

Combining Familial Searching and Abandoned DNA: Potential Privacy Outcomes and the Future of Canada's National DNA Data Bank

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Since Alec Jeffreys discovered the identifying potential of DNA in 1984, genetic science has become a mainstay of criminal investigations around the world.¹ DNA may be retrieved from a crime scene in the form of blood, saliva, skin cells, hair, or other genetic material, and an anonymous DNA profile developed from the genetic tissue.² If a perfectly matching profile for the crime scene profile can be located from genetic tissue obtained from an identified individual, police will have extremely valuable evidence placing the identified person at the crime scene. The process, known as “DNA profiling”, has helped solve numerous crimes in Canada and the rest of the world.³ Based on its successes in the criminal context, Canada and most international jurisdictions have established national DNA data banks to maximize the forensic capabilities of genetic information.⁴

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1 For an account of Jeffreys' discovery, see J.D. Aronson. “DNA Fingerprinting on Trial: The Dramatic Early History of a New Forensic Technique” (2005) 29:3 *Endeavour* 126.

2 Cst. A.O. Ramey. “DNA Typing Evidence: Splitting Hairs” (1993) 55(9) *R.C.M.P. Gazette* 1, at 1 [Ramey]; and Jonathan Kimmelman. “Risking Ethical Insolvency: A Survey of Trends in Criminal DNA Databanking” (2000) 28 *Journ. Of Law, Med. & Ethics* 209 at 209.

3 One of the earliest Canadian cases involving DNA evidence was the first-degree murder trial of Allan Legere, whose conviction was largely based on genetic evidence that linked him to four violent murders: *R. v. Legere*, 1994 CarswellNB 8, 156 N.B.R. (2d) 321, 95 C.C.C. (3d) 139, 35 C.R. (4th) 1 (N.B. C.A.); John Jack Walsh, “R. v. Allan Joseph Legere and DNA Evidence: Reminiscences” (2010) Paper prepared for the Digital Law Collection Project at the University of New Brunswick Law School [Walsh]. Since that time, DNA profiling has solved a number of Canadian crimes. The National DNA Data Bank Advisory Committee recently reported that Canada's National DNA Data Bank has assisted in the investigation of over 1000 homicides, 1933 sexual assaults, 366 attempted murders, and 1700 armed robberies: National DNA Data Bank Advisory Committee, *National DNA Data Bank Advisory Committee Annual Report* (Ottawa: Government of Canada, 2009-2010), at 6 [NDDDB Advisory Committee Annual Report, 2009-2010].

4 Canada's National DNA Data Bank was established in June of 2000 and operates under the authority of the *DNA Identification Act*, S.C. 1998, c. 37 [*DNA Identification Act*]: Janna Kerr. “Canada's DNA Data Bank up and Running” *Forensics* (September,

As forensic science continues on a course of rapid development, Canadian law must attempt to balance the benefits that flow from supporting the work of criminal investigators against the risks to individual rights affected by use of DNA in the criminal context. One of the modern advancements in DNA science is familial searching, a technique that allows criminal investigators to identify potential suspects based on the familial links that can be observed between the separate profiles of genetically related individuals.⁵ Though familial searching can be highly useful in the criminal context, it is presently prohibited under the terms of the *DNA Identification Act*, the legislation that regulates state use of Canada's National DNA Data Bank (NDDB).⁶ While there is interest in amending the statutory framework to allow familial searching of Canada's NDDB, there are simultaneous concerns about the risks to individual rights and interests, including in particular the risks posed to individual privacy. Accordingly, the Canadian government has requested further study of the issue before any amendment is made to authorize the use of familial searching as part of the NDDB scheme.⁷

The response to the government's request for further inquiry into familial searching must include a discussion that situates use of the technique within the

2000). The first country in the world to launch a national forensic database was the UK in 1995, followed closely by New Zealand in 1996. While the UK's database was implemented without specific statutory authority, it was supported by existing statutes including the *Police and Criminal Evidence Act 1984*, c. 60 and the *Criminal Justice and Public Order Act 1994*, c. 33. The relevant statute in New Zealand is the *Criminal Investigations (Blood Samples) Act* Pub. Act 1995 No. 55. At the federal level in the US, the national DNA data bank began operations in 1998 under the *DNA Identification Act, 1994* U.S.C. 14132, by which time all fifty states had also independently enacted the necessary legislation to authorize collection of DNA samples at the state level. For details on the establishment of databases in the individual states, see Rosemary Walsh, "The United States and the Development of DNA Data Banks" *Privacy International* (20 February, 2006). Additional databases were established across the European Union, including in Germany, the Netherlands, and France, all in 1998: Germany: s. 3 Identitätsfeststellungsgesetz and ss. 2, 7, 8 Bundeskriminalamtgesetz (*Act for the Federal Criminal Investigation Office*); Netherlands: *Law on DNA Investigation in Criminal Proceedings* s. 4, Art. 14(4)(a); France: Law of 17th June 1998 relating to the repression of sexual infringements, Law of 15 November concerning national security, Law of 18th March relating to the FNAEG, Decree of 18 May 2000, Decree of 25 May 2004.

⁵ Amelia Bellamy-Royds & Sonya Norris, *New Frontiers in Forensic DNA Analysis: Implications for Canada's National DNA Data Bank* (Ottawa: Library of Parliament, 2009) at 10 [Bellamy-Royds & Norris].

⁶ The prohibition on familial searching is pursuant to the statutory requirement that an offender's identity can normally only be communicated to investigators if a search produces an exact match to a comparator profile. An exception may apply where there is a "questionable" match, which might occur where a degraded sample is searched and the analysis does not exclude the similar profile as a true match: *DNA Identification Act*, *supra* note 4 at s. 6.

⁷ House of Commons Standing Senate Committee on Legal and Constitutional Affairs, *Public Protection, Privacy and the Search for Balance: A Statutory Review of the DNA Identification Act, Final Report* (2010) at 64 [Standing Senate Committee Review].

broader Canadian legal context and amongst existing investigative practices in Canadian policing. In fact, the authorizing amendment now under consideration would facilitate a troubling relationship between familial searching and police reliance on a seemingly separate forensic activity, the analysis of abandoned DNA. This article aims to respond to the government's request by explaining the nature of that relationship and by arguing that the combined use of familial searching and analysis of abandoned DNA would present a serious risk for genetic privacy. The risk is particularly acute given that it would effectively circumvent the existing justification for the NDDDB, leading to inclusion of individuals whose DNA profiles have not been uploaded directly onto the data bank. To substantiate this main argument, this article proceeds in three parts. The first describes the current Canadian law on familial searching and the ongoing interest in amending the *DNA Identification Act* to allow use of this technique on NDDDB data. The second part explains the current Canadian law on police use of abandoned DNA, which has largely been shaped by section 8 claims in a series of post-*Charter* cases. The third part explains how police might depend on the current law allowing broad police use of abandoned DNA to facilitate follow-up on leads derived from familial searching of NDDDB information. The possibility presents a major policy consideration that must be acknowledged within the discussion of whether and to what extent familial searching of the NDDDB should be authorized in Canada.

