ABSTRACT  This paper explores ‘other’ ways of knowing DNA in the field of criminal investigation. Drawing upon 26 in-depth interviews with prisoners in Austria, it illustrates how this group knows and conceptualizes DNA traces and forensic DNA technologies. These understandings and conceptualizations are both nuanced and ambiguous. While on the one hand, DNA traces and forensic DNA technologies were not treated as categorically different from other types of traces and technologies in the prisoners’ accounts, they were seen as ‘unique’ in one respect: respondents experienced DNA traces as beyond their control because they were virtually impossible to avoid (in contrast to, for example, fingerprints). Furthermore, the scientific rigour that our interviewees assumed to underpin forensic DNA technologies rendered these technologies as impenetrable and intimidating, and as effectively challenging many offenders’ expert knowledge on how to manage crime scenes and avoid convictions. Finally, due to coming ‘from the inside’ of the body, forensic DNA technologies were seen as ‘deepening’ the stigma of delinquency in many of our interviewees’ bodies and selves. For our interviewees, forensic DNA technologies assumed the role of institutionalized memories of their delinquency.

Keywords DNA evidence, forensic DNA technologies, ‘lay’ and ‘expert’ knowledge, prisoners

DNA Behind Bars:
Other Ways of Knowing Forensic DNA Technologies

Barbara Prainsack and Martin Kitzberger

Bad stuff, that DNA. I think it’s the most effective tool of all to solve crime ... [It is more effective than fingerprints], because it’s everywhere. ... You can’t do anything without leaving it. You’d need to run around in a latex suit. In here [in prison] lots of people talk about DNA. Because now I’m sitting [in this chair] and two days later they’ll know that I sat here. That’s a wild thing, the whole DNA stuff, really. (Ygor, serving an 18-month prison sentence for attempted rape)

Bernhard’s life was tough. Having grown up without a mother and with an emotionally absent father, he started taking heroin when he was 11 years old and dropped out of school early. He had trained as a cook but never managed to hold a job for more than a few months. Constantly in need of
money, within a few years he had accrued numerous convictions for burglary, and some for robbery and theft.

Today, at age 29, he is serving a 3-year prison sentence for a series of break-ins. According to Bernhard, alcohol, heroin and painkillers had helped him numb the pain of his life. As a side effect, however, they also made him end up in prison: he had not felt any pain when he had cut himself on several occasions when breaking into stores, and as a result, he had left a ‘trail of blood’ that enabled police to identify him. But on one occasion, Bernhard claimed, he was convicted for a burglary he had never committed. Although there was no trace evidence, Bernhard confessed to the crime. Because of the drugs he had taken, he was too confused to remember what he had done, and police also ‘set him up’ by pretending to have found his DNA at the crime scene:

I believe that it was a trap of the police. ... [Burglars] have a scheme – everybody has a different style of breaking in. And this had looked exactly like me. They caught me, one year later, with a trap. They said: ‘It was you. We found DNA traces.’ And I immediately told them that it was me.

Bernhard’s story can be seen as ‘typical’ in several respects. First, on a general level, it resonates with the ways in which underprivileged social status and a problematic family background frequently articulate themselves in European societies. Second, it also seems to reflect a particular dynamic in police investigations of individuals with prior convictions: if a suspect with a criminal record ‘fits the pattern’ (the particular modus operandi) of an open case, then police might make him or her believe that incriminating DNA evidence has been found in order to trigger a confession. The suspect then confesses not necessarily always because he or she has actually committed the crime but because he or she feels trapped – once DNA evidence enters the stage, it can seem that there is no way out. The use of this method of ‘facilitating’ a confession is of course not limited to Austria, Bernhard’s country of residence – police in other countries seem to use similar strategies. Williams and Johnson (2005) address the issue of police using DNA evidence to ‘coerce or deceive’ individuals. The Nuffield Council on Bioethics report on ‘The Forensic Use of Bioinformation: Ethical Issues’ (2007) also discusses the strategic use of DNA to obtain guilty pleas from suspects.

