protecting Americans from genetic discrimination in the context of employment and health insurance. Federal law addresses these concerns through the Genetic Information Nondiscrimination Act of 2008 (GINA).<sup>130</sup> Described by some as “the first civil rights act of the 21st century,”<sup>131</sup> the Act prohibits employers from considering a person’s genetic information in most employment decisions.<sup>132</sup> Similarly, GINA prohibits health insurance companies from requiring genetic information or discriminating on the basis of genetic information.<sup>133</sup> The Act provides civil remedies to individuals and also permits enforcement by the Department of Labor.<sup>134</sup> GINA does not, however, address the problem of nonconsensual collection and analysis of DNA by private persons outside of the employment and insurance contexts.<sup>135</sup>

State restrictions on nonconsensual DNA collection or analysis vary greatly. Only ten states have passed laws written broadly enough that they might be interpreted to include DNA theft.<sup>136</sup> These states prohibit the collection,

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<sup>130</sup> Genetic Information Nondiscrimination Act of 2008, Pub. L. No. 110-233, 122 Stat. 881.

<sup>131</sup> NANCY LEE JONES & AMANDA K. SARATA, CONG. RESEARCH SERV., RL 34584, THE GENETIC INFORMATION NONDISCRIMINATION ACT OF 2008 (GINA) 1 (2008), available at <http://fpc.state.gov/documents/organization/108319.pdf>.

<sup>132</sup> Genetic Information Nondiscrimination Act § 202(a) (to be codified at 42 U.S.C. § 2000ff-1).

<sup>133</sup> *Id.* § 101(a)-(b) (to be codified as amended at 29 U.S.C. § 1182); *id.* § 102(a)(1)-(2), (b)(1) (to be codified as amended at 42 U.S.C. §§ 300gg-1, 300gg-53). The Act was passed out of concern that Americans would avoid genetic testing because of fears that results would be used against them in employment or insurance decisions. Steven Greenhouse, *Law Seeks to Ban Misuse of Genetic Testing*, N.Y. TIMES, Nov. 16, 2009, at B5.

<sup>134</sup> Genetic Information Nondiscrimination Act § 101(e) (to be codified as amended at 29 U.S.C. § 1132); *id.* § 102(a)(5), (b)(2) (to be codified as amended at 42 U.S.C. §§ 300gg-22(b), 300gg-61(b)); *id.* § 207 (to be codified at 42 U.S.C. § 2000ff-6).

<sup>135</sup> *See id.* § 2(5) (to be codified at 42 U.S.C. § 2000ff note) (finding that GINA meant to address incomplete federal law “addressing genetic discrimination in health insurance and employment”).

<sup>136</sup> *See* GENETICS & PUB. POLICY CTR., STATE LAWS PERTAINING TO SURREPTITIOUS DNA TESTING 1 (2009), available at [http://www.dnapolicy.org/resources/State\\_law\\_summaries\\_final\\_all\\_states.pdf](http://www.dnapolicy.org/resources/State_law_summaries_final_all_states.pdf). The statutes of the ten states that fall into this category are: ALASKA STAT. § 18.13.010 (2008) (requiring informed written consent to collect, analyze, or retain DNA samples or to disclose the results of DNA analysis); FLA. STAT. ANN. § 760.40 (West 2010) (prohibiting DNA analysis or disclosure of results without informed consent); GA. CODE ANN. § 33-54-3 (2005) (prohibiting genetic testing “without the prior written consent of the person to be tested”); MASS. GEN. LAWS ch. 111, § 70G(c) (2008) (prohibiting health care providers from conducting genetic testing or disclosing results without informed written consent); MINN. STAT. § 13.386(3) (2008) (prohibiting collection, storage, use, and

analysis, or disclosure of another person's DNA without consent. Alaska's law is probably the most comprehensive. It prohibits anyone from "collect[ing] a DNA sample from a person, perform[ing] a DNA analysis on a sample, retain[ing] a DNA sample or the results of a DNA analysis, or disclos[ing] the results of a DNA analysis unless the person has first obtained the informed and written consent of the person."<sup>137</sup> Unlike Alaska, a number of states within this group target only a particular sort of conduct, such as a prohibition against only disclosure of information or only analysis and disclosure but not collection.<sup>138</sup>

Furthermore, of these ten states, only five characterize DNA theft as a *criminal* act, and even then only as a minor offense.<sup>139</sup> In the other states, violations incur civil penalties or provide for a private right of action.<sup>140</sup> No state punishes DNA theft as a felony.

Other states restrict DNA testing without consent, but only in the context of health-related testing.<sup>141</sup> Since these statutes cover only health-related testing,

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dissemination of genetic information without informed written consent); N.H. REV. STAT. ANN. § 141-H:2 (Supp. 2009) (prohibiting genetic testing or disclosure of results without written informed consent); N.J. STAT. ANN. §§ 10:5-45 to -47 (West 2010) (prohibiting the collection, retention, or disclosure of genetic information without informed consent); N.M. STAT. ANN. § 24-21-3 (West 2003) (prohibiting collection, retention, transmission, or use of genetic information without informed written consent); N.Y. CIV. RIGHTS LAW § 79-l(2)-(3) (McKinney 2009) (prohibiting genetic testing or disclosure of results without informed written consent); OR. REV. STAT. ANN. §§ 192.535, 192.537 (West Supp. 2010) (prohibiting collection and use of genetic information without informed consent). Of these ten states, however, Massachusetts addresses only the conduct of health care providers. GENETICS & PUB. POLICY CTR., *supra*, at 23.