I. THE LAW ON FAMILIAL SEARCHING

Familial searching is a forensic technique that is based on the likelihood that genetically related individuals have similar genetic profiles.⁸ By examining two distinct genetic profiles, trained forensic analysts can estimate the likelihood that the two source individuals share a genetic relationship. Commonalities in the genetic profiles of related individuals naturally occur because every individual inherits half of his or her DNA profile from each genetic parent.⁹ Based on these patterns of genetic inheritance, it is certain that every person has a DNA profile that is similar to the one belonging to each of his or her genetic parent.¹⁰ By extension, full genetic siblings will also share many commonalities in genetic profiles; to a lesser extent, so will genetic half siblings, first cousins, nieces and nephews, aunts and uncles, and so on.¹¹

The science of familial searching provides police with a scientifically supported method of extending the utility of DNA samples already in the state's possession. Where traditional DNA profiling does not produce a lead, it is possible for investigators to look for potential genetic relatives of the source individual as a possible route to a suspect. The approach is best explained by reference to real uses

⁸ Bellamy-Royds & Norris, *supra* note 5 at 10.

⁹ Erin Murphy, "Relative Doubt: Familial Searches of DNA Databases" (2010) 109 *Michigan Law Review* 291 at 295 [Murphy].

¹⁰ *Ibid.*, at 295.

¹¹ *Ibid.*; William C. Thompson, "The Potential for Error in Forensic DNA Testing (and how that Complicates the use of DNA Databases for Criminal Identification)" (2008) Paper produced for the National Conference of the Council for Responsible Genetics (*Forensic DNA Databases and Race: Issues, Abuses, and Actions*) at 8.

of familial searching in the criminal context. The first known case occurred in the UK in 2004.¹² An intoxicated man dropped a brick from an overpass and through the window of a passing truck, causing a fatal heart attack for the driver.¹³ Investigators found a drop of blood on the brick, which was later found to have come from a cut on the hand of the man who had caused the accident.¹⁴ The search for a full match between the DNA profile obtained from the drop of blood and profiles held on the national DNA data bank did not produce any leads.¹⁵ A search for a partial match, however, produced a profile with enough similarity to indicate a genetic relationship between the source individuals; an interview with the person whose DNA provided the partial match led police to Craig Harman.¹⁶ Harman's DNA provided a perfect match to the crime scene profile and led to his conviction for manslaughter.¹⁷

Since that first known use, a number of crimes have been solved by familial searching, such as the notorious case of the "Dearne Valley Shoe Rapist" in England and the case of the "Grim Sleeper" in California, both involving dangerous offenders who had evaded police for years until familial searching provided a necessary breakthrough in each investigation.¹⁸ Canadian criminal investigators have also used familial searching in at least one case. The incident occurred in 2002, following the sexual assault and murder of Doreen Bradley in Alberta.¹⁹ Provincial police obtained an anonymous profile from DNA found on the victim's body and compared it to DNA profiles obtained from a random group of males in the community.²⁰ When the search failed to produce an exact match, the samples were tested for a partial match; the process identified two individuals possibly related to the unknown perpetrator.²¹ Follow-up on this lead brought police to Landon Karas,

¹² Sonia M. Suter, "All in the Family: Privacy and DNA Familial Searching" (2010) 23:2 Harvard Journal of Law & Technology 309 at 323 [Suter].

¹³ *Ibid* at 323.

¹⁴ *Ibid*.

¹⁵ *Ibid*.

¹⁶ *Ibid*.

¹⁷ *Ibid*; Henry T. Greely, Daniel P. Riordan, Nanibaa' A. Garrison, & Joanna L. Mountain, "Family Ties: The Use of DNA Offender Databases to Catch Offenders' Kin" (2006) Journal of Law, Medicine & Ethics 248, at 249.

¹⁸ The "Dearne Valley Shoe Rapist" was apprehended in 2006 and had earned his nickname by collecting shoes from his victims: Suter, *supra* note 12 at 310. In the case of the "Grim Sleeper", police gathered DNA evidence implicating Lonnie Franklin Jr. when one of his relatives discarded a slice of pizza containing enough DNA to support a familial analysis: Terry McCarthy "The Case of the Grim Sleeper" *Time* (5 December 2011) [McCarthy].

¹⁹ RCMP, *The National DNA Data Bank of Canada: Annual Report* (Ottawa, Canada: RCMP, 2007-2008) at 9 [RCMP Annual Report 2007-2008]; Douglas Quan, "U.S. Using Familial DNA in Policing; but Canadian Authorities Question Legal and Moral Implications of Practice" *The Vancouver Sun* (21 May, 2011) [Quan].

²⁰ RCMP Annual Report 2007-2008, *supra* note 19 at 9.

²¹ *Ibid*.

the son of one of the identified persons.²² Karas was convicted of the violent crime when his DNA profile proved to be a match to the profile obtained from the crime scene sample.²³

While the Alberta case is evidence that Canadian police have used familial searching outside of the NDDDB scheme, the technique cannot be applied to NDDDB data because of an implicit prohibition in the wording of the *DNA Identification Act*. The implicit ban flows from the rule that the Commissioner responsible for the operations of the NDDDB may only communicate to other law enforcement authorities: (i) the fact that a match to the anonymous profile being searched is not in the databank; (ii) information relating to a matching profile if one is found; or (iii) information relating to a similar profile provided the Commissioner has not ruled out the possibility that the profile might be a match to the anonymous profile, which might occur, for instance, with a degraded sample where there is limited profile information to compare.²⁴ The prohibition against familial searching is generally in keeping with Canada's NDDDB scheme, which was purposefully restricted in a number of ways after a public consultation process that preceded the establishment of the data bank and highlighted the privacy and other concerns that arise through state use of DNA for forensic purposes.²⁵ In addition to the prohibition on familial searching, one of the main limitations in the *DNA Identification Act* is that the data bank may only contain the profile information of convicted offenders, thereby excluding the possibility for police to upload any profiles that might otherwise be obtained from suspects, arrestees, or volunteers.²⁶ The combined use of familial searching and analysis of abandoned DNA would circumvent that particular limitation, an outcome that will be returned to in the final part of this article.

The limitations on NDDDB operations serve as recognition of the unique characteristics of DNA that set this type of personal information apart from other information that may also be useful to forensic investigators, such as evidence relating to fingerprints, driver's licenses, identified mug shots or other photographs, tax filings, or utility usage within a given home. The unique considerations that set ge-

²² *Ibid*; Karen Kleiss, "Supreme Court Won't Allow Killer to Appeal" *The Edmonton Journal* (28 March, 2008) [Kleiss]; Quan, *supra* note 20.