Bernhard’s story, however, is also telling in a third respect. In the course of our interviews with 26 convicted offenders in Austrian prisons in 2006 and 2007, it struck us how exceptionally powerful our interviewees deemed DNA technologies to be. While those who could be labelled ‘habitual’ (or ‘chronic’) offenders felt that they were ‘experts’ on many aspects of controlling a crime scene (and occasionally seemed to take pride in ‘out-smarting’ the police), when it came to DNA they articulated feelings of powerlessness and lack of control. Explaining this phenomenon simply by reference to the ‘CSI-effect’ – the assumption that a TV series featuring high-tech crime scene investigation technologies increase public expectations of police work in general, and DNA profiling in particular – would be too simple. While it is true that, like many of us, criminal offenders...
obtain some of their knowledge of forensic DNA technologies from TV
series and movies (see below), they represent a particular group: they are
‘non-experts’ on the scientific underpinnings of forensic DNA technolo-
gies, but they are experts on managing the risks of crime by choosing
accomplices wisely, leaving as few traces as possible and remaining calm
during an investigation. The importance of such expertise was regularly
reflected in our interviewees’ language when they spoke of ‘jobs’, referring
to the commission of crimes, and when they mentioned ‘unprofessional’
behaviour of peers who made tactical mistakes or who were ‘too greedy’.

The themes that emerged from our interviews with prisoners build
upon and lock into each other. They add up to an image of forensic DNA
profiling in the lives of offenders that is both complex and ambiguous. The
‘professional’ expertise of offenders, for example, turned out to be an
important topic because it seemed challenged by forensic DNA technolo-
gies, which, as we will illustrate below, our interviewees tended to see as
exceptionally ‘dangerous’. We believe that this was the case because our
interviewees felt they had no control over leaving DNA traces (in opposi-
tion to fingerprints, which were seen as ‘easy to avoid’). Furthermore, most
of our interviewees seemed intimidated by what they assumed to be the sci-
cence behind forensic DNA technologies. This science was seen as impene-
trable and unpredictable as the criminal justice system as a whole. In this
sense, forensic DNA technologies seem to have increased the power differ-
ential between police and prosecution (the main users of the technology)
and the targets of their investigations (the offenders). In our interviewees’
stories, DNA profiling emerges as something larger than ‘just’ a forensic
technology; it resonates with larger themes such as authority, injustice, and
the boundary between self and the state.

While much excellent research has been done on how lawyers, judges,
jurors, the FBI and the criminal justice system in general use and understand
forensic DNA profiling and databases (Lynch & Jasanoff, 1998; Derksen,
2000; Cole, 2001; Johnson et al., 2003; Lynch & McNally, 2003; Cutter,
2004; Lazer, 2004; Bal, 2005; Jasanoff, 2006; Aronson, 2007; Dahl, 2008;
Lynch et al., 2008; Williams & Johnson, 2008), ‘views from inside’ (Bosworth
et al., 2005) have not yet been heard on this topic – this paper will hopefully
provide a first step towards doing so. In addition, while studies of technolo-
gies often focus on the producers or the users of a technology, prisoners can
be seen as a ‘third constituency’ in the sense that they are the object of foren-
sic DNA surveillance: DNA technologies are used upon them. However, as
we hope to show in this paper as well, some of our interviewees actively resis-
ted this objectification by pointing out in which respects DNA profiling and
databases also served their own purposes.