<sup>137</sup> ALASKA STAT. § 18.13.010(a)(1).

<sup>138</sup> See FLA. STAT. ANN. § 760.40 (prohibiting analysis or disclosure of results); GA. CODE ANN. § 33-54-3 (prohibiting testing without prior consent); MASS. GEN. LAWS ch. 111, § 70G(c) (prohibiting health related entities from analyzing or disclosing results); N.H. REV. STAT. ANN. § 141-H:2 (prohibiting analysis and disclosure); N.Y. CIV. RIGHTS LAW § 79-l(2)-(3) (prohibiting testing and disclosure).

<sup>139</sup> See ALASKA STAT. § 18.13.030(c) (declaring the act a class A misdemeanor); FLA. STAT. ANN. § 760.40(2)(b) (declaring the act a first degree misdemeanor); N.J. STAT. ANN. § 10:5-49 (imposing a potential prison term of up to one year and fine of up to five thousand dollars); N.Y. CIV. RIGHTS LAW § 79-l(5)(b) (declaring the act a misdemeanor punishable up to five thousand dollars and ninety days imprisonment); OR. REV. STAT. ANN. § 192.543(2) (West 2007) (declaring the act a Class A misdemeanor).

<sup>140</sup> See GA. CODE ANN. § 33-54-8 (providing victim with cause of action); MASS. GEN. LAWS ch. 111, § 70G(d) (providing for private right of action); N.H. REV. STAT. ANN. § 141-H:6 (providing for private right of action); N.M. STAT. ANN. § 24-21-6 (providing for private right of action). Notably, Minnesota provides for *no* penalties upon violation of its genetic theft law. See MINN. STAT. § 13.386.

<sup>141</sup> The Genetics and Public Policy Center found eleven states that only restrict surreptitious DNA testing that is for health-related purposes: Arizona, California, Delaware, Illinois, Louisiana, Missouri, Nevada, North Dakota, South Carolina, South Dakota, and

they exclude nonconsensual (and usually surreptitious) DNA collection and analysis to discover whether a person is genetically related to another (also known as parentage testing), or whether a person traces his ancestors to a particular racial group (genealogy or ancestry testing). Other states restrict nonconsensual DNA testing in narrow categories, such as in paternity proceedings or the employment context.<sup>142</sup> A large number of states have no applicable laws with regard to nonconsensual DNA testing.<sup>143</sup> In sum, the great majority of states do *not* characterize the nonconsensual collection of human tissue for the purposes of DNA analysis as a criminal offense.

### C. Existing Criminal Laws

Even if a jurisdiction has no criminal statute clearly directed at DNA theft, one might think that traditional criminal laws are expansive enough to address the conduct in question, without the need for legislating yet another new criminal offense. What traditional criminal offenses might encompass DNA theft?<sup>144</sup>

Theft is an obvious choice. The traditional crime of larceny covers the unlawful dispossession of most objects capable of theft (with the exception of real property).<sup>145</sup> The stolen item's value may matter in grading the severity of a particular theft offense.<sup>146</sup> A court, though, is unlikely to interpret a traditional theft law to reach the nonconsensual collection of genetic material from a discarded item for two reasons.

First, if a court focuses on the item from which the genetic material was retrieved, discarded objects such as cigarettes and soda cans will likely be considered abandoned rather than the property of the DNA theft victim. Courts may decide to dispose of the theft question on this basis, even though

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Vermont. See GENETICS & PUB. POLICY CTR., *supra* note 136, at 4, 6, 9, 15, 20, 27, 30, 36, 42, 43, 47.

<sup>142</sup> The Genetics and Public Policy Center found four states that restrict testing, analysis, or disclosure for both parentage and health-related reasons (Michigan, Nebraska, Texas, Washington), three states that restricted collection, testing, or disclosure in the parentage context alone (Alabama, Colorado, Wyoming), and two states that restricted the same in the employment context (Iowa and Wisconsin). See *id.* at 2, 7, 17, 24, 29, 45, 49, 51, 52.

<sup>143</sup> See *id.* at 1 (observing that twenty-one states and the District of Columbia have no relevant statutes).

<sup>144</sup> In addition to theft, some states may also have criminal or civil laws that reach some of the concerns addressed here, such as laws targeting identity theft and medical fraud. See, e.g., N.Y. PENAL LAW § 165.07 (McKinney 2010) (prohibiting “tangible reproduction or representation of . . . secret scientific material by means of writing, photographing, drawing, mechanically or electronically reproducing or recording” such material with the “intent to appropriate to himself or another the use” of the same).

<sup>145</sup> See WAYNE R. LAFAVE, CRIMINAL LAW § 19.4(a) (5th ed. 2010).

<sup>146</sup> *Id.* § 19.4(b) (“[P]ractically all American jurisdictions by statute divide larceny (and, usually, theft more generally) into categories, depending on the amount stolen.”).

the victim's objection is to the retrieval of her genetic material rather than the item upon which it was found.<sup>147</sup>

Second, while a few states have declared through legislation that DNA is the property of the person from whom it has been taken, in most states the legal characterization of personal genetic material is ambiguous.<sup>148</sup> Rather than potentially intrude upon legislative authority by extending theft law to the context of DNA, courts in this situation are more likely to find that DNA cannot be the subject of a conventional theft prosecution.

In the cases in which a person has been physically injured or constrained in order to retrieve genetic material, the offenses of battery or false imprisonment might apply. Neither offense, however, provides much protection to the victim. In most cases these offenses will not apply because the DNA thief will likely prefer to collect genetic material from discarded objects rather than confront the victim. And even when a person has been touched without consent or temporarily restrained, police and prosecutors are unlikely to pursue any case in which injuries are minor.<sup>149</sup>

While it is true that many criminal offenses can be interpreted to reach many different kinds of criminal conduct, in the case of DNA theft, the legal issues are sufficiently ambiguous that a distinct offense is preferable.