²³ Karas attempted to challenge his conviction but was denied a new trial by the Alberta Court of Appeal, and later denied leave to appeal to the Supreme Court of Canada: RCMP Annual Report 2007-2008, *supra* note 20 at 9; Kleiss, *supra* note 22; Quan, *supra* note 19.

²⁴ *DNA Identification Act*, *supra* note 4 at s. 6.

²⁵ For details, see Solicitor General, *Establishing a National DNA Data Bank: Consultation Document* (Ottawa: Minister of Supply and Services Canada, 1996) at 2.

²⁶ There are currently over 265 offences that can lead to inclusion of an offender's DNA on the NDDDB, ranging from very serious crimes such as murder, manslaughter, and aggravated assault to non-violent and non-sexual crimes such as perjury, libel known to be false, and various drug-related offences: *Criminal Code*, RSC 1985, c C-46 at s. 487.04 [*Criminal Code*]. While arrestees and suspects are not included on the NDDDB, police can collect samples from such individuals for exclusionary purposes within a specific investigation relating to a designated offence where the suspect has given his or her consent to the collection, or upon obtaining a judicial warrant under the *Criminal Code* RSC 1985, c C-46 at s. 487.05(1).

netic information apart from these other types of personal information include the fact that DNA information: (i) can reveal details about the genetic relatives of the individual from whom a sample is derived, which may impact the person's family for generations to come; (ii) can be obtained from bodily tissues that are routinely and unconsciously shed by individuals in the course of their daily activities; (iii) has the power to predict the future health of an individual, which may lead to discriminatory treatment in some cases; (iv) may have cultural significance for certain persons or groups; and (v) may hold significance that is not understood at the time of sample collection.²⁷

The above considerations support the need for caution in broadening the scope of NDDDB operations, a difficult task given the competing objective of supporting the needs of law enforcement. It is clear that to amend the law and allow familial searching of NDDDB data would provide police with the most efficient means of conducting familial searches, as it would allow application of this technique to an existing and growing NDDDB profile collection. Yet, this potential policy direction has not received universal support. While the Royal Canadian Mounted Police (RCMP) has spoken in favour of the move, the Privacy Commissioner of Canada has spoken against it, citing concerns over the "... legal, moral and operational aspects of familial searches".²⁸ The issue is now on the federal government's agenda as it considers future amendments to the NDDDB's legislative framework.²⁹ The Standing Senate Committee on Legal and Constitutional Affairs, a body tasked with reviewing the *DNA Identification Act* in 2010, has indicated a pressing need for further study of the issue before legislative action is taken on the matter.³⁰ In addition to weighing the tension between the needs of law enforcement and individual *Charter* rights, the response to the government's request must situate familial searching within the broader Canadian legal context and amongst existing practices in policing. A key part of this discussion is the policy consideration presented by the relationship that would emerge between familial searching of the NDDDB and the current law on police use of abandoned DNA.³¹ Towards that aim, the current Canadian law on forensic use of abandoned DNA is explained in the next section.

²⁷ See discussion in Ilhan Ilklic, "Coming to Grips with Genetic Exceptionalism: Roots and Reach of an Explanatory Model" (2009) *Medicine Studies* 131 [Ilklic]. See also the UNESCO *International Declaration on Human Genetic Data* (2003) at Article 4, which confers a special status on DNA for the reasons cited above.

²⁸ On the RCMP position see: NDDDB Advisory Committee Annual Report, 2009-2010, *supra* note 3 at 20. See remarks made by the Assistant Privacy Commissioner in a public speech: Chantal Bernier, "Privacy and DNA Databanks: Harnessing the Power of DNA Analysis in a Democratic Society" (Speech delivered at the Toronto Police Centre of Forensic Sciences, May 2010), online: Office of the Privacy Commissioner of Canada, <http://www.priv.gc.ca/media/sp-d/2010/sp-d_20100310_cb_e.asp>. Constitutional questions to explore include whether familial searching infringes on individual rights under sections 7, 8, 10, and 15. For further discussion, see: Bellamy-Royds & Norris, *supra* note 5 at 18.

²⁹ Standing Senate Committee Review, *supra* note 7 at 64.

³⁰ *Ibid.*

³¹ There are additional concerns brought on by familial searching that are beyond the scope of this article to discuss. For instance, there is a need to investigate the potential

II. THE LAW ON ABANDONED DNA

The law on police use of abandoned DNA has largely developed against section 8 of the *Canadian Charter of Rights and Freedoms*, which provides that “[e]veryone has the right to be free from unreasonable search and seizure”.³² The Supreme Court of Canada received its first opportunity to issue a decision on section 8 in 1984 with the case of *Hunter v. Southam*.³³ In *Hunter*, the Court explained that the right to be free from unreasonable search and seizure encompassed a general right to privacy, with every individual having a right to a reasonable expectation of privacy in relation to the state.³⁴ The Court subsequently indicated that *Charter* rights, including the right to privacy embodied in section 8, “must be interpreted generously, and not in a narrow or legalistic fashion”.³⁵ As the line of cases explored in this section illustrate, the courts have not delivered on this promise when it comes to the rules on police use of abandoned DNA.

Since *Hunter*, privacy as a constitutional concept has been gradually developed against the backdrop of section 8.³⁶ In determining whether a section 8 infringement has occurred, the courts must ask whether (i) there was a search or seizure by government, and (ii) whether that search was unreasonable.³⁷ The inquiry must be informed by competing values to be balanced against individual rights, including in particular the safety of the public and the need to support the

for discrimination through state use of familial searching. The discrimination issue has received attention in the United States, and stems from the disproportionate representation of African-American people on the various forensic DNA data banks, which would likely translate into a disproportionate effect of familial searching for the same group. The issue arises in Canada in relation to Aboriginal peoples, who are similarly overrepresented in the Canadian criminal justice system for complex historical and systemic reasons. For further discussion, see: Carol La Prairie, “Aboriginal Over-Representation in the Criminal Justice System: A Tale of Nine Cities” (2002) *Canadian Journal of Criminology* 181; Adam Schwartz, “DNA Familial Testing: Civil Liberties and Civil Rights Concerns” (Speech delivered at the Symposium on Familial DNA Searching, Northwestern University of Law, 2011) online: American Civil Liberties Union of Illinois <<http://www.aclu-il.org/wp-content/uploads/2011/03/Speech-DNA-familial-testing.pdf>>; Brett Mares, “A Chip off the Old Block: Familial DNA Searches and the African American Community” (2011) 29 *Law & Ineq.* 395; and Sophie Rushton, “Familial Searching and Predictive DNA Testing for Forensic Purposes: A Review of Laws and Practices” (Melbourne, Victoria: Victoria Law Foundation, 2010) at 15.

