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Appearance and Origin:

The Depoliticization of Genetic Privacy in France

Joëlle Vailly*

Abstract: This article discusses DNA tests used by the police and justice systems in France for predicting a suspect's appearance and/or origin. It focuses on the effects of different conceptions of privacy when genetic information enters the semi-public domain. I analyze how a contemporary process of racialization is fostered by the combination of a concept of privacy founded on visibility, and DNA-based technologies of appearance. Drawing on 35 interviews with the various professionals involved (police officers, geneticists/experts, and judges), I show first the preponderance of a depoliticized point of view connecting privacy with secrecy and obscuring the risks of stigmatizing populations. I then analyze the scientific relationship between what is visible and what lies inside the body, offering an understanding of the aporia of norms based on appearance and how, despite certain contradictions, geneticists contribute to the process of racialization. Finally, I explain how this process develops further when information moves from the world of science to the worlds of the police and the media. In conclusion, I argue that the existence of these technologies transforms normative frameworks and, by focusing attention on what is visible, makes tests connecting crime, origin, and DNA acceptable by depoliticizing them.

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Between October 2012 and January 2013, five young women were sexually assaulted in a student neighborhood in the French city of Lyon. The assaults became increasingly violent and the hooded attacker wore gloves and carried a knife. These serial assaults generated strong emotion in the city. The assailant's DNA, found on the victims' clothes, did not match any profile known to the police. In 2012, the investigating judge dealing with the case asked a private laboratory to determine "all useful factors relating to the suspect's apparent morphological features" based on his DNA. The laboratory's expert report indicated that the assailant had dark brown eyes, fair skin tending towards olive, and light brown or brown/black hair tending towards dark. It is important to note that there was no question of his origin. Given that this type of test had been prohibited in 2011 by a Ministry of Justice *Dépêche* (an informative note that does not have the same legal value as a law), the investigating judge wanted to safeguard the proceedings. He therefore himself chose to bring the issue before the Lyon *Chambre de l'instruction* [a court that mainly deals with appeals against judicial verdicts] in order to obtain a decision about its legality. The case was ultimately referred to the Court of Cassation, France's highest legal jurisdiction. In a somewhat laconic Decision (or *Arrêt* in French) in 2014, the Court established that the procedure was valid, provided that it consisted solely in revealing the perpetrator's "apparent morphological features" based on DNA left at the scene; however, it gave no precise indications as to what was understood by "apparent features".¹ The perpetrator was eventually caught in the act of assaulting another woman in January 2014, so his arrest was unrelated to this DNA test. Nevertheless, the fact this approach was used had important effects, as the precedent set then paved the way for the use of these tests in France.

¹ Arrêt n°3280 of June 25, 2014.

This briefly summarized case illustrates the use of a new technique in forensic science, different from the now traditional DNA profile tests that have been used for two decades in many countries. While the aim of DNA profiling is to identify suspects by *comparing* their DNA profiles with, for example, a stain left at a crime scene (Vailly and Krikorian 2018; Vailly and Bouagga 2019), this new technique aims to *predict* a suspect’s appearance or—even though this was not done in the Lyon case—their geographical origin, with a view to helping the police investigation. Certain social actors call this approach “phenotyping” or producing a “DNA composite sketch” (*portrait-robot génétique* in French) although this last label seems inaccurate, as we shall see, given the relatively limited number of features that can be analyzed. France is not an isolated case in this respect: an increasing number of countries are now adopting these tests. Approximate geographical origin (according to continent or subcontinent) based on trace DNA has been used in several hundred police investigations in the United States, as well as in the Netherlands in particular (M’charek, Toom and Jong 2020), and was used in the investigation into the Madrid terrorist attacks in 2004 (Sankar 2010). Furthermore, the Dutch Department of Genetic Identification, Erasmus MC, has made available a website that can be used by anyone with access to the corresponding genetic data in order to provide information about hair, eye, and skin color, based on DNA.² Finally, researchers in genetics are working to produce a technique, as yet unavailable, that connects biometric data about face shape with genetic markers and takes origin into account (Claes et al. 2014). The European research project VISAGE aims to “provid[e] reliable information” that will make it possible to produce “a composite sketch of an unknown trace donor from trace DNA left behind. [...] VISAGE will allocate previous and establish new DNA predictors” in order to produce the most “detailed [information] possible

² Website <https://hirisplex.erasmusmc.nl/> (accessed June 21, 2019).

[about] appearance, age and ancestry”.³ In a different context, but one which it is important to keep in mind, in China, hundreds of DNA samples of the Uighur Muslim minority have been collected in camps or under the pretext of health protection in order ultimately to determine a link between DNA, origin, and face shape.⁴

As we shall see in this article, social actors discuss and problematize this visual representation based on biology in terms of the protection of privacy. And indeed, since the 1990s, most geneticists, bioethicists, and institutions have considered privacy to be one of the major issues raised by the use of genetics given all the DNA-based information now available.⁵ France has already come up against this issue: a farmer convicted for having refused to give a DNA sample after his arrest during a union demonstration brought a case before the European Court of Human Rights (ECtHR), which ruled against the French state for its use of DNA profiles (for conducting DNA *comparisons*). Based on article 8 of its convention, the ECtHR found that there had been a “disproportionate infringement of [the complainant’s] right to respect for private life” arguing that the law did not differentiate between DNA analysis and storage according to the nature and seriousness of the offence committed.⁶

Analyzing the social contexts that differentiate between those actions that are considered acceptable and those that are not, and studying the social norms on which this distinction is based, is one of the tasks facing anthropologists. Privacy is one such norm in which they have therefore long been interested, looking particularly at how different societies protect secrets or

³ Website <https://cordis.europa.eu/project/id/740580> (accessed May 14, 2020). On the ethical aspects of this project, see (Samuel and Prainsack 2018).

⁴ Wee Sui-Lee, Paul Mozur 2019 “China Uses DNA to Map Faces, With Help from the West.” *New York Times*, December 3, 2019.

⁵ From as early as 1996, a group of bioethicists published a report in the United States entitled *The Genetic Privacy Act: A Proposal for National Legislation* and there is now a website that monitors and lists research into genome privacy <https://genomeprivacy.org/> (accessed May 16, 2019).

⁶ Case of *Aycaguer v. France*, June 22, 2017, n°8806/12, ECtHR. Offences such as causing damage (graffiti, etc.) during anti-publicity protests or union demonstrations, for example, can lead to DNA profiles being stored for 40 years.

access to certain rituals (Inhorn 2004; Kulick 2015; Hernann 2017; Manderson et al. 2015; Murphy 1964). The ubiquity of privacy means that it has been studied in a broad range of areas in anthropology, especially in relation to religion, social networks, health, and the body (Engelke 2012; Everett 2007; Hortsmann 2020; Scorgie et al. 2016.) In the area of genetics though, the issue of privacy *per se* has mainly been addressed by bioethicists (particularly Gillett and McKergow 2007; Lee and Borgelt 2014; Robertson 2003). In this article, I propose to engage with the notion of privacy as it emerges in the field and as it is conceived by both powerful legal actors and the professionals directly involved in its applications. My work, which is based on practices related to tests determining suspects' apparent features and/or origin, seeks to answer the following questions: what are the effects of framing these tests in terms of privacy and what does privacy in fact protect? In a world being constantly transformed by techno-scientific changes, how is this notion redefined in interaction with technology? What social and political relationships are revealed or concealed by the issue of privacy? In short, this study focuses on the effects of conceptions of privacy when information relating to human bodies enters the semi-public domain by means of technologies implemented by state agents.⁷

This research is the result of a field study conducted in France in 2016-2017 as part of a broader interdisciplinary investigation—drawing on anthropology, sociology, and law—into the use of DNA by the police and the justice system (Vailly 2020). It follows on from a previous study, discussed later, on the problematization of DNA tests of origin in the French criminal justice system (Vailly 2016). The study discussed here is based on 35 semi-structured interviews with judges, high-level officials in the Ministry of Justice, forensic

⁷ This article will not discuss medical information.

police experts, investigators with the *police nationale* and *gendarmerie*⁸ and heads of biotechnology laboratories, all directly involved in practices relating to genetic tests of appearance and/or debates on this topic. The interviews, which lasted 2 hours on average, were fully transcribed afterwards. They focused on the respondents' career paths, the use of genetic tests of appearance in France, and their stance on the topic. The investigation also drew on the grey literature (documents, reports, etc.) and on academic articles in forensic science. The interviews and data from the different documents were coded by topic in order to identify the different aspects of privacy (practices, legal framework, political stakes, moral questions, etc.) mentioned.