#### IV. THE CORE ELEMENTS OF THE OFFENSE

The offense of DNA theft would criminalize nonconsensual DNA collection and analysis by third parties. It would, under a state's penal code, prohibit (1) knowingly taking or storing another person's bodily material (2) without consent (3) for the purpose of analyzing or disclosing the genetic information therein. Defined in this way, the crime should be sufficiently narrow to reach much of the conduct about which we worry without sweeping in conduct that concerns us far less. Each of these elements is considered in more detail below.

##### A. *The Criminal Act*

DNA theft as it is defined here focuses on the thief's collection or storage of the victim's bodily material. Any more precise definition of the object of theft is likely to be too narrow, because genetic analysis can be conducted on very

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<sup>147</sup> This characterization has been prevalent in the Fourth Amendment decisions that have addressed surreptitious and nonconsensual DNA collection by the police. *See infra* Part V.A.

<sup>148</sup> *See* Joh, *supra* note 1, at 868 & n.61 (indicating that only some legislatures have declared DNA private property of the individual); *cf.* 1 AUSTL. LAW REFORM COMM'N, *supra* note 12, at 363 (observing that traditional theft is unlikely to apply to DNA theft under Australian law because "no proprietary rights are vested in the individual from whom samples are taken").

<sup>149</sup> *Cf.* 1 AUSTL. LAW REFORM COMM'N, *supra* note 12, at 362 (contending that such a prosecution would be unlikely under Australian law).

small amounts of human tissue samples: a few billionths or trillionths of a gram.<sup>150</sup> Many ordinary items can contain sufficient biological material capable of undergoing DNA analysis. For instance, one firm advertising its genetic analysis services suggests a variety of samples prospective customers might submit to confirm suspicions that a partner is unfaithful, such as dental floss, ear wax, electric razor clippings, gum, and cigarette butts.<sup>151</sup>

### B. *The Absence of Consent*

The second key element is the absence of the victim's consent. Existing American laws that address DNA testing likewise focus on consent.<sup>152</sup> To avoid difficult judgments in cases in which consent may be unclear, or in which the defendant may be reckless with respect to the lack of consent,<sup>153</sup> the statute should require informed and written consent in most cases. Such a requirement would prevent not only forcible collection of DNA, but also collection by deceit (such as asking the victim to lick a stamp) and surreptitious means (such as collecting an item recently used by the victim).

### C. *The Mental State*

DNA theft should only address those instances where the DNA thief retrieves the biological sample with the specific objective of analyzing the genetic information. Inadvertent taking would not fall within the definition of the offense.<sup>154</sup> A fan who buys Elvis's hat as a memento and for its monetary value might inadvertently buy some of Elvis's discarded skin cells as well, but he lacks the mental state that the offense specifies. Even if the market for celebrity goods produces items whose value includes celebrity DNA, the offense would not be applicable, unless the fan intended to analyze the genetic information.

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<sup>150</sup> See, e.g., Peter Gill, *DNA as Evidence – The Technology of Identification*, 352 NEW ENG. J. MED. 2669, 2670 (2005) (observing that it is possible to analyze small samples that contain approximately sixty cells); Andy Coghlan, *Controversial Forensic DNA Test Gets the Green Light*, NEW SCIENTIST (Apr. 11, 2008, 3:11 PM), <http://www.newscientist.com/article/dn13653-controversial-forensic-dna-test-gets-the-green-light.html> (describing a new DNA technique used in the United Kingdom, the Netherlands, Germany, New Zealand, Australia, and the United States that permits analysis of samples with only picogram amounts of DNA).

<sup>151</sup> *DNA Infidelity Testing Services*, THE GENETIC TESTING LABORATORIES, INC., <https://www.gtldna.net/infidelity.html> (last visited Mar. 10, 2010).

<sup>152</sup> See sources cited *supra* note 136.

<sup>153</sup> Such issues regarding consent are some of the most difficult in rape law, for instance.

<sup>154</sup> A related, although extreme, case was the claimed theft of Boris Becker's sperm for the purpose of producing a "love child" and blackmailing Becker. See Luisa Dillner, *Seminal Truths*, GUARDIAN (London), Jan. 23, 2001, at 10. Subsequent reports revealed that Becker fathered the child, identified as his biological child by DNA testing, in the usual way. See Emma Brockes, *Brief Encounter*, GUARDIAN (London), July 27, 2001, at 4.

Notice that traditional theft law and DNA theft would not always criminalize the same behavior. Consider the celebrity fan example. Someone who steals Elvis's hat from a museum to keep as a memento (and is uninterested in any of Elvis's DNA that might be on it) will be guilty of larceny, but not DNA theft. On the other hand, the same fan who buys the hat on eBay in a legal transaction *with* the purpose of harvesting some DNA for analysis would be guilty of DNA theft, although not traditional larceny.

With these proposed elements, a DNA theft statute will reach those who intend to steal someone's genetic information without unnecessarily targeting others who do not pose the same danger to genetic privacy.