³² *Charter of Rights and Freedoms* Part I of the *Constitution Act 1982*, being Sched. B of the *Canada Act 1982* (U.K.) c. 11 at s. 8 [*Charter*].

³³ *Canada (Director of Investigation & Research, Combines Investigation Branch) v. Southam Inc.*, [1984] 2 S.C.R. 145, 1984 CarswellAlta 415, 1984 CarswellAlta 121 (S.C.C.).

³⁴ *Ibid.*, at para 25.

³⁵ *R. v. Big M Drug Mart Ltd.*, 1985 CarswellAlta 609, 1985 CarswellAlta 316, [1985] 1 S.C.R. 295 (S.C.C.), at 344 [S.C.R.]; *R. v. Dyment*, [1988] 2 S.C.R. 417, 1988 CarswellPEI 7, 1988 CarswellPEI 73 (S.C.C.) at para 15 [*Dyment*].

³⁶ Jane Bailey, “Framed by Section 8: Constitutional Protection of Privacy in Canada” (2008) *Canadian Journal of Criminology and Criminal Justice* 279 at 280.

³⁷ *Ibid.* at 284; *Dyment*, *supra* note 35.

investigative functions of law enforcement.³⁸ This exercise is complicated by the fact that investigative technologies continue to advance, causing a shift in the understanding of what constitutes a reasonable intrusion into the private lives of citizens for law enforcement purposes.³⁹ The issue is particularly pronounced with the growing reliance on forensic DNA since Jeffreys' discovery in 1984, and the normalization of DNA profiling that has ensued as a result. Considered a novel science when it was introduced, heavy reliance on DNA profiling in the law enforcement context has led to a "CSI effect", which refers to the tendency among juries to (i) be unwilling to convict in the absence of DNA evidence implicating the accused, and (ii) overestimate the reliability of DNA evidence when such evidence is presented at trial.⁴⁰ As a result of these trends, uses of DNA that would previously have been viewed as highly intrusive are gradually being accepted.⁴¹

³⁸ The courts aim to achieve this balance by applying s. 24(2) of the *Charter*, which requires a determination of whether evidence obtained in violation of s. 8 or any other *Charter* right should be excluded from the criminal trial process because inclusion of the evidence would bring the administration of justice into disrepute by unfairly prejudicing the trial of the accused. The exercise requires that judges balance various factors including those affecting the fairness of the trial, the seriousness of the *Charter* breach, and the results that might flow from exclusion of the evidence: *R. v. Collins*, 1987 CarswellBC 699, 1987 CarswellBC 94, [1987] 1 S.C.R. 265 (S.C.C.). This approach to balancing individual rights against the safety of the public has been called "quintessentially Canadian" and has been criticized for having developed into an aggressive exclusionary rule that should be scaled back so that valuable evidence is only excluded in the most extreme circumstances: *R. v. Burlingham*, 1995 CarswellBC 639, 1995 CarswellBC 71, [1995] S.C.R. 206 (S.C.C.), at paras 72-73. The operation of the exclusionary rule as well as the benefits and drawbacks of the same are beyond the scope of this article to discuss in detail.

³⁹ See discussion in Michal Fairburn "Twenty-Five Years in Search of a Reasonable Approach" (2008) 40(2) S.C.L.R. 55 at 56.

⁴⁰ The trend has been attributed in large part to the popularization of television shows such as "Law and Order" and the "CSI" series where DNA evidence is often presented. The argument is that the popularization of DNA evidence in this way has changed how prosecutors present cases and how accused persons must frame their defense: N.J. Schweitzer & Michael J. Saks, "The CSI Effect: Popular Fiction About Forensic Science Affects the Public's Expectations About Real Forensic Science" (2007) 47 *Jurimetrics* 357; Donald E. Shelton, Gregg Barak & Young S. Kim, "A Study of Juror Expectations and Demands Concerning Scientific Evidence: Does the "CSI Effect" Exist?" (2007) 9:2 *Vanderbilt Journ. Of Entertainment & Tech. Law* 331; and Andrew P. Thomas, "The CSI Effect: Fact or Fiction" (2006) *The Yale Law Journal Pocket Part* 70. It has been said that "[f]act finders are no longer impressed by the presentation of DNA evidence but rather are critical of its absence": C.H. Asplen, *Report: The Non-Forensic Use of Biological Samples Taken for Forensic Purposes: An International Perspective* (Boston, MA: Am. Soc. Of Law & Ethics, 2006) at 1.

⁴¹ In addition to the analysis of abandoned DNA explored in this article, consider the change in the Supreme Court of Canada's view on the need to obtain specific consent for each use of DNA from its decision in *R. v. Borden*, 1994 CarswellNS 26, 1994 CarswellNS 437, [1994] 3 S.C.R. 145 (S.C.C.) to the one in *R. v. Arp*, [1998] 3 S.C.R. 339, 1998 CarswellBC 2546, 1998 CarswellBC 2545 (S.C.C.). In *Borden*, the accused had been arrested under suspicion of having committed two separate sexual assaults.

Modern genetic science makes it possible for small amounts of DNA to be collected and analyzed, so that even tiny amounts of genetic tissue can be of tremendous value to criminal investigators. Individuals shed or discard small pieces of genetic tissue throughout the course of each day, and it is possible for police to collect this type of evidence and link an individual to an anonymous piece of genetic material found at a given crime scene. The situation has led to a number of “DNA abandonment” cases in Canada. These cases show the courts applying the two-part inquiry required for section 8 claims, ultimately determining in a number of the cases that a claimant has lost his reasonable expectation of privacy in DNA contained on an item that was abandoned, so that no “seizure” occurred within the meaning of section 8 when police collected that abandoned evidence for forensic purposes.⁴² As a result of these decisions, police can generally collect abandoned items containing DNA to use as evidence without being constrained by the right to privacy under section 8 of the *Charter*.

The first major case on abandoned DNA was *R. v. Dyment*, heard by the Supreme Court of Canada in 1988.⁴³ Dyment had been in a car accident and was brought to the hospital in an unconscious state, whereupon a physician took a blood sample for treatment purposes by gathering blood that was flowing from his patient’s open wound.⁴⁴ After learning that the patient had consumed a beer and anti-histamine tablets, the doctor provided the blood sample to the police in order to assist in the criminal inquiry into whether Dyment had been impaired at the time of the accident. The doctor did not obtain the patient’s consent to provide the sample to police and the authorities did not possess a search warrant.⁴⁵ In determining whether Dyment had abandoned his privacy interest in the blood sample, the Supreme Court of Canada drew a line between a seizure and a mere finding of evidence, the latter occurring “at the point at which it can reasonably be said that the individual had ceased to have a privacy interest in the subject-matter allegedly seized”.⁴⁶ On the facts of the case at hand, the Court found that while Dyment had

Police had adequate evidence to make an arrest for one of the offences and hoped to connect the suspect to the other. In response to a police request, Borden provided DNA samples for testing in relation to the offence for which he was under arrest. The samples were tested as part of the investigation of the other offence without specific consent having been obtained for that use. On appeal of the resulting conviction, the Court unanimously found a violation of Borden’s rights under s. 10 and excluded the DNA analysis from evidence, finding that police were required to inform Borden of the move from investigation of one offence to the other, which would have provided the opportunity for him to give or refuse consent to use of the DNA in the new investigation. Four years later, in *R. v. Arp*, the Court appeared to backtrack on the decision, finding that where a suspect does not specifically attach limits to consent for the use of DNA samples supplied for investigative purposes, police may freely use the information for purposes beyond that for which the information was initially collected.