This article begins by outlining the analytical framework of my research into the difference between the public and the private. It goes on to analyze the tension between two stances that I observed in the field: on the one hand, a majority stance—that I understand as depoliticized—presenting DNA tests of appearance as routine and connecting privacy with secrecy; and, on the other hand, a minority stance, connecting privacy with equality. The majority view of privacy neglects issues of equality and diversity between people of different “origins,” whereas the minority view is interested in the political dimensions to the risk of discrimination and of stigmatization inherent to these tests. The article then shows the scientific relationship between what is visible and what lies within the body, offering an understanding of the aporia of norms based on appearance and how, despite certain contradictions, geneticists contribute to the process of racialization. Finally, it explains how this process is reinforced by the shift from the world of science to the worlds of the police and the media, especially in the absence of any legislative safeguards. In short, I show that not only do technologies shift from one normative framework to another, but also that the

⁸ In France, law enforcement is provided by the *police nationale* in urban areas and the *gendarmerie* in rural areas. Law enforcement officers therefore comprise *policiers*, translated as police officers in this article, and *gendarmes*, referred to simply as gendarmes.

frameworks themselves are altered by the existence of new technologies because privacy is made a function of such technologies. The availability of new tests of appearance and the focus on the visible means that *tests connecting crime, origin, and DNA can be made acceptable by depoliticizing them* and obscuring the racialization process at work. This depoliticizing of privacy takes place in a context where, despite the technologies in question being purportedly objective and apolitical, the social sciences have long established that this is not the case (see, in particular, Schramm, Skinner, Rottenburg 2012). In addition to existing discrimination linked to “traditional” forms of racism, these tests could therefore introduce new forms of discrimination or stigmatization linked to genetics.

Privacy: a political issue

Changes in technologies, lifestyles, institutions, and norms are continually transforming the notion of privacy. It is present in an ever-increasing wealth of legal texts and other forms of recognition that are emerging, in what some authors have labeled an “irresistible ascension” in the hierarchy of norms (Mazeaud 2015). Despite, or perhaps because of, this omnipresence in public debate, privacy does not possess any one generic meaning (Kudina and Verbeek 2019). In this article, I adopt the following definition: “A right to privacy is a right to control access to, and uses of, places, bodies, and personal information” (Katell and Moore 2016:3). Certain authors have linked this definition, which emphasizes information, to the rising use of digital data (Steijn and Vedder 2015). Indeed, daily infringements of privacy can be observed, for example with new digital technologies collecting commercial data on the Internet, from medical files, credit cards, or transport passes, or with facial and biometric recognition (DeCew 2018). Most citizens seem to be resigned to this state of affairs, uninterested in it, unaware of it (Harcourt 2015), or in agreement with it, when public safety is at stake.

Similarly, the judgement against the French state by the ECtHR illustrates a conception of privacy that is increasingly focused on data and digital information rather than on spaces, relationships, or personal decisions. The metaphor of genetic *information*, conceptualized by geneticists several decades ago, has now become a reality that can be potentially stored, used, or even divulged, like any other information (Everett 2007). As for references to privacy in French law, these date back a long way: they can be found in particular in the 1868 press law (Halpérin 2015) that made provision for protecting “family secrets” and people’s “honor”. Even then, the issue at stake was controlling what information, in an older sense of the word, newspapers could divulge about a person.

On a theoretical level, the notion of privacy has a long history in philosophical debate dating back to Aristotle, who made a distinction between public life, connected to political activity, and the private sphere, connected to family and domestic life. Today, whereas many studies have focused on the individual interests that privacy should protect (autonomy, choice, etc.), only a small number of them have emphasized the need to take social values into account in this area (Regan 1995; Roessler and Mokrosinska 2015; Solove 2002). Conceived of in this way, privacy is no longer simply an individual prerogative but also one of the key issues at stake when we consider collectively what it is that should be protected (Solove 2002).

Two aspects not just of the collective but also of the political dimension to privacy, often also neglected in studies on this matter, will be addressed here. The first rests on the fact that privacy can be linked to politics when police investigations target groups of people of a particular “origin” rather than individuals, thereby turning the regulation of this area into a political issue. Further to this point, the philosopher Hannah Arendt (2005 [1995]:93, 96) defines the “political” as follows: “Politics deals with the coexistence and association of

different men. [...] it organizes those who are absolutely different with a view to their relative *equality* and in contradistinction to their relative *differences*” (my emphasis). In this regard, one aspect of the work presented here will be to show that while privacy is a coherent and useful concept, it does overlap with other important concepts linked to political life, such as discrimination and equality. In this sense, my analyses do not align me with those who critique privacy as a notion and consider it not to be a distinct concept in and of itself, therefore reducible to other concepts, such as property or freedom (DeCew 2018).

The second aspect is linked to the principle of proportionality, which the ECtHR requires to be properly taken into account in the administration of criminal justice. Proportionality is a method applied in many constitutional jurisdictions worldwide (Tsakyrakis 2009). The majority of constitutional courts, such as the ECtHR, define this principle by three sub-principles. The first is suitability, according to which the measure being considered must be more or less adequate for realizing the objective at hand. The second is necessity, requiring that the means chosen must, among all suitable options, be the one that least infringes upon the rights or freedom in question. The third is proportionality in its strictest sense, which posits that the two conflicting elements must be weighed up reasonably: the more serious the infringement, the more important the issue justifying it must be. In sum, proportionality requires that a measure be suitable, necessary, and balanced relative to the rights it violates (Tsakyrakis 2009).

From this perspective, it is necessary to find a balance between the imperatives of privacy and other interests such as crime prevention and public safety (Baghai 2012). This therefore leads me to consider, here, how the balance between the imperative for privacy and the need for public protection is discussed and implemented in society. The political dimension to this

question is clear once we remember that this balance serves as a marker of democratic societies and that proportionality is a key principle in curbing power. As Priscilla Regan (1995:213) points out: “privacy is [...] a public value in that it has value not just to the individual as an individual or to all individuals in common but also to the democratic political system.” In the light of these various points, I wish to use this study to show *the effects of depoliticizing privacy*.

Privacy as secrecy or privacy as leading to equality

Before outlining the interviewees’ positions with regard to tests for apparent features, it is necessary first to look back at a short-lived but intense controversy that occurred in France in 2008. Without going into all the details of a previously published study (Vailly 2016), I shall simply recall here that this controversy concerned tests referred to at the time as “*tests d’orientation géo-génétiques*” (TOGG—indicative geo-genetic tests). These tests were offered by a private biotechnology company and provided indications about suspects’ “geographical origin” by continent. In the study in question, I analyzed how the question of genetic origin used in the police and justice world was “problematized”, in Foucault’s sense of the word (Foucault 1984a), in the public space in France. Two factors offer insight into the conditions in which this controversy played out. First, one of the major arguments used by judges who were opposed to these tests was based on the history of the Second World War and the “Jewish files” held by the police at that time, which have left a persistent mark on France (Poznanski 1997). As a consequence, this has shored up the French political culture of rejecting ethnic or racial identification—a culture further reinforced by the high number of votes received by the far right in more recent French elections (Chapman and Frader 2004). Second, another important point relates to the legacy of the French revolution, supposedly

founded on citizens being members of the nation without reference to origin, which contrasts with the melting pot/pluralist/ethnic/racial identity politics of the U.S. since the 1960s.⁹ More broadly, it is important to remember that in Europe, and particularly in France, otherness is often referred to in terms of nationality, ethnicity, culture, migrant status, and therefore “origin” rather than “race” (Dixon and Telles 2017). For example, the French population census includes a question about country of birth and prior nationality, but not about “race.” Debates about so-called ethnic statistics remain lively, giving voice to competing desires, on the one hand to measure discrimination, and on the other, to protect social cohesion and French universalism, whereby no communities are recognized within the Republic.