<b>Example</b>	<b>Conduct</b>	<b>Mental State</b>	<b>Result</b>
A collects B's sample without consent with the purpose of analyzing the DNA to publicize results.	Yes	Yes	Guilty
A inadvertently collects B's sample without consent.	Yes	No	Not guilty
A collects B's sample without consent knowing it to contain DNA but with no intention of analyzing the sample.	Yes	No	Not guilty
A collects B's sample without consent and analyzes it for private amusement.	Yes	Yes	Guilty

#### D. *Exceptions*

Even if a DNA theft offense criminalizes most instances of non-consensual collection and analysis of DNA by a third party, we should recognize at least two explicit exceptions that bar prosecution. First, a DNA theft offense should grant an explicit exception for purposes related to law enforcement and court proceedings.<sup>155</sup> That is, the police should not fear prosecution in cases in which they collect DNA without the suspect's consent in legitimate investigations (rather than out of idle curiosity or for personal use). While most jurisdictions recognize a law enforcement or public authority exception as a separate common law or statutory matter,<sup>156</sup> a DNA theft statute that specifies the inapplicability of a criminal sanction to normal investigative

<sup>155</sup> Both the British DNA theft offense and the Australian model DNA theft offense recognize these exceptions. See Human Tissue Act, 2004, c. 30, § 45, sch. 4, pt. 2, ¶ 5(1)(d)-(g) (Eng.), available at <http://www.legislation.gov.uk/ukpga/2004/30/enacted/data.pdf>; MODEL CRIMINAL LAW OFFICERS' COMM. OF THE STANDING COMM. OF THE ATTORNEYS-GEN., *supra* note 125, at 30-31.

<sup>156</sup> See LAFAVE, *supra* note 145, § 10.2.

activity seems best suited to clarify any issues that might arise as to the police. (On the other hand, a law enforcement exception does *not* address what procedures, such as a warrant, might be necessary when police collect involuntarily shed genetic material from a suspect without consent.<sup>157</sup>) Likewise, court-ordered DNA tests for proceedings should be exempted. For instance, in a paternity dispute, a court may order a DNA test against the wishes of one of the parties.

Second, a DNA theft offense should recognize an explicit exception for legitimate medical or research purposes.<sup>158</sup> To properly treat a patient, a doctor may need to collect and analyze the patient's DNA relying on implied consent rather than the written consent the statute would otherwise require.<sup>159</sup> Similarly, a DNA theft offense should not interfere with legitimate research on DNA, such as in large-scale public health studies in which the source of the genetic information is not identified.

E. *Should DNA Theft Be Classified as a Felony?*

How seriously should we treat the crime of DNA theft? When new developments in science or technology raise awareness about the desirability for a new criminal offense, we risk creating crimes that misjudge the offense's severity. A common legislative response is to react too punitively and pass laws that treat a newly recognized criminal act more harshly than is justified by later and more sophisticated knowledge.<sup>160</sup>

A good example of punitive overreaction is the proliferation of HIV-specific criminal laws that legislatures passed in the 1980s and 1990s, a time when fears about HIV transmission were at their height.<sup>161</sup> Many of these laws continue to punish certain acts, such as spitting on the victim, as forms of

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<sup>157</sup> For suggestions, see Joh, *supra* note 1, at 880-82.

<sup>158</sup> The British DNA theft offense recognizes these exceptions as well. See Human Tissue Act § 45, sch. 4, pt. 2 ¶¶ 5(1)(a), 6. The Australian model DNA offense probably recognizes such exceptions as well. See MODEL CRIMINAL LAW OFFICERS' COMM. OF THE STANDING COMM. OF THE ATTORNEYS-GEN., *supra* note 125, at 17 (recognizing defense when "another law of the State [or Territory]" authorizes collection or analysis (alteration in original)); see also 1 AUSTL. LAW REFORM COMM'N, *supra* note 12, at 372 (recommending that medical and research purposes should be recognized as legitimate exceptions under any new DNA theft offense).

<sup>159</sup> See *supra* Part IV.B.

<sup>160</sup> An analogous phenomenon is overcriminalization, which involves the extension of criminal law to behavior that may not result in obvious harms to anyone, or harms about which people may not have reached a consensus. Sanford H. Kadish, *The Crisis of Overcriminalization*, 374 ANNALS AM. ACAD. POL. & SOC. SCI. 157, 158 (1967). For a penetrating analysis of how constitutional law invites legislative overreach in substantive criminal law and sentencing, see William J. Stuntz, *The Political Constitution of Criminal Justice*, 119 HARV. L. REV. 781, 802-07 (2006).

<sup>161</sup> Katie Thomas, *Equestrian Is Facing H.I.V.-Related Felony Charge*, N.Y. TIMES, Apr. 12, 2010, at A12.

intentional or knowing HIV transmission, despite the fact that current scientific understanding has concluded that such means are impossible methods of transmission.<sup>162</sup> Many of those convicted under these laws received lengthy prison sentences.<sup>163</sup>

In other cases, newly minted crimes may *underestimate* the severity of the conduct. DNA theft may be such an example. As Part III.B discussed, only a small minority of states have passed laws that both (a) address the nonconsensual collection and analysis of another person's genetic material and (b) punish that conduct under a criminal, rather than civil, code. Of this small group, all punish DNA theft as a misdemeanor. The broadest distinction of criminal severity used in all jurisdictions is the line between misdemeanors and felonies.<sup>164</sup> Generally speaking, misdemeanors refer to those crimes punishable by a year or less of imprisonment, and felonies, those crimes punishable by imprisonment of more than a year or death (where the death penalty applies).<sup>165</sup>

With the traditional crime of larceny, nearly all jurisdictions classify theft crimes into at least two categories, such as grand (felony) and petty (misdemeanor) theft, based on the value of the item stolen.<sup>166</sup> The amount the stolen item must be worth in order to qualify as a felony theft varies considerably from state to state, but the most common amount is about five hundred dollars.<sup>167</sup> The dollar amount that divides serious thefts from less serious ones is a gauge of the value of the items stolen, but it is at best a blunt instrument. Is the dollar value of license plates, personal papers, and other items so obvious?<sup>168</sup> Gauging the value of a person's genetic information is not easy, but surely it is a value that meets or exceeds the typical lines that we

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<sup>162</sup> *Id.* In other cases, however, prosecutors have used criminal laws of general applicability to prosecute HIV transmission cases. *See id.* (describing the conviction of an HIV-positive man for harassing a public servant with a deadly weapon by spitting at a police officer).