⁴² John Burchill, “Mr. Stillman, DNA and Discarded Evidence in Criminal Cases” (2006) 32:2 *Man. L. J.* 5 at 6 [Burchill].

⁴³ *Dyment*, *supra* note 35.

⁴⁴ *Ibid.*

⁴⁵ *Ibid.*

⁴⁶ *Ibid.* at para 30.

impliedly consented to the use of his personal information for medical purposes, he had not abandoned his privacy interest in the information for other purposes.⁴⁷ As such, the use of the information by the police without a warrant constituted an infringement of Dymont's right to a reasonable expectation of privacy under section 8 of the *Charter*.⁴⁸

The decision in *Dymont* left open the possibility that, on the right set of facts, an individual could abandon his or her privacy interest in highly personal information, which might include genetic information. In 1989, the New Brunswick Court of Appeal heard the infamous case of *R. v. Legere*.⁴⁹ The case followed an extremely tense situation, in which Allan Legere escaped from prison where he was serving a life sentence for murder. The escape was followed by four murders and one attempted murder in the surrounding area, and police investigators were extremely eager to apprehend Legere and secure his conviction for the crimes.⁵⁰ When Legere was finally arrested, the RCMP extracted a DNA profile from blood left on a tissue that the suspect had used to blow his nose with while in custody, then tested the profile obtained from the genetic material against the crime scene evidence.⁵¹ When the admission of this evidence was contested, the Court of Appeal of New Brunswick found no infringement under section 8 of the *Charter*, arguing that Legere had clearly ceased to have any reasonable expectation of privacy in the genetic information contained within the tissue once the item had been discarded.⁵²

As section 8 matured throughout the 1990s, the Supreme Court clarified several aspects of the *Charter* right to a reasonable expectation of privacy. First, assessment of section 8 claims would necessarily be case-by-case in nature, and the courts set out a "totality of circumstances" test that allowed for a flexible approach tailored to the facts of each case.⁵³ Moreover, it became clear that constitutional protection would not attach to all types of personal information, but would be limited to protection of personal information that promotes the values of dignity, integrity, and autonomy and that remains within a "biographical core of personal information which individuals in a free and democratic society would wish to maintain and control from dissemination to the state".⁵⁴

⁴⁷ *Ibid.*

⁴⁸ *Ibid* at paras 31, 40.

⁴⁹ *R. v. Legere*, 1994 CarswellNB 8, 95 C.C.C. (3d) 139 (N.B. C.A.) [*Legere*].

⁵⁰ Walsh, *supra* note 3 at 1.

⁵¹ Ramey, *supra* note 2 at 2.

⁵² *Legere*, *supra* note 49. Legere also protested against the admission of the DNA evidence on the basis that DNA was a new science unfamiliar to his counsel. The court also rejected this argument.

⁵³ The "totality of circumstances" test was first set out in the case of *R. v. Edwards*, 1996 CarswellOnt 2126, 1996 CarswellOnt 1916, 45 C.R. (4th) 307, [1996] S.C.J. No. 11 (S.C.C.) at para 45 and reformulated in *R. v. Tessling*, [2004] 3 S.C.R. 432, 2004 CarswellOnt 4352, 2004 CarswellOnt 4351 (S.C.C.) [*Tessling*].

⁵⁴ *R. v. Plant*, [1993] 3 S.C.R. 281, 1993 CarswellAlta 566, 1993 CarswellAlta 94 (S.C.C.). It has proven difficult to predict the type of personal information that will fall within the "biographical core of personal information". So far, the courts have indi-

The Supreme Court of Canada was presented with an opportunity to weigh in on section 8 and abandoned DNA directly in 1997. In *R. v. Stillman*, police detained a 17-year-old male suspected of murder.⁵⁵ Despite specific directions from the suspect's lawyers that the youth did not consent to providing DNA, police forcefully seized several bodily samples and surreptitiously collected a discarded tissue that the suspect had used to blow his nose before throwing the tissue in the trash.⁵⁶ When the admission of the DNA evidence was challenged in the court, all of the judges agreed that the forced seizures constituted an infringement of section 8.⁵⁷ A different reasoning was applied to the abandoned tissue, as it had not been forcefully seized. With respect to the tissue and the DNA that it contained, the majority found an infringement of the accused's section 8 rights, but only because the accused was in custody when he discarded the tissue and therefore had no means of controlling access to his personal information.⁵⁸ The remaining judges would have followed the approach taken by the New Brunswick Court of Appeal in *R. v. Legere* to find that any reasonable expectation of privacy in the evidence had been abandoned, regardless of whether or not the accused was in custody when the item was discarded.⁵⁹

Following the decision in *Stillman*, Canadian investigators continued to collect abandoned items to assist in the investigation of crimes, though the custodial limitation suggested in *Stillman* had to be clarified through subsequent case law. In *R. v. F. (D.M.)* the Alberta Court of Appeal found that the accused had abandoned his reasonable expectation of privacy in the DNA contained on a discarded cigarette

cated that information that might qualify includes private writings contained within a personal diary (*R. v. Shearing*, [2002] 3 S.C.R. 33, 2002 CarswellBC 1662, 2002 CarswellBC 1661 (S.C.C.)) and identifying information such as a name (*R. v. Harris*, 2007 CarswellOnt 5279, 87 O.R. (3d) 214, 225 C.C.C. (3d) 193 (Ont. C.A.)). On the other hand, non-qualifying information has been held to include breath samples (*R. v. Padavattan*, 2007 CarswellOnt 3196, 223 C.C.C. (3d) 221, 45 C.R. (6th) 405 (Ont. S.C.J.)), electrical records detailing electricity consumption (*Tessling*, *supra* note 53), odours emanating from a backpack (*R. v. Brown*, [2008] 1 S.C.R. 456, 2008 CarswellAlta 524, 2008 CarswellAlta 523 (S.C.C.)), and items placed in the garbage on the side of the road (*R. v. Patrick*, [2009] 1 S.C.R. 579, 2009 CarswellAlta 482, 2009 CarswellAlta 481 (S.C.C.) [*Patrick*]). See discussion in Tim Quigley, "The Impact of the Charter on the Law of Search and Seizure" (2008) 40 S.C.L.R. 117 at 133 [Quigley].