For all these reasons, even though some investigators and judges were in favor of these tests at the time, their sensitive nature was connected to the explosive combination of crime, origin (with the implicit risk of discrimination), and DNA (with everything it might one day reveal). In 2011, this culminated in the publication of a *Dépêche* by the Ministry of Justice prohibiting tests determining a suspect’s origin or physical characteristics, which the Court of Cassation then rendered obsolete in 2014. One of the questions this raises is how to understand what set these TOGG apart from the tests for “apparent morphological features” that, for their part, did not generate any significant controversy. The following table provides a summary timeline of these events:

2006: TOGG (“indicative geo-genetic tests”) launched.
2008: Controversy about TOGG.
2011: Ministry of Justice <i>Dépêche</i> prohibiting tests determining a suspect’s origin or physical features.

⁹ In France, the Declaration of the Rights of Man and of the Citizen in 1789 marked the advent—on paper, at least—of a break with all forms of segregation based on race, religion, and ethnicity (Noiriel 1996). However, the Republican ideal that defined membership of the nation was ambiguous from its very inception because while, in theory, it applied to everyone, in practice it was limited by discrimination, particularly in the colonies.

2013: DNA test for suspect’s “appearance” used in the Lyon rape case.

2014: Court of Cassation *Arrêt* authorizing tests for a suspect’s appearance

Since 2014: DNA tests for appearance and origin in France developed.

Table 1: Timeline of the events relating to DNA tests of origin and appearance in France

Let us turn now to the present situation. Three laboratories offer these types of tests in France: two private companies, which I will refer to as A and B, and the *Service National de la Police Scientifique* (SNPS—National Forensic Police Service)¹⁰. Laboratory A ran the analysis used in the Lyon case, while Laboratory B offered the TOGG in 2006. As for the SNPS, as its name suggests, it is the state-run police laboratory (another laboratory also offers this test, very occasionally, in connection with studies of historic DNA). Each laboratory provides different information in its expert report, such as hair, eye, and skin color, predisposition to male early onset baldness and to freckles, or “bio-geographical origin” (sometimes referred to as “ancestry” because it is deduced from “ancestry-informative markers”), specifying the continent (e.g. Europe, Sub-Saharan Africa, Asia, America, or Oceania). The individual’s age is due soon to be added to this list. The SNPS runs on average one test of this type per month, at the request of judges or police officers, and laboratory A also runs one per week, whereas laboratory B has recently only done a small number of these tests. While, as we shall see, the laboratories have different views about what information should be studied, they all broadly agree on the fact that the question of privacy should be approached in terms of *appearance and visibility*, in line with the Court of Cassation’s *Arrêt*: all information that is visible is public, all information that is not is private. Henceforth, all physical morphological features that could be observed by a person in the street or based on a photograph can be analyzed, as

¹⁰ The Service National de la Police Scientifique (SNPS) is the result of the merger in 2021 of the Institut National de la Police Scientifique (INPS; National Forensic Police Institute) and the Service Central de la Police Technique et Scientifique (SCPTS; Central Service of Technical and Forensic Police).

they are not intrusive. As the investigating judge in the Lyon rapist case explained: “Everyone knows that I have olive skin, it’s hardly news, it’s not something personal in the sense of something secret or intimate. It’s something that is revealed in front of everyone.” This seemingly self-evident statement nevertheless calls for several remarks.

On an international level, courts regularly follow the reasoning that once a fact has been divulged in public, even if in a limited and narrow sense, it can no longer remain private. Thus, according to a judgment handed down in the United States “what a person knowingly exposes to the public” should not carry any expectations in terms of privacy from a constitutional point of view.¹¹ In general, this conception of privacy, shared by most actors and suggested by the Court of Cassation, equates it with total secrecy of information (Solove 2002), which is the corollary to the idea that everything that is visible is public. The privacy in question here is based on the notion of “intimacy,” (“something secret or intimate” said the judge) which, by definition, is not to be shared with just anyone (Inness 1992). However, this position neglects the fact that people may wish to keep information private from some and not from others, but also at certain times and not necessarily always. As Daniel Solove explains (2002), the books we read or the people we frequent are not considered secrets and yet we still consider these to be private things.

Beyond this shared point of view on visibility, one issue that the Court of Cassation’s succinct *Arrêt* left up for discussion was whether or not “apparent features” included a person’s geographical origin. In the absence of a precise legislative framework, each laboratory devised its own set of norms in this regard. The heads of the SNPS and Laboratory B (which had offered the TOGG), along with most of the interviewees, considered that apparent

¹¹ Katz v. United States, 389 U.S. 347, 351 (1967).

features included origin. As with other detectable features, a parallel was therefore often drawn with everyday situations of oral testimony. As an example, one *gendarme* framed the test as commonplace, explaining that it would not provide any information that was different in nature from the information an eyewitness might give: “You cross paths with a Black guy in the street, you say: he’s Black. I don’t see what the problem is as long as we stick to what’s visible.” The analogy with eyewitnesses relegates the genetic approach to the background and is also used by geneticists in biomedical literature (Kayser 2015). Presented as an investigative fact devoid of any racism, this information is supposedly neutral and in no way intended to target a particular community.¹² In point of fact, this information is a very common descriptive feature in eyewitness statements, which is generally accepted as legitimate by judges, and has been described as a “race-attentive means of differentiation” (Fox 2010:70). By presenting things in this way, our interlocutors established a link between appearance and commonly accepted racial categories (“Black”) in a desire temporarily to set aside genetics—even though in reality this is impossible insofar as the categories in question are based on genetics. Like the TOGG, these DNA tests of appearance including origin create connections between appearance, commonly accepted racial categories, and—whether or not this is made explicit—genetic ancestry.

Several other arguments were foregrounded in interviews supporting tests of origin. First, investigators within the police or justice system stressed how unreliable eyewitnesses can be, given that they have often been emotionally affected by what they have seen. Second, investigators also emphasized the importance of moving the investigation forward, the need to detain serial criminals, and the desire to position themselves clearly “on the side of the victims.” In doing so, they adopted a pragmatic point of view, underlining the commonplace

¹² This bears comparison with the fact that, in other contexts such as in the United States, racial inequality persists, though few White Americans would claim to be (or wish to see themselves as) racists (Bonilla-Silva 2003).

and routine aspects of police investigations and the need to use all the information available at a crime scene (Williams and Johnson 2004). Finally, genetics experts studying origin argued—and we shall see why later—that their analyses would be better if they could supplement their results with this information rather than limiting it to details about skin color, for example. This stance was not a function of the interviewee’s profession insofar as it was held by geneticists, police officers, and judges alike. The box below gives an example of the analyses offered, provided by the SNPS.

Identification of the external physical features of the contributor of the biological trace analyzed	
Under seal	<input checked="" type="checkbox"/>
DNA extract	<input checked="" type="checkbox"/>
Biogeographical origin	Europe
Eye color	Brown or green
Hair color	Blonde
Skin color	Fair
Predisposition to freckles	Low probability
A presentation of the probabilities associated with the predicted results is attached as an appendix.	