<sup>163</sup> *See* Zita Lazzarini et al., *Evaluating the Impact of Criminal Laws on HIV Risk Behavior*, 30 J.L. MED. & ETHICS 239, 244-45 (2002) (compiling data on 142 HIV-related convictions between 1986 and 2001 and finding the average minimum sentence to be 14.3 years).

<sup>164</sup> *See* LAFAVE, *supra* note 145, § 1.6(a).

<sup>165</sup> *Id.*

<sup>166</sup> *Id.* § 19.4(b).

<sup>167</sup> *Id.*

<sup>168</sup> *See* *Cowan v. State*, 287 S.W. 201, 202 (Ark. 1926) (finding that stolen license plates were the objects of grand larceny); *Commonwealth v. Weston*, 135 N.E. 465, 468-69 (Mass. 1922) (deciding that photographs and papers taken from victim's office were the objects of larceny because of their value to the owner even if they had no market value). Keep in mind too, that adding a defendant's criminal history can produce odd results: Leonadro Andrade's twenty-five year to life sentence for stealing five videotapes worth about one hundred and fifty dollars – his "third strike" – is a well-known example. *See* *Lockyer v. Andrade*, 538 U.S. 63, 66-68 (2003).

use to distinguish grand and petty larceny: a rough measure of gravity for theft offenses. Thus, legislation should treat DNA theft as a felony.

F. *Taking DNA Theft Seriously*

The only DNA theft law worth passing is one worth enforcing. If a legislature feels that the reasons for passing a law are compelling enough, so too must the executive branch take seriously its own responsibilities in identifying instances in which DNA thieves should be prosecuted. In the United States, an investigation by journalists from *New Scientist* in 2009 found that none of the states with laws that might prohibit DNA theft ever enforced those laws.<sup>169</sup> The same is true of the British DNA theft law; no one has yet been prosecuted.<sup>170</sup> *New Scientist's* journalists also found a number of companies doing business in the United Kingdom that were willing to test samples without consent well after the passage of the British DNA theft law.<sup>171</sup>

American prosecutors and police officers have considerable discretion in deciding which laws to enforce.<sup>172</sup> The decentralized nature of policing also means that different priorities of enforcement exist from one place to another.<sup>173</sup> When these decisions seem to be made with unjustified zeal or apathy, however, overenforcement and underenforcement present challenges to our assumptions about democratic policing.<sup>174</sup>

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<sup>169</sup> Aldhous & Reilly, *supra* note 24, at 10.

<sup>170</sup> *Id.*

<sup>171</sup> Journalist Peter Aldhous posed as a man suspecting his wife of infidelity and a man suspecting that a child born of an extramarital affair might be his genetic child. Peter Aldhous, *Could Your DNA Betray You?*, *NEW SCIENTIST*, Jan. 31, 2009, at 7-8. In each case, he asked companies whether he could submit a sample of someone else's DNA for testing. *Id.* In the first test case, five of the seven companies contacted agreed to analyze the samples. *Id.* at 7. In the second test case, one of five companies contacted agreed to perform the analysis. *Id.* at 8.

<sup>172</sup> The United States Supreme Court, for instance, has shown little interest in reining in prosecutorial or police discretion as a matter of federal constitutional law. *See, e.g.*, *Whren v. United States*, 517 U.S. 806, 813 (1996) (holding that a stop based on probable cause is reasonable under the Fourth Amendment regardless of the subjective motivations of the officer); *Wayte v. United States*, 470 U.S. 598, 607 (1985) (“[B]road [prosecutorial] discretion rests largely on the recognition that the decision to prosecute is particularly ill-suited to judicial review.”). For a discussion of how technology might curb police discretion, see Elizabeth E. Joh, Essay, *Discretionless Policing: Technology and the Fourth Amendment*, 95 CALIF. L. REV. 199, 221-25 (2007).

<sup>173</sup> For a detailed analysis of police discretion and its effect on enforcement priorities, see the seminal article by Joseph Goldstein, *Police Discretion Not to Invoke the Criminal Process: Low-Visibility Decisions in the Administration of Justice*, 69 YALE L.J. 543 (1960).

<sup>174</sup> For an insightful analysis of the challenges posed to democratic values by police underenforcement, see Alexandra Natapoff, *Underenforcement*, 75 FORDHAM L. REV. 1715 (2006).

In the case of underenforcement, practical or cultural reasons can sometimes explain the reluctance to pursue cases. The occupational culture of the police or prosecutor's office may not encourage aggressive pursuit of a particular crime.<sup>175</sup> This cultural resistance can sometimes be overcome by formal enforcement obligations, either imposed externally through local laws or internally through departmental guidelines.<sup>176</sup> In other cases, resource constraints force police department and prosecutors' offices to focus only on offenses they deem particularly serious.<sup>177</sup> Whatever the reason for underenforcement, any legislative efforts at criminalizing DNA theft must be accompanied by publicity and training for those who will enforce and prosecute the law.