⁵⁵ *R. v. Stillman*, [1997] 1 S.C.R. 607, 1997 CarswellNB 108, 1997 CarswellNB 107 (S.C.C.) [*Stillman*].

⁵⁶ It is important to note that the forced seizures took place before police gained statutory authorization to compel exclusionary DNA samples from suspects in individual investigations.

⁵⁷ The Court also answered the question of whether the forced seizures constituted an infringement of s. 7. All but McLachlin J answered the question in the affirmative: *Stillman*, *supra* note 55.

⁵⁸ Applying s. 24(2) of the *Charter*, the majority excluded the samples that were physically forced from the accused, but admitted the tissue as that was not forcefully seized. *Ibid* at para 128.

⁵⁹ See dissenting judgments, in particular the reasoning of McLachlin J, *ibid* at para 224.

butt.⁶⁰ While the accused was detained at the time that the item was discarded, the Court found that he could have prevented the collection of evidence either by retaining his cigarette butts in his pocket and taking them with him after the interview or by refraining from smoking altogether.⁶¹ Similarly, the courts found no section 8 violation when, on a break from court proceedings, police in *R. v. Grywacheski* collected a cigar discarded into an ashtray.⁶² In *R. v. Marini*, no section 8 infringement was found when police collected two ginger ale cans left behind at the courthouse by the accused.⁶³ In *Marini*, the judge argued that the courthouse situation was not like the custodial situation in *Stillman*, and went so far as to suggest that under the circumstances it had been up to the accused to reinforce his continued expectation of privacy by rinsing the cans of his DNA before abandoning the items.⁶⁴

Having authority to collect abandoned items to expedite criminal investigations, police began to engage in trickery to obtain the evidence required by their cases. In *R. v. Nguyen*, police officers offered the accused a piece of gum after he refused to provide them with a DNA sample, then collected the gum for genetic testing when the accused predictably threw it in the garbage.⁶⁵ In this case, the Ontario Court of Appeal found a section 8 violation based on the fact that the accused was entering a detention centre where he knew that gum was unauthorized and would have to be discarded, so that the warrantless seizure was performed under conditions comparable to those in *Stillman*.⁶⁶ In terms of the trickery involved, the court characterized the ploy itself as “passive and not objectionable”, thus leaving the door open for similar operations in the future.⁶⁷

The law on abandoned evidence was revisited in 2004, when the Supreme Court of Canada heard *R. v. Tessling*, a case involving police use of Forward Looking Infra-Red (FLIR) technology to capture images of heat patterns emanating from the accused’s home in order to provide evidence of a marijuana grow-op operating within the house.⁶⁸ On the facts of the case, the Supreme Court of Canada found no violation of section 8 through the use of the FLIR technology and in fact did not even characterize the actions of the police as a “search” within the meaning of section 8.⁶⁹ Before coming to that conclusion, however, the Court dealt with the

⁶⁰ *R. v. F. (D.M.)*, 1999 CarswellAlta 872, 1999 ABCA 267 (Alta. C.A.); leave to appeal refused 2001 CarswellAlta 391, 2001 CarswellAlta 390 (S.C.C.). The court also found that the accused had no reasonable expectation of privacy in relation to clothes held within his bedroom, so that police entry into his mother’s house to take clothes from which to obtain a DNA sample did not constitute an infringement of s. 8.

⁶¹ *Ibid.*

⁶² *R. v. Grywacheski*, 2004 CarswellMan 93, (sub nom. *R. v. Johnson*) 117 C.R.R. (2d) 249, [2004] M.J. No. 109 (Man. Q.B.).

⁶³ *R. v. Marini*, 2005 CarswellOnt 9228, [2005] O.J. No. 6197 (Ont. S.C.J.).

⁶⁴ *Ibid.*

⁶⁵ *R. v. Nguyen*, 2002 CarswellOnt 2, [2002] O.J. No. 3 (Ont. C.A.).

⁶⁶ *Ibid.* Note that in this case, the evidence was admitted under s. 24(2).

⁶⁷ *Ibid.*

⁶⁸ *Tessling*, *supra* note 53.

⁶⁹ *Ibid.*

argument that Tessling had abandoned his privacy interest in the heat patterns by allowing the heat to escape his home. Speaking for the unanimous Court, Justice Binnie rejected the argument on the following basis:

I do not think it can be said that “allowing” heat to escape rebuts an expectation of privacy . . . Few people think to conceal their home’s heat loss profile, and would have difficulty doing so if they tried. Living as he does in a land of melting snow and spotty home insulation, I do not believe that the respondent had a serious privacy interest in the heat patterns on the exposed external walls of his home. However, the police were clearly interested in the “heat profile” not for its own sake but for what it might reveal about the activities *inside* the home. In that respect, to the extent that it is in issue, the respondent maintained a subjective expectation of privacy.⁷⁰

Though the case centered on heat patterns and not DNA information, the above statement might have encouraged some hope that the courts would reconsider the characterization of the expectation of privacy held by individuals who abandon items containing genetic material. After all, like in *Tessling*, police in the DNA abandonment cases are interested in the items collected *not for their own sake but for what such items might reveal about their suspect*. Moreover, like in *Tessling* and despite the *Marini* court’s suggestion that people can reasonably be expected to rinse soda cans before discarding them to assert a continued interest in any genetic samples on such items, or the suggestion made by the court in *R. v. F. (D.M.)* that people can effectively gather and pocket their genetic samples throughout the day, *individuals would have difficulty obscuring every genetic sample if they tried*. Any such hope for a new approach was misplaced, however, as DNA abandonment cases heard subsequent to *Tessling* have confirmed that police remain free to collect abandoned items containing DNA unless *Stillman*’s very limited custodial exception applies. This continues to be the case where police trickery is used to obtain the sample. For instance in 2009, in *R. v. Delaa*, the Alberta Court of Appeal found that a suspect who had been tricked into providing a piece of chewing gum to police under the pretense of a random gum survey held at a gas station had abandoned his privacy interest in the DNA that was left on the gum.⁷¹

When it comes to state use of highly personal information derived from an item characterized as having been abandoned, the courts have not delivered on the initial promise to interpret *Charter* rights generously and with a view to protecting individual privacy. The state of the law on abandoned DNA is concerning for several reasons. First, it supports the argument that the Supreme Court has lost sight of the purpose of section 8, and as a result has allowed an unbalanced intrusion into the individual privacy interest in the name of public safety. Moreover, based on the way that the courts have interpreted section 8 in DNA abandonment cases, it is

⁷⁰ *Ibid* at para 41.