Figure 1: Excerpt from a forensic police report (August 4, 2016).

An alternative perspective contested this point of view, suggesting that conceptions of privacy are shaped not only by laws or legal texts (the jurisprudence of the visible) and technology (DNA tests) but also by norms beyond the remit of the law, such as those espoused by the head of laboratory A.¹³ Having braved the Ministry of Justice’s 2011 ban by producing DNA analysis of eye, hair, and skin color in the Lyon case, but no doubt somewhat cautious given the ramifications of the TOGG, he defended a limited definition of apparent features: for him,

¹³ In the 2000s, the head of laboratory A had submitted a request to the Ministry of Justice for authorization to analyze “suspects’ physical characteristics,” which was refused by the 2011 *Dépêche*.

origin deduced on the basis of ancestry-informative markers should not be analyzed in the context of searches for suspects. “A person’s ancestry, that’s part of the private sphere, the person’s history, so I don’t work on that issue” he stated in a hearing at France’s National Consultative Commission on Human Rights (CNCDH) on this question. As though echoing the TOGG affair, he added that, speaking particularly as a biologist, he was a “prisoner of his country’s culture and history,” mentioning the tragedies experienced in Europe and alluding indirectly to the “Jewish files” kept during the Second World War. He thus positioned himself as an “ethical subject” (Foucault 1984b) concerned with moral issues. Of course, his concern also extended to his company’s image: his stance should not make us forget that company directors produce discourse on privacy intended to shape public perceptions of the technologies they develop and to make them acceptable (Kudina and Verbeek 2019).

This director was not the only one for whom tests of origin posed a problem in France. Certain high level judges involved in the debate expressed strong reservations, which sometimes extended to tests for hair or skin color. The judges in question—although few in number and different from those who had opposed TOGG—viewed these new tests as dangerous.¹⁴ One of the judges interviewed, a leading member of the judiciary in France, defined penal procedure as a set of limits placed on the right of the judge—and one might add of the police—to enter people’s homes and phones, but also bodies, thoughts, and DNA. He emphasized the need for an institution to place limits on such intrusion, especially concerning DNA, which, he stated, pertains to “people’s essence”. The essentialization at work here illustrates DNA’s role as a “cultural icon” (Nelkin and Lindee 1995), even though today most geneticists worldwide take a more measured view of the role of genetics in relation to environments (Lock 2013). This essentialization contributes making DNA a sensitive topic of

¹⁴ The judges opposed to TOGG did not participate in the public debate about the tests for apparent features.

study even today. According to the judges, one particularly sensitive issue consists in wanting to predict the population group to which a suspect belongs. As one of them stated in an interview: “If, in a rape case like this one, we say: ‘the perpetrator’s Black’ that poses a real ethical problem. The whole group of the Black population is stigmatized.” This point of view calls for two remarks. First, the problem is once again expressed in terms of a commonly accepted racial category, but this time in conjunction with a risk of stigmatization. According to Peter Wade (2014; see also Sen and Wasow 2014), the phenomena that can be described as “racial” are, on the one hand, based on nature, heredity, and the way in which the latter is expressed in terms of appearance and, on the other hand, grounded in geographical and historical facts. In this way, just as with the TOGG (Vailly 2016), these interviewees therefore indirectly raised the issue of racialization through three constitutive elements in the history of racial theories as presented above—nature/heredity (reformulated today as genetic ancestry), appearance, and domination/stigmatization. Furthermore, the concern expressed about the tests was that, even though they are applied to the perpetrator of a particular crime, they nevertheless target the whole population represented by that perpetrator. This can be connected to the fact that privacy concerns not only interpersonal relationships, but also groups and communities: personal information rarely belongs to a single individual; it is often formed in relation to others (Anthony et al. 2017). Moreover, it is worth recalling that “individuality” is not something that is equally distributed across all populations, and that, in France or in the United States, in racialized populations the one always represents the whole, whereas one of the privileges of unmarked “whiteness” is to be perceived as merely an individual and not a representative. More generally, these issues cannot be analyzed without taking into account inequalities in how people are treated according to skin color and appearance—in other words, without taking into account discrimination—in the police and criminal justice systems, including in ways that go beyond taxonomical definition: the

probability of being stopped by the police, of being incarcerated, etc. (Alexander 2010; Fassin 2013). In France, a study has shown that, with all other factors being equal, minorities are disproportionately subject to police checks based on their appearance, which combines features relating to their sex, their age, the bag they are carrying, the clothes they are wearing, and their skin color (Jobard et al. 2012). In this regard, it could be argued that traditional police checks already produce discrimination and that these tests therefore change nothing (Fox 2010). I will return to this point in the final section of the article.

To summarize, there is a tension between, on the one hand, DNA tests being made commonplace by drawing on the idea of the visible—which is the majority opinion—and, on the other hand, the “sensitive” nature of the question of commonly accepted racial categories. While the polysemic nature of “privacy” as a term has resulted in it being connected to different concepts in the literature (Halpérin 2015), in this case, the interviewees connected it either to *secrecy* (the corollary to “everything that is visible is public”) or to the absence of discrimination and stigmatization, i.e. to *equality*. How can we further analyze these two stances? My aim here is not to treat the different points of view, or indeed the social positions of those who hold them, as somehow the same—for, as we have seen, they diverge. Instead, my goal is to understand their meaning. The political theorist Mark Brown (2015) argues that situations become political when people contest the power relations that are connected to them and become apolitical when this opposition is obscured or transformed into routine or habitual relationships. This corresponds to the two positions I observed in my study. Indeed, if the majority conception of privacy *touches upon* a political area (the security put in place by agents of the state), it is in fact relatively depoliticized *in and of itself* insofar as it neglects issues of equality and diversity between people of different “origins” (Arendt’s phrase “Politics [...] organizes those who are absolutely different with a view to their relative

equality and in contradistinction to their relative differences” is worth recalling in this regard). In other words, even if the notion of privacy is broadly used in public policy and legal frameworks, its majority *conception* fails to account for its political effects. In the context of these tests, the controversy was euphemized and skirted around based on the idea that the tests purportedly only provided information that was already widely known and commonplace, thus lying outside the realm of power relations and racism (Noiriel 2007). Moreover, this majority conception relies on the notion of intimacy and the fact of being hidden from *view* (from what is visible to other people). This bears comparison with Arendt’s perspective (1998 [1958]:69) when she states that what we call “private” today can in fact be reduced to the “intimate,” which emerges as an escape from the outside world, a refuge sought by individuals, away from prying eyes. However, the minority view of privacy, instead, makes room for the question of power relations, even though these are not necessarily the terms used. This view is associated with the political dimensions to the risk of discrimination and of stigmatization inherent to these practices. It points indirectly to issues of racialization by connecting the risk of stigmatization, appearance, and genetics. The group discriminated against or stigmatized is then more adversely affected than the actual criminal. This shows that privacy is clearly at stake but in connection with other issues, such as equality and discrimination. Privacy is not only an individual value; it is also tied up in other relationships that allow societies to function by limiting discrimination. In short, viewing privacy through the lens of political anthropology and showing its political nature help us to understand the positions observed in the field. Furthermore, the issue of racialization becomes much clearer when the political dimension of privacy is taken into account. To take this point further, the following sections of the article show the racialization process at work when privacy is understood in relatively depoliticized terms: first, in the area of science and second, in the area of communication of information.

The aporia of norms determined by what is visible

Given that the idea of the visible is key to understanding approaches to privacy, my analysis here will consider how the visible (considered as public) is connected to origin (considered either as public or private). This will allow me to show how, on a scientific level, racialization is fueled by a conception of privacy that focuses on appearance.