#### V. BENEFITS OF A DNA THEFT OFFENSE

A DNA theft offense will have numerous benefits. Most directly, a DNA theft offense will address the harms suffered by persons whose genetic information has been collected and analyzed without their consent. And in a climate in which DNA theft has no associated social stigma, criminalization also sends a broader normative message about the seriousness of these harms to genetic privacy. While addressing social and individual harms is at the core of the criminal law, there are other benefits to the adoption of a DNA theft offense that are somewhat less obvious, but equally worthy, objectives.

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<sup>175</sup> A good example is the enforcement of domestic violence laws, once viewed by many police departments as private disputes not worthy of official intervention. *See* MEG TOWNSEND ET AL., LAW ENFORCEMENT RESPONSE TO EMERGENCY DOMESTIC VIOLENCE CALLS FOR SERVICE 7 (2005), available at <http://www.ncjrs.gov/pdffiles1/nij/grants/215915.pdf>. Studies that revealed the underenforcement of these laws in the 1980s prompted many police departments to adopt mandatory or presumptive arrest policies. *See id.* at 8-9. Another example is the recent decision by the Department of Justice under Attorney General Holder declaring prosecutions for medical marijuana use a low enforcement priority. *See* Memorandum from David W. Ogden, Deputy Att'y Gen., to Selected U.S. Att'ys (Oct. 19, 2009), available at <http://www.justice.gov/opa/documents/medical-marijuana.pdf>.

<sup>176</sup> *Cf.* Byron Williams, *Prostitution Issue Feeds Dialogue of Preconceived Notions*, OAKLAND TRIB., Oct. 29, 2004 (discussing Berkeley, California's proposed Measure Q, which would formally make enforcement of prostitution laws a low police priority).

<sup>177</sup> *See, e.g.*, Henry K. Lee, *D.A. Cuts Efforts on Lesser Crimes*, S.F. CHRON., Apr. 22, 2009, at B1 (relating Contra Costa County District Attorney's announcement that misdemeanors and felony drug cases involving small amounts of drugs will no longer be prosecuted because of budget cuts); Henry K. Lee, *Only Violent Crimes to Get Cops' Response*, S.F. CHRON., July 17, 2010, at A1 (reporting announcement by Oakland Police Department "that officers would no longer be dispatched to take reports for most nonviolent crimes").

A. *Fourth Amendment Clarification*

Surreptitious sampling of a suspect's DNA by the police is becoming a more popular way to confirm suspicions when the police either lack the probable cause for a warrant or do not want to alert the suspect that he is the target of an investigation.<sup>178</sup> Although police departments around the country have started collecting genetic evidence from coffee cups, smoked cigarettes, and used utensils, the technique has aroused controversy and its legality is unsettled.<sup>179</sup> Unsurprisingly, police and prosecutors have argued that because the items on which the genetic information is found have been abandoned, so too has the suspect's privacy expectation in his DNA.<sup>180</sup> The handful of court decisions on this issue rely upon an analogy to the Supreme Court's decision in *California v. Greenwood*<sup>181</sup> to hold that suspects lack any reasonable expectation of privacy in "abandoned DNA."<sup>182</sup>

The adoption of a DNA theft offense could help clarify the appropriate Fourth Amendment characterization of genetic information that everyone sheds involuntarily. The existence of a DNA theft offense expresses a social norm that genetic information, wherever it is found, retains individual privacy interests that deserve protection from theft. Of course, it is not always the case that substantive criminal law determines the content of a reasonable expectation of privacy under the Fourth Amendment. For instance, under the Fourth Amendment's "open fields" doctrine, police may engage in conduct that constitutes criminal trespass although their actions do not necessarily implicate a search.<sup>183</sup> In determining what constitutes a reasonable expectation

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<sup>178</sup> See, e.g., Amy Harmon, *Lawyers Fight DNA Samples Gained on Sly*, N.Y. TIMES, Apr. 3, 2008, at A1. Quite recently, Lonnie Franklin, believed to be the "Grim Sleeper" responsible for a series of murders between 1985 and 2007, was arrested in part because of DNA taken from used utensils. See Elizabeth Joh, Op-Ed., *A 'Familial' Net; We Mustn't Ignore the Perils of Genetic Data Mining*, L.A. TIMES, July 10, 2010, at A27.

<sup>179</sup> See Joh, *supra* note 1, at 860-61; Joh, *supra* note 178.

<sup>180</sup> See Harmon, *supra* note 178.

<sup>181</sup> 486 U.S. 35, 37, 40-41 (1988) (holding that the Fourth Amendment does not prohibit "the warrantless search and seizure of garbage left for collection outside the curtilage of a home" because respondents did not have an expectation of privacy).

<sup>182</sup> E.g., *Commonwealth v. Bly*, 862 N.E.2d 341, 356-57 (Mass. 2007) (concluding that defendant had no expectation of privacy in a water bottle and cigarette butts from which DNA was taken); *State v. Wickline*, 440 N.W.2d 249, 253 (Neb. 1989) (rejecting argument for Fourth Amendment protection of DNA taken from cigarette butts); *State v. Athan*, 158 P.3d 27, 38 (Wash. 2007) (en banc) (finding no Fourth Amendment violation regarding DNA taken from suspect's used envelope).