⁷¹ *R. v. Delaa*, 2009 CarswellAlta 670, 2009 ABCA 179 (Alta. C.A.); leave to appeal refused 2009 CarswellAlta 1735, 2009 CarswellAlta 1734 (S.C.C.). Post-*Tessling*, the rule on abandonment has also been applied to a number of “non-DNA” items with the courts finding no s. 8 violation under the circumstances. See, for instance *R. c. Law*, 2002 CarswellNB 44, [2002] S.C.J. No. 10, [2002] 1 S.C.R. 227 (S.C.C.) involving documents held in a safe left in an open field; and *Patrick*, *supra* note 54, involving garbage left on the side of the road for pick-up.

doubtful that the right to be free from unreasonable search and seizure will be able to provide meaningful protection against increasingly invasive investigative technologies.⁷² In addition, the law in this particular area promotes an illogical expectation that individuals hoard items that may possibly contain genetic or other personal information in order to assert a continued expectation of privacy in that information.⁷³ Finally, the law is objectionable because of its greater potential impact, including the effect it would have on individuals brought into an investigation through familial searching of the NDDDB, should the activity be authorized under Canadian law.⁷⁴ The next part explores this final point in greater detail, explaining the relationship that would emerge between familial searching and the law on abandoned DNA in the event of an amendment to authorize familial searching of NDDDB data.

III. RELATIONSHIP BETWEEN THE LAW ON ABANDONED DNA AND FAMILIAL SEARCHING

This section argues that when used together, familial searching followed by forensic analysis of abandoned DNA present a serious risk for genetic privacy that must be acknowledged as a policy issue before changes relating to familial searching are made to the *DNA Identification Act*. The relationship between these two seemingly separate investigative techniques can be illustrated by a fictional set of facts. Suppose that familial searching of the NDDDB has been authorized by an amendment to the NDDDB and that Canadian police are searching for a suspect in relation to an unsolved sexual assault and murder.⁷⁵ Crime scene DNA has been

⁷² See Ian Kerr, Max Binnie & Cynthia Aoki, “*Tessling* on My Brain: The Future of Lie Detection and Brain Privacy in the Criminal Justice System” (2008) 50:3 Can. Journ. of Crim. & Crim. Justice 367 at 376, where the authors explore the question in relation to recent advancements in brain scanning technologies used to detect lies during police interrogations.

⁷³ See Quigley, *supra* note 54 at 137, where the author expresses similar concern over the Supreme Court of Canada’s stance on abandoned garbage: “To guard against snooping by the authorities, should all citizens be advised to buy shredders to shred the myriad papers containing personal information that we all throw into the garbage on a regular basis? If not, we should also seriously consider whether luggage or other personal belongings, even if in a public place, or heat and electrical consumption information similarly give rise to privacy protection.”

⁷⁴ In addition to the policy issues discussed in this article, the law allowing police use of abandoned items containing personal information may undermine the presumption of innocence and the general idea that the presumption is supposed to guide all police conduct: British Columbia Civil Liberties Association, “DNA Matching for Criminal Identification Purposes” (1994) available online: <http://bccla.org/our_work/dna-matching-for-criminal-identification-purposes/> at s. 6.

⁷⁵ These most serious offences are purposely being used in this example instead of a less violent or serious crime in recognition of the fact that, even if an amendment is made to authorize familial searching, the Canadian government is unlikely to allow unrestricted use of the technique. One of the likely limitations would be to authorize familial searching for designated crimes only. The government may choose to impose additional restrictions, such as a requirement that police exhaust all other types of leads

collected and an anonymous DNA profile derived, though a match to the anonymous profile is not found when a search for a full match is performed on the NDDB. Investigators move to search for a partial match of the NDDB, which produces a profile with enough similarity to suggest a close genetic familial link.

The next step would be to locate and investigate genetic relatives of the individual identified through the partial matching process. This step might involve the use of a number of tools that could generate a possible family tree, including publicly available records and various social media tools. For instance, in Colorado, where familial searching is now permitted, official policy suggests that a partial match might be confirmed or invalidated through review of a number of sources of information, including criminal records, prisoner inmate profiles, visitor and telephone logs, presentence investigative reports, court records, and state vital records.⁷⁶

Suppose the above procedures produce a list of ten possible genetic relatives of the individual identified in the partial matching process. The next step would be to narrow the list of potential suspects by trying to determine whether any one person on the list is the source of the anonymous crime scene sample. To accomplish this step, police might ask each of the ten individuals to provide a DNA sample for exclusionary testing, and may even lay significant pressure on each individual in order to secure these “voluntary” samples.⁷⁷ An adamant refusal to provide a sample might lead police to be highly suspicious of the individual who refuses to cooperate.⁷⁸ Since Canadian law does not prohibit police use of abandoned items con-

before conducting a familial search, or more in-depth analysis of the partially matching profiles before the investigation continues. Of course, it is also open to the government to leave the prohibition in place. This array of regulatory options will depend on the outcome of the broader discussions.

⁷⁶ Colorado, Bureau of Investigation, *DNA Familial Search Policy* (Colorado: Bureau of Investigation, 2009) at s. 5(c). Other jurisdictions that allow familial searching note that a background check will follow the identification of a possible genetic relative, but provide only general guidelines on the means of confirming or invalidating the genetic relationship. See, for instance, the policy issued in the state of California, which says that investigators can attempt to confirm or deny the relationship by conducting more in-depth DNA analysis, by performing a background check, and by reviewing any available non-forensic information that might provide “additional evidence bearing on relatedness”: California, Attorney General’s Office, *Memorandum from E.G. Brown Jr., Attorney General of California to all California Law Enforcement Agencies and District Attorney Offices: DNA Partial Match (Crime Scene DNA Profile to Offender) Policy* (California: Attorney General’s Office, 2008).

⁷⁷ This has been known to occur in real cases. For instance, the RCMP executed a mass collection of “volunteer” samples following multiple sexual assaults and numerous reports of missing women in Prince George, British Columbia. The force was criticized on the basis that taxi drivers were specifically targeted and were compelled to either provide samples or become suspects in the crimes: Council for Responsible Genetics, *Can A DNA Dagnet Undermine an Investigation? A Case Study in Canada* by Michael Vonn (2012) online: <<http://www.councilforresponsiblegenetics.org/GeneWatch/GeneWatchPage.aspx?pageId=3D377>>.