First, it is necessary to outline the technical information that defines how this circulation between what is visible—as materialized in the outside body—and DNA—representing that which is inside the body—actually operates. On a technical level, geneticists use different genetic markers, some variations of which can be associated with a person’s origin or their eye, hair, or skin color. The following figure shows how this relationship between the DNA sequence and certain apparent features is materialized, here identified using arrows.

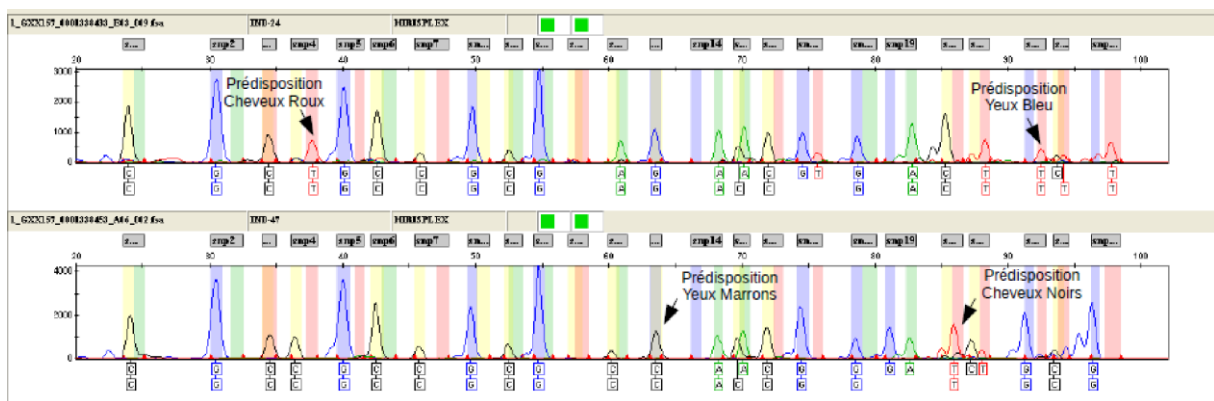


Figure 2: Statistical association between certain DNA bases and apparent morphological features (SNPS document) Crédit: SNPS-François-Xavier Laurent

Analyzing several DNA regions can produce a statistical prediction for each of these features: for example, the probability of belonging to a group of individuals who have black eyes. As we can see in figure 3, this probability can then position the person on a more or less standardized and measurable scale in terms of skin, eye, and hair color. To determine these three morphological features, analyses focus on SNP markers (Single Nucleotide Polymorphism markers).¹⁵ In the case of origin, analyses use ancestry-informative markers (known as InDel) located in “non-coding” DNA that, by definition, does not directly contribute to creating proteins. These markers are more frequent among certain populations in the world, without being specific to them, and are considered to be accurate at a continental level. Experts position the suspect’s DNA within a scatterplot providing a graphical representation of the reference populations: African, European, Asian, Oceanic, and Amerindian, in which each color represents one “biogeographical origin” (bearing in mind that, for example, a “White” North American or Australian will be considered “European”). The question of reference populations is complicated, because research and reference groups are often based on European populations. In order to refine the results, geneticists try to create more limited population clusters than those corresponding to continents but state that they do not have enough individuals from any given region. One geneticist explained: “The problem is [...] that certain regions in the world aren’t covered by these references at all”, adding “and then it’s still complicated, because what does a reference population actually mean?” As the researcher Troy Duster summarizes (2011:107), “to say that someone is 85 percent African, we must know who is 100 percent African” given that there is considerable genetic variability across the African continent and that the reference population is always the result of an arbitrary choice. This shows the scientific limitations of this approach. The fact remains, however, that, according to geneticists, when the DNA being tested falls in the middle of the

¹⁵ These genetic markers are different from the Short Tandem Repeats (STR) used to produce traditional DNA profiles.

cluster, this indicates a very strong probability that the person originates from the corresponding region. If the DNA is located in an intermediate position between two or more clusters, visible in a 3D scatterplot, this indicates the person is of mixed ancestry. These tests are part of the inception of what researchers call “genome geography” (Fujimara and Rajagopalan 2011), which refers to how genome sequences are associated with geographical sites defined as people’s places of origin. The following figure, which was included in a brochure for police investigators presenting the SNPS (called INPS until 2021), illustrates these approaches:¹⁶

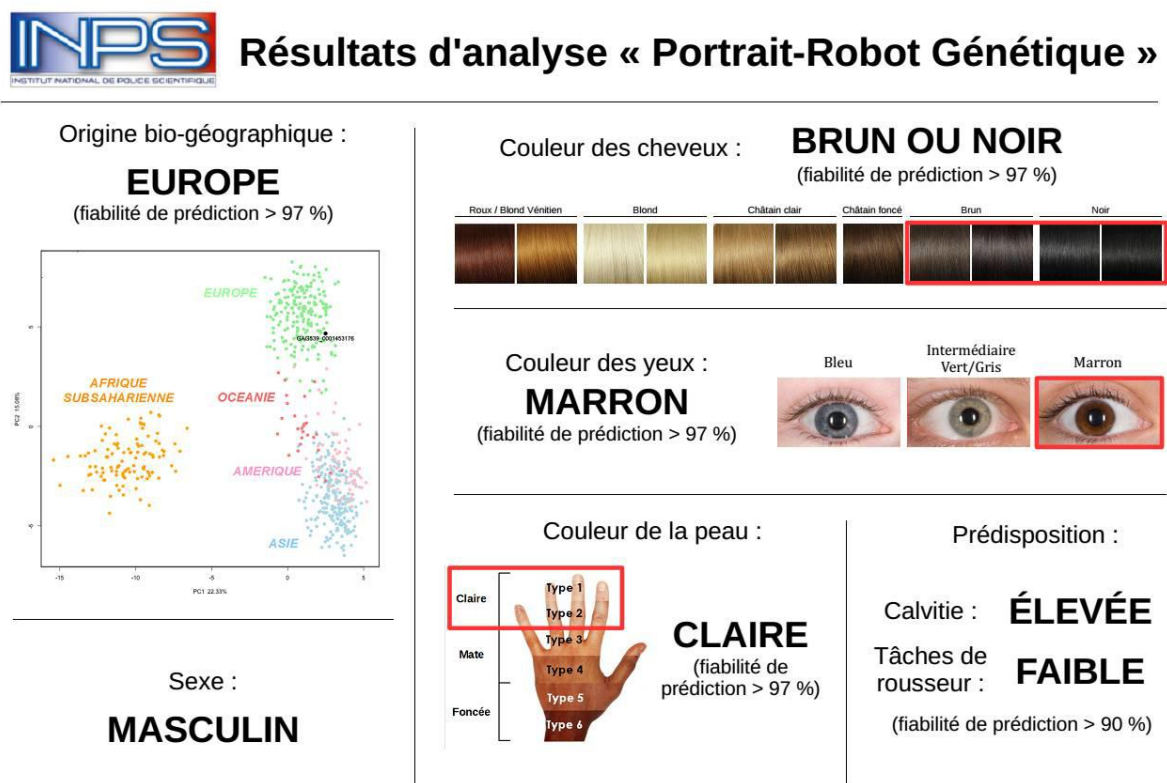


Figure 3: Service National de la Police Scientifique (formerly Institut National de la Police Scientifique) information brochure. Crédit : SNPS-François-Xavier Laurent

¹⁶ There is not space in this article to examine the question of reliability, and so it is not addressed here. It should simply be noted that while the stated reliability levels are high, as shown in this figure, predictions for blue eyes or black eyes, for example, are more reliable than those for intermediate colors.