<sup>183</sup> E.g., *Oliver v. United States*, 466 U.S. 170, 183 (1984) (rejecting characterization of government intrusion upon open fields as a search under the Fourth Amendment even if the same conduct constitutes criminal trespass).

of privacy under *Katz v. United States*,<sup>184</sup> however, violations of a person's other interests can be a helpful guide.<sup>185</sup>

B. *Closing the International Loophole*

In the United States, DNA theft is possible in large part because of the expansive direct-to-consumer genetic testing market that permits testing for paternity, ancestry, fetal genetics, and health conditions based on cheek swabs or other similar samples. While dozens of American companies offer hundreds of tests, neither the laboratories nor the tests themselves are regulated very closely under current law.<sup>186</sup>

This regulatory climate has consequences not only for American consumers, but also for consumers abroad and other governments that have already raised concerns about DNA theft. For instance, reports by advisory commissions both in the United Kingdom and in Australia have noted that whatever domestic laws are enacted, the easy availability of direct-to-consumer genetic tests offered by American companies over the internet provides regulatory loopholes.<sup>187</sup> Furthermore, in the United Kingdom itself, some companies may be evading the British DNA theft law by advertising domestically while operating their laboratories in the United States.<sup>188</sup> Even continent-wide regulatory attempts, such as proposals to ban direct-to-consumer genetic testing by the Council of Europe,<sup>189</sup> will not resolve these issues.

A DNA theft offense – if one were enacted as a matter of federal law – would go far in addressing these international concerns.<sup>190</sup> Bans on

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<sup>184</sup> 389 U.S. 347 (1967).

<sup>185</sup> *Id.* at 350; *cf.* *United States v. Stevenson*, 396 F.3d 538, 546 (4th Cir. 2005) (“‘[T]he proper test for abandonment is not whether all formal property rights have been relinquished, but whether the complaining party retains a reasonable expectation of privacy in the [property] alleged to be abandoned.’ In making that determination, however, it is still relevant to consider a defendant’s property interest.” (alterations in original) (citation omitted) (quoting *United States v. Haynie*, 637 F.2d 227, 237 (4th Cir. 1980))).

<sup>186</sup> *See supra* Part I.D.

<sup>187</sup> *See* 1 AUSTL. LAW REFORM COMM’N, *supra* note 12, at 368 (acknowledging the difficulty of regulating access to and conduct of overseas testing laboratories); HUMAN GENETICS COMM’N, *supra* note 91, at 62 (“Many [of those consulted] felt that there was nothing that could be done to regulate such overseas testing if it was legal in that country.”).

<sup>188</sup> An undercover investigation by journalist Peter Aldhous at *New Scientist* found a British company willing to analyze a genetic sample taken without consent and received advice that “laws in the UK prevent this and you would need to send the sample to our US office in New York.” Aldhous, *supra* note 171, at 7 (internal quotation marks omitted).

<sup>189</sup> *See* discussion *supra* note 112.

<sup>190</sup> A federal criminal law, of course, could only be passed pursuant to a valid congressional power, such as the Commerce Clause. *Compare* *United States v. Lopez*, 514 U.S. 549, 551 (1995) (striking down the Gun-Free School Zones Act of 1990 as exceeding congressional powers under the Commerce Clause), *with* *Gonzales v. Raich*, 545 U.S. 1, 22 (2005) (rejecting Commerce Clause challenge to federal regulation of intrastate marijuana

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nonconsensual genetic collection and analysis would force not only potential DNA thieves, but also laboratories, to more closely monitor the source of samples provided. For instance, in addition to verifying actual consent with more rigor, a laboratory might choose to provide genetic testing only when a sample that is difficult to obtain without consent is sent (such as saliva in a test tube), rather than any object from which DNA might be extracted.

### C. *Genetic Exceptionalism*

One of the greatest challenges that genetic information has posed for legislators and judges is its proper characterization. In many cases, analogical reasoning provides a way to assimilate new technological or scientific developments into existing doctrinal categories. With DNA, however, many have argued that genetic information is sufficiently distinct, with its own unique characteristics, that it defies easy analogy and merits its own distinct legal protections.

This view that genetic information deserves distinct legal and policy treatment has been termed “genetic exceptionalism.”<sup>191</sup> The special treatment of genetic information is justified by the nature of information that it can reveal and by the many ways in which it might be obtained.<sup>192</sup> Legislators in almost every American jurisdiction have embraced genetic exceptionalism to some extent. Nearly every state has specific laws prohibiting discriminatory practices by insurance companies based on genetic information, and a majority of the states have done the same in the employment context.<sup>193</sup> Not everyone is so sanguine about the considerable attention given to genetic information in privacy and antidiscrimination law. A number of commentators have argued that genetic exceptionalism is both flawed as a concept and dangerous as a policy, because DNA is insufficiently distinct from other medical information and because too much attention to DNA steers attention away from other pressing public health concerns.<sup>194</sup>

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cultivation).

<sup>191</sup> AMANDA K. SARATA, CONG. RESEARCH SERV., RL 34376, GENETIC EXCEPTIONALISM: GENETIC INFORMATION AND PUBLIC POLICY 1 (2008), available at <http://www.policyarchive.org/handle/10207/bitstreams/18867.pdf>. The first use of the term “genetic exceptionalism” is attributed to Thomas H. Murray. See, e.g., 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, 61 (Mark A. Rothstein ed., 1997) (describing the use of the term “genetic exceptionalism” by the Task Force on Genetic Information and Insurance of the NIH-DOE Joint Working Group on the Ethical, Legal, and Social Implications of the Human Genome Project).

<sup>192</sup> See Murray, *supra* note 191, at 62-63.

<sup>193</sup> Mark A. Rothstein, *Genetic Exceptionalism and Legislative Pragmatism*, 35 J.L. MED. & ETHICS (SPECIAL SUPPLEMENT.) 59, 59 (2007).