⁷⁸ This occurred, for instance, in the Colin Pitchfork case, which was the first known case successfully solved by DNA profiling. In that case, British police solicited DNA sam-

taining DNA, police could attempt to collect such evidence from those who refuse the request for voluntary provision of an exclusionary sample.⁷⁹ In accordance with the low threshold for abandonment set out in the section 8 cases explored above, the evidence might be collected in the form of discarded cigarette butts, soda cans, used tissues, half eaten food items or spit from the sidewalk.⁸⁰ Alternatively, police might engage in trickery to obtain the necessary sample, for instance by setting up a fake gum survey like the one used in *Delaa*, offering up a personal item such as a hairbrush to a suspect and collecting any strands of hair left behind in the brush, offering to correct a suspect's cowlick during questioning and plucking a stray hair, or by inviting the suspect to send a response letter to a proposed class action law-

ples from approximately five thousand males in an effort to find the perpetrator of the sexual assaults and murders under investigation. Two of the men refused, one being Pitchfork. The refusal to provide a DNA sample was viewed as an indication of guilt. For Pitchfork the assumption proved to be correct. It is crucial to point out, however, that the other suspect must have had alternative reasons besides guilt for refusing the request. Craig Seton, "Life For Sex Killer Who Sent Decoy to Take Genetic Text" *The Times*, UK (23 January, 1988); Robert E. Astroff, "Identity Crisis: The Charter and Forensic DNA Analysis in the Criminal Justice System" (1996) 5 *Dal. Journ. Of Legal Studies* 211, at 215. Possible reasons to refuse a request for an exclusionary sample might include concern over one's genetic privacy and the level of protection that will be afforded to the information once it is in the state's control, or perhaps a strongly held belief in the presumption of innocence. For further discussion, see Kevin M. Keenan, *Invasion of Privacy* (Santa Barbara, California: ABC-CLIO Inc., 2005) at 149.

⁷⁹ It might also be possible to obtain a warrant for collection of an individual's DNA under these circumstances. Canadian law authorizes judges to issue discretionary warrants for DNA collection in relation to specific investigations. A judge may issue the warrant if he or she is satisfied that it would be in the overall best interests of justice to do so and that: (a) a designated offence has been committed; (b) a bodily substance has been found or obtained at the place where the offence was committed, on or within the body of the victim of the offence, on anything worn or carried by the victim at the time when the offence was committed, or on or within the body of any person or thing or at any place associated with the commission of the offence; (c) a person was party to the offence; and (d) forensic DNA analysis of a bodily substance from the person will provide evidence about whether the bodily substance referred to in paragraph (b) was from that person. *Criminal Code*, *supra* note 26 at 487.05(1). It is possible, though far from certain, that evidence of a potential familial link might convince a judge to issue the discretionary warrant in order to allow police to move forward with the investigation. If police were inclined to attempt to obtain a warrant and failed to do so, there is nothing in the current law to prevent them from then resorting to the collection of abandoned DNA as described in the example above.

⁸⁰ The first three examples are drawn from the facts of Canadian cases explored above. The remaining examples have been taken from real American cases where the courts decided that the DNA samples had been abandoned for constitutional purposes. The infamous case of the Grim Sleeper, discussed above, was solved when California police collected a half-eaten piece of pizza discarded by their suspect's relative: McCarthy, *supra* note 19. Police collected spit from the sidewalk in *Commonwealth v. Cabral* (2007), Docket No. 06-P987 (Mass. C.A.).

suit and pulling DNA from the stamp when a letter arrives in the mail.⁸¹ Regardless of how the exclusionary samples are collected, once obtained they provide police with all that is needed to confirm or invalidate the lead provided through the familial search. If a match is found, the police would be able to continue the investigation against a single suspect, against whom they would hold highly incriminating evidence.

It is true that the fictional example illustrates how a very serious and important investigation may be solved through the combination of familial searching and collection and analysis of abandoned items containing DNA. The story also illustrates, however, how familial searching would effectively expand the reach of the NDDB to include the genetic relatives of convicted offenders who have been required to provide DNA for inclusion on the data bank. In other words, the example shows how police could circumvent the limits that were put in place to justify the existence of the NDDB. This result is highly problematic, as the NDDB was purposefully limited to individuals convicted of designated crimes, with the genetic surveillance facilitated by the scheme typically justified by the view that such individuals have a reduced expectation of privacy by virtue of their previous actions.⁸² The same justification does not apply to individuals brought into the investigation based on their genetic characteristics and potential genetic relationships. The collection and analysis of abandoned genetic materials as the final step in the fictional example illustrates how the law on police use of abandoned DNA leaves no meaningful right to refuse to provide an exclusionary DNA sample for individuals brought into the investigation based on their genetic relationship with a convicted offender. In the situation described, this translates into a situation in which such persons have no right to remain excluded from the NDDB until the state proves that their own personal actions warrant their direct inclusion. This problematic result requires that the relationship between the two investigative techniques be considered as part of the conversation on whether to allow familial searching of the NDDB.

IV. CONCLUDING REMARKS

This article has explored the current interest in amending the law on familial searching of the NDDB in Canada, the present law on police use of abandoned DNA, and the potential relationship that would emerge between the two investigative techniques if an authorizing amendment is made in relation to the first. In response to the Canadian government's indication of a pressing need for further re-

⁸¹ Again, the examples have been derived from real cases. The strategic offering of the brush and hair plucking occurred in the Canadian case of *R. v. Love*, 1995 CarswellAlta 798, 102 C.C.C. (3d) 393 (Alta. C.A.); leave to appeal refused [1996] 2 S.C.R. viii (S.C.C.). The postage stamp ruse was effected by American police in *State v. Athan* (2007), No. 75312-1 (Wash. S.C.). For further discussion of these cases, see Burchill, *supra* note 42.

⁸² In accordance with this view, while discussing the use of DNA on Canada's NDDB in *R. v. Rodgers*, Justice Charron explained that convicted offenders "have a much reduced expectation of privacy" and that "by reason of their crimes . . . have lost any reasonable expectation that their identity will remain secret from law enforcement authorities": *R. v. Rodgers*, [2006] 1 S.C.R. 554, 2006 CarswellOnt 2499, 2006 Carswell-Ont 2498 (S.C.C.), at para 5.

search about whether and to what extent this amendment should be made, this article has argued that the potential for combined use of familial searching and abandoned DNA presents a significant policy objection to the possible change in the law. While the Supreme Court of Canada has previously promised to interpret the right to be free from unreasonable search and seizure with a view to protecting and upholding privacy rights, the interpretation of section 8 in DNA abandonment cases has fallen short of this promise, leaving individuals with no meaningful right to refuse police the use of genetic materials that are shed and discarded daily. The lack of options to assert any expectation of privacy in genetic information must be considered in terms of the potential effect on individuals who would be brought under police suspicion through familial searching of NDDDB data. One of the results of a move to incorporate familial searching into Canada's data bank would be that the failures of section 8 in cases involving abandoned DNA would infiltrate NDDDB operations, by incorporating individuals who have not been convicted of a designated crime into the scheme. The result would be an intrusion into individual genetic privacy against which Canadians were purposefully shielded in the creation of Canada's data banking scheme. Though this presents only one of the considerations that must play into the conversation about the future of familial searching in Canada, this article has made the case for viewing the matter as a serious policy issue that deserves to be emphasized as part of this ongoing debate.