Analyzing the relationship between DNA and the visible allows us better to position the question of vision within that of privacy and racialization. More generally, Rebecca Coleman and Liz Oakley-Brown (2017:11) remind us that in French “the visible outside part of a body” gave rise to the word “surface” in the fourteenth century. Moreover, just as vision and surfaces are tied together in this way, so the molecularization of appearance and origin produces a transition from phenotype (the visible, the surface) to genotype (DNA, what is inside) as described in some of the biomedical research (Abu El-Haj 2007), but also, at the same time, the opposite shift, from genotype to phenotype. Geneticists produce circulation between the molecular body and the apparent body via geography (Asia, Africa, etc.). This shows that more than “a surface [that] presents form” what we are dealing with is “an interface [that] performs a shaping” (Hookway 1988:14) or a “fold” between the external and the internal (Coleman and Oakley-Brown 2017). In this way, understanding the role of vision in the development of uses of DNA encourages us to go beyond traditional dichotomies opposing the internal and the external, the visible and the invisible, because the surface can work not only as a dividing line, but also as a “fold” between what is outside and what is inside (Coleman and Oakley-Brown 2017; Lafrance 2018). And this means that visible appearance deduced from DNA can offer some understanding of the complex relationship between public life and privacy when considered through the lens of appearance, as we shall see below.

One issue facing experts who study origin is determining the extent to which it is possible to claim that origin is apparent and, conversely, that what is visible reveals origin. It is obvious that certain phenotypical features have developed in certain regions and a person of Sub-Saharan African origin, for example, will probably have dark skin, hair, and eyes, even though we also know that the skin color of Sub-Saharan African populations varies

considerably. Conversely, in the case of the visible indicating origin, what authors refer to as “somatic norms” (Skinner 2018) seemed self-evident to certain interviewees: “Morphotype is externally apparent, if we take it on a basic level; when I see an Asian person, I know that he or she is Asian” summarized one police officer in an interview. When information about appearance and origin coincide, the experts’ analysis is made easier. A case described by one genetics expert as “easy” was that of “a good old Breton man, really from Western Europe, the British Isles, the West French coast, generally with brown hair, brownish eyes, but white skin.”

However, the geneticists interviewed also gave several examples of discrepancies between origin and phenotype. On the question of origin being apparent, one interviewee cited the example of a woman from Réunion “who looked typically like a Réunion woman” but whose DNA revealed a genetic profile placing her at the center of the European cluster. Another example provided was that of a Melanesian population in which 10% of the inhabitants had light blond hair. This is linked, in particular, to the fact that ancestry-informative markers are located in non-coding DNA as mentioned previously. These markers provide complicated historical traces of the evolution and mixing of populations, but are not all linked to apparent features (Abu El-Haj 2012). It is therefore clear that, at a molecular level, certain features of origin and appearance may overlap while others may not. That is why it is not feasible to base the norm on the visible by using ancestry-informative markers that are far from systematically linked to appearance. As for the way in which, on the other hand, appearance can indicate origin, one judge explained in an interview that the “Indian” type could be found in various regions of the world such as Bali, Madagascar, Réunion, and Mauritius. Corroborating this remark, a geneticist from the forensic police explained that genetic markers located in genes that code for melanin, a skin pigment, could be the same among Africans, Madagascans, and

Indians. Indeed, a genetics article published in the prestigious journal *Science* indicates that almost all variants associated with dark pigmentation in Africans are identical to those found in South Asia and among Australo-Melanesian populations (Crawford et al. 2017). The article shows the existence of both a molecular convergence between populations of different countries in the world as a result of adaptation to the environment and inherited genetic variants, associated with dark skin color, probably introduced a long time ago by migrants from Africa. On a theoretical level, it is therefore possible to take Simmel's (1955) argument—that by participating in several group affiliations, an individual also *escapes* these groups—even further. It could be argued that a person with brown skin lies at the intersection of several groups and thereby escapes geographical categories. Furthermore, participating in one group is at the same time to contrast with that group whenever there is a discrepancy between origin and apparent features (e.g. a person from Réunion who is located in the European cluster). The fact that some individuals do not fit into categories makes such categories more fragile and makes the boundaries between them porous. I shall return to the consequences of this in terms of racialization later.

In short, first of all, separating the internal from the external is not simple when looking at varied DNA regions, and second, while origin and appearance are often aligned, this is not always the case, which adds a further layer of complexity to the circulation between DNA and the visible. The question of privacy therefore necessarily comes up against difficulties or even contradictions as it omits the fact that in this case the visible is constituted by its relationship to technology (Coleman and Oakley-Brown 2017). This makes it difficult to maintain the position outlined earlier, associating privacy with secrecy and norms of good practice with what is apparent. If the internal is visible and the visible may or may not correspond to the internal, it becomes difficult to consider only that which is apparent when it comes to DNA.

Furthermore, the absence of any automatic correspondence between appearance and origin, and the fact that some individuals do not fit into groups, should contribute to a process of deracialization since the link mentioned earlier between appearance, origin, and genetics (for the moment, stigmatization is not in play) becomes more elastic.

However, despite these examples of a lack of correlation, geneticists continue to try to differentiate populations in this way. One report from the forensic police indicates, with seeming regret: “It is important to specify that human populations originating from North Africa and the Middle East are genetically very close to European populations. The method used does not allow them to be differentiated.”¹⁷ As one geneticist explained: “It’s getting harder and harder for geneticists, people are mixing, which is great, but for us it’s very complicated.” The science here appears to be based on the premise that, in the distant past, there was no contact between human populations that resided on separate continents, whereas we in fact know that people have been mixing since the dawn of time (Marks 2013). The mixing of populations is therefore not a new phenomenon, as illustrated by the question of variants in dark skin mentioned above. Moreover, on the one hand, the objectivation produced by geneticists sometimes brings populations closer together when they struggle to differentiate them genetically, for example in the case of North African or Middle Eastern people as compared with European populations. On the other hand, while geneticists reject the idea of race itself, as we shall see, these studies also frequently create rigid definitions of populations by trying to define their parameters and to differentiate them via DNA. It is also important to note that the categories of analysis in question remain continental. As other researchers have pointed out (Ossorio and Duster 2005), origin expressed in terms of continents may revive eighteenth-century notions of “race” given that the ideas of geography

¹⁷ This remark should be understood in terms of both the French post-colonial context (North Africa) and the rising concern with terrorism (the Middle East).

and race can overlap topographically (Africa/Black, Europe/White, Asia/Asian, Oceania/Pacific Islander, America/Native American). Overall, as with the TOGG (Vailly 2016), and despite the many contradictions that emerge from the science, geneticists' continued efforts to differentiate populations contribute to processes of racialization (Abu El-Haj 2007; Fujimura and Rajagopalan 2011; Fullwiley 2007; Nelson 2011; Ossorio and Duster 2005; Wade et al. 2014). Thus, approaches to privacy that build out from what is visible and include origin allow further analysis of “how bodies become racialized” and how “origin becomes embodied” in France, to paraphrase Didier Fassin (2011:431) writing about non-scientific areas not connected to genetics. When applied to the case studied here, the racialization of bodies maps onto the idea of the visible often, but not always, indicating continental origin, and the embodiment of origin corresponds to the way in which continental origin is often, but not always, inscribed in the visible—what Fassin refers to as the “elementary structures of racial embodiment.” The next section shows how this process continues to develop outside the realm of science, and especially in the absence of any safeguards in terms of proportionality.

Communicating information about origin

The political dimension of privacy identified above is exacerbated when information about one person is *communicated* to others. Indeed, the information to be controlled varies not only from one group of people to another (from an average passerby to a criminal, for example) but also when shifting frames of reference from one domain to another (the world of science to that of police investigators or the media, for example) (Baghai 2012). This therefore raises the question of how the results of genetic analyses are communicated internally (within the

police and justice systems) and externally (in the media, in particular), i.e. to the people observing, commenting on, and interpreting the information provided.