<sup>194</sup> See, e.g., NIH-DOE WORKING GRP. ON ETHICAL, LEGAL, & SOC. IMPLICATIONS OF HUMAN GENOME RESEARCH, GENETIC INFORMATION AND HEALTH INSURANCE: REPORT OF

In the criminal justice context, genetic exceptionalism is not the norm. As a consequence, courts in particular have struggled to find a proper analogy to genetic information. In the law enforcement context, many courts have found DNA profiles to be no different than fingerprints,<sup>195</sup> although some judges have argued for the special treatment of genetic information.<sup>196</sup> In cases of surreptitious sampling, the few decided cases have analogized genetic information left behind on everyday objects to garbage, and thus open for police collection without a warrant, individualized suspicion, or consent.<sup>197</sup>

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THE TASK FORCE ON GENETIC INFORMATION AND INSURANCE 1 (1993), available at <http://www.genome.gov/Pages/ELSI/TaskForceReportGeneticInfo1993.pdf> (recommending against special treatment of genetic information); Michael J. Green & Jeffrey R. Botkin, "Genetic Exceptionalism" in *Medicine: Clarifying the Differences Between Genetic and Nongenetic Tests*, 138 ANNALS INTERNAL MED. 571, 573 (2003) (suggesting that there are few clear distinctions between genetic and nongenetic tests that justify genetic exceptionalism); Rothstein, *supra* note 193, at 59 (arguing that genetic exceptionalism "represents poor public policy"); Pamela Sankar, *Genetic Privacy*, 54 ANN. REV. MED. 393, 394-95 (2003) (comparing similarities and differences between genetic and other kinds of medical information and concluding that genetic information is not a distinct category); Sonia M. Suter, *The Allure and Peril of Genetics Exceptionalism: Do We Need Special Genetics Legislation?*, 79 WASH. U. L.Q. 669, 671 (2001) (contending that genetic information is not unique and raises longstanding concerns about privacy and discrimination).

<sup>195</sup> See, e.g., *United States v. Amerson*, 483 F.3d 73, 86 (2d Cir. 2007) ("As a method of identification, DNA differs primarily from fingerprinting in its greater accuracy. And, we do not believe that this greater accuracy meaningfully increases the privacy concerns."); *Johnson v. Quander*, 440 F.3d 489, 499 (D.C. Cir. 2006) (rejecting characterization of database searches of "DNA fingerprints" as separate Fourth Amendment events); *Nicholas v. Goord*, 430 F.3d 652, 671 (2d Cir. 2005) ("[W]e see the intrusion on privacy . . . as similar to the intrusion wrought by the maintenance of fingerprint records."); *Green v. Berge*, 354 F.3d 675, 680 (7th Cir. 2004) (Easterbrook, J., concurring) ("Use of DNA is . . . no different from use of a fingerprint; only the method of obtaining the information differs, and for prisoners that is a distinction without importance."); *Jones v. Murray*, 962 F.2d 302, 306-07 (4th Cir. 1992) (likening DNA sampling to fingerprints).

<sup>196</sup> Cf. *United States v. Kincade*, 379 F.3d 813, 842 n.3 (9th Cir. 2004) (Gould, J., concurring) ("Like DNA, a fingerprint identifies a person, but unlike DNA, a fingerprint says nothing about the person's health, propensity for particular disease, race and gender characteristics, and perhaps even propensity for certain conduct.").

<sup>197</sup> See, e.g., *Piro v. State*, 190 P.3d 905, 910 (Idaho Ct. App. 2008) (concluding that defendant had no reasonable expectation of privacy in used water bottle); *Williamson v. State*, 993 A.2d 626, 635 (Md. 2010) (finding that DNA on discarded cup was without Fourth Amendment protection); *Commonwealth v. Perkins*, 883 N.E.2d 230, 239 (Mass. 2008) (determining that DNA on discarded cigarette butts was without Fourth Amendment protection); *People v. Sterling*, 869 N.Y.S.2d 288, 290 (App. Div. 2008) (stating that defendant did not have an expectation of privacy in DNA on discarded milk carton); *People v. Ayler*, No. 3217/2003, 2004 WL 2715317, at \*5 (N.Y. Sup. Ct. Sept. 22, 2004) (finding that DNA on discarded cigarette butts was without Fourth Amendment protection); *People v. Barker*, 757 N.Y.S.2d 692, 694 (Cnty. Ct. 2003) (concluding that defendant did not retain

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Recognizing a DNA theft offense will help introduce genetic exceptionalism to a criminal law audience that continues to struggle with the proper characterization of DNA. The existence of a DNA theft offense may not alter the course of thinking about issues that have already been repeatedly litigated, such as DNA databanking, but may be highly relevant to issues that are just now emerging, such as surreptitious sampling, arrestee DNA collection, and familial DNA searches.

#### CONCLUSION

Rapid changes in technology coupled with age-old human motivations have resulted in easy opportunities to intrude upon the genetic privacy of individuals. We might dismiss reported instances of genetic trophy hunters and suspicious fathers as odd cases, but such examples are likely to become more prevalent as the costs of genetic testing continue to decrease.

The response proposed in this Article is to encourage the widespread adoption of a DNA theft offense. Nonconsensual intrusions into genetic privacy are precisely the kinds of harms against which the criminal law can protect. Not only should genetic information be used by the State to investigate crime, it should also be considered private information that the State helps individuals to protect.

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an expectation of privacy in discarded plastic spoon); *State v. Athan*, 158 P.3d 27, 36-37 (Wash. 2007) (en banc) (finding that DNA on licked envelope was without federal or state constitutional protections).