The first of these people are the police investigators or judges commissioning the analysis. A geneticist at the SNPS stated in an interview that it was important to choose very carefully which terms to use depending on whether communication took place among professionals or with outside actors. He made the link between communicating results and his own efforts to make the police investigators with whom he is in contact stop talking about “races”:

That’s why I try to reeducate the OPJ [police officers in the criminal investigation department] about the term race, because it really makes me mad [...]. I sometimes have OPJs calling me for information about the DNA composite sketch and saying: “*il est de race noire*” [literally: he’s of Black race]. I try to give them the basics in genetics and populations, that there aren’t any races, that we’re all one human race, but it’s something rooted in the unconscious and that’s complicated to explain.

As in the case of the TOGG, and like other geneticists worldwide (Abu El-Haj 2012; Fujimura and Rajagopala 2011), French genetics experts promote a way of taking geographical “origin” into account without referring to race. More specifically, they, on the one hand, insist that races do not exist on a genetic level and, on the other, offer a techno-scientific means to distinguish people based on their origin divided into continental categories and with a view to providing indications about their appearance. Certain authors have described this ambiguity as the “absent presence of race” (M’charek et al. 2014; Wade et al. 2014).

Moreover, this brings to light how the SNPS geneticist’s point of view differs from that of the police investigators who are quick to refer to race. Indeed, the way in which police

investigators approach, view, and refer to people plays a role in shaping racial identities. The everyday professional practices of state workers also further contribute to making race a commonplace idea, as one police investigator explained in an interview:

When you've got people wearing hoods, I'm not particularly shocked if [with DNA] they're referred to as being of Black race.

(Interviewer) In usual practice, is this information already used?

Yes and that's expressly allowed. It's even labeled that way, semantically speaking, I mean we can say "North African," we can say "of Black race," we can say "Asian," [...] There are types that are referenced and that we can announce in a clear manner.

The position adopted by this police investigator calls for several remarks. First, his statement is corroborated, in different terms, by the fact that the criminal record database—comprising 18.9 million files of people suspected of, or charged with, a crime during a criminal investigation, as well as of people who have disappeared or been victims of crime—“can include information about origin as part of their description” (LDH 2014:29). Second, we can see the slippage from the term “origin” to the term “race,” despite its highly sensitive nature in France. By making that term commonplace, the police investigator is effectively deconstructing the “problematization” outlined by the genetics expert cited previously. Furthermore, as I have shown in another publication (Vailly 2016), this stance reintroduces a form of familiarity of use, in contrast with when something “lose[s] its familiarity” (Foucault 1984a:388), in other words, in contrast to the novelty of these genetic tests. This perspective fails to analyze the role played by science in these practices, which are liable to legitimate a connection between appearance, continent of origin, and genetics. Furthermore, it does not address the issue of how the information is collected. In terms of privacy, there is a substantial difference between information being collected on the street on the basis of oral testimonies and it being deduced using DNA. The technology that seeks to deduce face shape from DNA,

mentioned in the introduction and that the SNPS claims to be following “with great interest,” is a good illustration of this. If one day it did prove possible to reconstitute a person’s face using DNA that could be detected *everywhere* and *at any time* in traces left behind by that person, this extension of genetic tests of appearance would suggest that privacy also depends on *access to* information. And what of situations in which the DNA identified at a crime scene proves to be that of another person, who is not a suspect and yet is subjected to a violation of the privacy of his or her genome? The ultimate aim would be a form of “genetic transparency,” by analogy with “digital transparency” (Harcourt 2015:19; see also M’charek 2020). Finally, the investigator’s stance also fails to consider issues related to how these data are communicated and used.

Indeed, another key aspect to privacy is the external dissemination of information, particularly by the media that plays a key role in the blurred boundary between the public and the private. As we saw earlier with the example of the SNPS geneticist, some of the people interviewed who were in favor of tests of appearance were also relatively attentive to the question of how results should be communicated externally (at least two of them mentioned this explicitly). Given the media interest in this kind of approach, controlling this information can obviously prove difficult. As early as 2009, on the topic of the TOGG, a national channel had reported on primetime TV that:

Based on a hair or a drop of dried blood, a DNA trace, it is possible to determine a person’s region of origin in the world, and therefore to know what their eye or hair color is [...]. Depending on whether someone comes from Europe, Africa, Asia, or America, they will have more of some markers than of others, which makes it possible to determine their origin, or in fact that of their ancestors [...]. This is a test that was

used [...] in particular in the Coulibaly serial rape case [the image of a young man with black skin is shown]. (France 2 news, 8 p.m.).

In this instance, the relationship between origin and skin color was presented as a given, running counter to the results outlined earlier and further fueling the process of racialization (“and *therefore* to know what their eye or hair color is”). This raises issues not so much in terms of the information provided as in terms of its implications for public conceptions of the relationship between appearance, origin, genetics, and crime. This offers a fresh indication that the problem of privacy arises when an event in a given social world is communicated to another, for example when the question of a person’s origin moves from the scientific sphere to the police/justice sphere and then onto the media sphere. The public or private nature of a subject is determined not only by its content, but also by its relevance in the social world in question. However, total separation between different social worlds is impossible and the representatives of each select information without always considering the standards of the others (Baghai 2012). For example, in this instance the journalist made public the principles, use, and result of the test, as well as the name and photograph of the perpetrator of the crime, which brought the process into the public domain. This shows how the circulation of techno-scientific knowledge can influence the framing of key issues. In addition to existing discrimination linked to “traditional” forms of racism (against “Blacks” or “Arabs” in France for example), these tests could introduce new forms of discrimination or stigmatization linked to a genetic version of identity.

Furthermore, this process is also fueled by the second issue that these tests raise for anthropology concerned with political stakes, i.e. the question of the *proportionality* between violating privacy and trying to ensure public safety. One way of maintaining some proportionality and curbing potential excesses in this regard is, at the very least, to frame the

use of these tests by means of laws or circulars. Most of the actors advocated using these tests within a specific framework defined explicitly by the law and they identified several aspects requiring such regulation. The first aspect concerned the collection, processing, and storage of samples and data, which should be understood in relation to what has just been said about how information is communicated. The second aspect concerned the offences for which such a measure could be applied, with a view to ensuring proportionality between violating the privacy of people's genomes and the stakes of identifying a suspect. The broadly shared view was that this technology should be reserved for the most serious crimes (rape, murder, armed robbery), as opposed to being used to identify the perpetrator of a robbery, for example. From this point of view, protecting privacy implies ensuring that personal information is used within the defined framework and according to the perceived importance of the aim pursued. As things stand currently, the legal basis for these tests in France lies solely in the Court of Cassation *Arrêt* authorizing their use without specifying what would be their safeguards nor providing any criteria for measuring proportionality in relation to the possible resulting infringements of privacy. The *Arrêt* did not comment on the criteria of suitability, necessity, and much less proportionality in its strictest sense, as outlined in the introduction, nor did it address the question of the balance between public safety and personal freedom. Yet rejecting proportionality exposes France to the risk of being condemned again by the ECtHR, because the ruling I discussed in the introduction came after earlier cases in which the Court found that France had violated privacy with its fingerprint database and with telephone tapping by police.¹⁸ More generally, in the digital field, the issue at stake in data use by private companies is often commercial and Harcourt's remark (2015) that the prevailing logic is economic and related to cost-benefit calculations seems warranted. However, in my view, when it comes to genetic tests used by the police, one of the key issues, expressed in terms of

¹⁸ Especially the Case of M. K. v. France, April 18, 2013, n° 19522/09, ECtHR, and the Case of Vetter v. France, May 31, 2005, n° 59842/00, ECtHR.

proportionality, is rather the question of these democratic balances left to one side by the Court of Cassation. In this sense, the Court ignored the political dimensions outlined in my introduction regarding the proportionality of practices in democratic societies. This absence of a regulatory framework means that tests can be used with no other restriction than what is apparent, which encourages the process of racialization.

Conclusion

In general, emerging technologies—with all their attendant hopes and concerns—tend to spark new debates and often bring into the spotlight norms that had previously been considered self-evident (Kudina and Verbeek 2019). In the case I have examined here, however, the opposite process is at work: routine recourse to an emerging technology has led to its use going unnoticed and to a lack of debate on the matter. Moreover, it is particularly fruitful to compare the TOGG, which generated controversy, and these tests for apparent features, which were approved by the Court of Cassation and developed without any substantial public opposition. Indeed, this comparison sheds productive light on the dynamics and effects of the interaction between technology and normative frameworks, represented in particular by the Court of Cassation's case law. My study shows not only how technologies shift from one normative framework to another (from the prohibition of the 2011 *Dépêche* to the authorization of the Court's *Arrêt*), but also how the frameworks themselves are in turn altered by the existence of new technologies. Indeed, the Court of Cassation's *Arrêt* and the position held today by the majority of the interviewees are based on an approach that focuses on the visible, which is supposed to limit both the infringement of privacy and the problems it raises. This is part of a very narrow definition of privacy as something that protects what is *secret*. In other words, the availability of new tests of appearance and the focus on what is

visible *have made tests of origin acceptable, without the combination of crime, DNA, and origin being as controversial and explosive as it was in the case of TOGG* (Vailly 2016). The principles used to evaluate these tests were coproduced by techno-scientific approaches supposed only to show appearance and by the familiar usage of describing suspects, for example, by the color of their skin. Retracing these dynamics and changes has allowed me to show how a conception of privacy based on “apparent features” is modified by means of an interaction between technology, laboratories, companies, police, and the justice system. Extending reflection on the joint production of science and norms allows critical analysis of the role played by “technomoral” mediation (Kudina and Verbeek 2019), i.e. the implications of technologies for practices, how they are perceived, and the normative frameworks that mediate their uses in terms of privacy.

This mediation based on appearance is made possible by a majority conception of privacy that sets aside issues that are of interest to political anthropology, i.e. on the one hand, stigmatization and racialization, and, on the other, proportionality. In terms of stigmatization and racialization, I have shown the contradictions inherent to the relationship between origin and appearance: it is not feasible to base norms on the visible, using ancestry-informative markers that are far from systematically linked to appearance. Despite this aporia, and despite the fact that geneticists deny the very existence of races, we have seen that these tests contribute to the perpetuation and evolution of a way of thinking that emphasizes differences that are passed on from generation to generation and that are visible on the body according to continental categories. In doing so, these tests spread the idea throughout society that “racial” differences are a biological given rather than a “bundle of sticks” (Sen and Wasow 2014) made up of notions of heredity/ancestry, appearance, power relations, and both geographical and historical heritage (Wade 2014). Moreover, in a country founded on equality, this

majority conception of privacy is operating on the assumption that everyone enters the justice system on an equal footing when historically this is simply not true (Alexander 2010; Fassin 2013). Interestingly, as I write, controversies are currently raging about racist speech and actions in police forces.¹⁹ These controversies remind us that tests of origin and appearance exists in a context where tensions often run high between the police and victims of racism, even though this is denied by the vast majority of police officers themselves and even though the social world of the police is broadly heterogeneous.²⁰ However, as Dorota Mokrosina states (2015, 189): “The] integrity of liberal politics presupposes a domain of privacy that removes from the collective attention material that is incompatible with the commitment to equal freedom, such as racism [...]”.²¹ As for the minority position pointing to the risk of stigmatization, it has been almost entirely erased from public debate. Given these different points, it is possible to suggest that in France there is a commonly held illusion that equality prevails, partly preventing any real consideration of the problems raised by these genetic tests.

However, two further points also provide fruitful avenues for discussion. First, in some countries, tests of origin are starting to be conducted at a sub-continental level (e.g. Eastern European, etc.). Will this undermine some of the foundations of the so-called “biological” origin of “races” in society? Perhaps, yet this will obviously still not prevent stigmatization as the following example illustrates. In Germany, a test of origin carried out following a series of murders established that the perpetrator was probably of Eastern European origin. In combination with the person’s apparent mobility, this was interpreted by the police—and broadly relayed by the media—as suggesting that these crimes had been committed by a

¹⁹ Jobard, Fabien 2020. “L’institution policière est extrêmement perméable au racisme”, *Le Monde*, June 12, 2020; Mahad, Ilham 2020. “Gardiens de la paix”, *Arte Radio*, https://www.artetradio.com/son/61664080/gardiens_de_la_paix (accessed July 13, 2020).

²⁰ Chapuis, Nicolas, Bénézit, Juliette 2020. “Les policiers ‘en colère’ après que l’exécutif a durci le ton contre le racisme et les violences”, *Le Monde*, June 10, 2020.

²¹ Karen Fields and Barbara Fields (2012:151) argue that it is important that an analysis of race relations that takes for granted that race is a valid empirical datum should not shift attention from the actions that constitute racism to the traits that constitute race.

“gypsy” or a “family member of a family of travellers” of Eastern European origin, thus stigmatizing this entire community. In 2012, the trace was shown to be the result of contamination of the cotton swabs used for sampling by a female employee at the company producing them, who was of Eastern European origin. The Minister of the Interior of the Federal State of Baden-Württemberg apologized publicly to the Sinti and Roma communities for this erroneous interpretation of the DNA evidence (Lipphardt et al. 2017). Second, tests of origin were used in an important criminal case in the Netherlands on ethical grounds, with a view to preventing discrimination against migrants who had been suspected of a crime they had not committed and who were proved innocent in part thanks to these tests (M’charek et al. 2020). Discrimination, or countering discrimination, seems to be able to serve both sides of the arguments surrounding these tests, depending on the context. While these two points do not contradict the results I have discussed in this article, they do reveal sometimes contradictory trends—although these do not lead to radically different technologies nor remove the risk of stigmatization.

Highlighting processes of racialization and stigmatization allows us better to understand and gauge what is at stake when assessing the proportionality of a given practice and balancing, on the one hand, violating privacy and the resulting effects, and, on the other, searching for the perpetrator of a crime and ensuring public order. Indeed, proportionality is the second issue overlooked by the Court of Cassation and this has contributed to the dissemination of these tests. In general, privacy norms depend on a range of contextual factors, such as the characteristics of the recipient, the perceived level of threat to society, the purpose of the access, and the way in which information is used (Anthony et al. 2017). Crimes are, of course, by definition deviant acts that themselves violate legal norms. In this context, therefore, it is as though privacy—as conceived of by the Court—and its corollary, the risk of stigmatization

and of racialization, were being sacrificed in order to provide the police and justice systems with technological tools. According to Adam Moore (2000), points of view that trade privacy against surveillance strike the wrong balance and in many cases have a negative impact on both these things. Taking this further, it is important to underline that an extended conception of privacy that takes proportionality into account raises questions in terms of *weighing* or balancing the interests at stake (in the justice system, the symbol of the scales even expresses the need to seek precision in such judgments). What is being balanced (interests, principles, rights)? How are they balanced (with what tools)? Who should perform this balancing (judges, legislators)? (Tsakyrakis 2009). Some authors have underlined the difficulty of measuring incommensurable competing values and rights by using a common metric (Tsakyrakis 2009). In the case studied here, I would argue that it is possible, whilst taking into account the absence of any common metric to assess proportionality, nevertheless to measure values and rights against one another i.e. to consider the problem of racialization and stigmatization as more important than the ability to use an investigative technique. In sum, this notion of proportionality provides an outline of what a broader conception of privacy, taking into account its impact on how societies function, might look like. Whereas a lot of work on privacy focuses on the effects on individuals, the research described here underlines the consequences that changes in norms relating to privacy have on the political workings of society (Anthony et al. 2017). Finally, this study also encourages further research in other areas where norms relating to privacy are changing as a function of technological advances.

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