Background: Forensic DNA Profiling and
Databasing in Austria

The world’s first national DNA database was implemented in the UK,
starting in 1995 (Werrett, 1997). Today, the UK (with approximately 60
million inhabitants) still holds the record for the world’s largest forensic DNA database, with more than 4 million subject profiles and 264,000 crime scene profiles stored (Nuffield Council on Bioethics, 2007). Austria (approximately 8 million inhabitants) currently operates Europe’s second largest (and the world’s fifth largest) national forensic DNA database, in terms of the percentage of the total population, containing about 130,000 profiles (100,000 subject profiles and 30,000 profiles from crime scene traces; see Prainsack, 2008). In Austria, DNA samples are routinely obtained only from people arrested for a list of particularly serious crimes, though they also may also be taken in cases of minor offences when the police cite the nature of the offence, or the ‘personality’ of the person concerned, as grounds to expect re-offending. Authorities are required to delete profiles and destroy the physical samples if no conviction results from the investigation (for further details, see §73–74 of the Austrian Security Police Act [Sicherheitspolizeigesetz] and Prainsack, forthcoming). The ‘hit rate’ is 39% (the percentage of all entered profiles from crime scene traces that immediately match a subject profile on the database. Matches between crime scene traces are not included in this number).

Austria uses the so-called ‘10 plus 1’ system, which means that the analysis of ten short tandem repeats (STR) loci and the amelogenin (sex chromosome) test are performed. Because forensic DNA profiling does not entail the analysis of all genetic differences between individuals but is limited at specific areas on the genome, the concept of a ‘match’ is not to be seen as scientific proof that two genomes are identical, but rather as an indication that the two genomes could be identical because they display identical characteristics at a number of different loci. Accordingly, ‘match’ declarations are always accompanied by information about the so-called ‘random match probability’, which refers to the frequency of a particular DNA profile in a reference population (the probability with which a given person’s genetic profile at the examined loci would match the profile of a randomly chosen unrelated person in the population). A random match probability of one in a million would mean that, on average, one person in a population of one million people would ‘coincidentally’ match the DNA profile from the crime scene (Saks, 2001; Jeffrey quoted in Jha, 2004; Krane et al., 2004; Murphy, 2007). Irrespective of the random match probability in a given case, the circumstances of the crime are crucial for establishing the degree of certainty that the DNA evidence found at the crime scene originated from the suspect, and that the suspect was implicated in the crime. This, however, is not how our interviewees saw it.

Methodology

After obtaining permission from the Austrian Federal Ministry of Justice, we approached administrators of two large prisons in Austria with a request for a list of potential interviewees based on the following criteria: (1) the crime which led to the current imprisonment dates back no longer than 1997 (the year in which the DNA database in Austria became operational); and (2) they
had prison sentences of more than 18 months. The length of the prison sentence was included as a requirement in order to ensure that the level of ‘severity’ of the crimes was sufficiently high to motivate the criminal investigation to include a search for DNA trace evidence. During our recruitment process, we asked prisoners to participate in a social science research project on crime scene traces, particularly DNA traces. This resulted in 26 volunteers for interviews. In most cases, the first author of this paper also had access to case files on the circumstances leading to the person’s imprisonment.

All of the 26 prisoners were men because interviews were carried out in men-only prisons. This population is typical, however, as less than 5% of all prisoners serving sentences of more than 18 months in Austria are women. Respondents were between 20 and 60 years old at the time of the interview (median 32 years). The most frequent crimes that had led to imprisonment were murder (including attempted murder), battery, rape, robbery (both armed and unarmed) and sexual abuse of minors (this list is not exhaustive; for more details, see Table 1). Prison sentences ranged from 18 months to life (for some individuals, the date of release was unclear due to their participation in special therapy programmes, which end when a psychological or psychiatric expert evaluates the prisoner’s progress positively; see §21.2 of the Austrian Penal Code). In just under one-half of all cases, DNA evidence played a significant role in the investigation and/or trial.

Once respondents had been recruited, they met the interviewer – the first author of this paper – in a room normally used for interrogations and counselling sessions, unattended and unsupervised by prison guards or other representatives of law enforcement authorities. The interviewer provided a brief explanation of the overall purpose of the research project. Volunteers were also told that the risk of breach of confidentiality would be kept to a minimum (through the use of pseudonyms and changing potentially identifying information, such as year of birth and year in which the crime was committed, in all published material), and that their participation was to be voluntary and unpaid (the two latter conditions were also confirmed on a written informed consent form). The interviewer also informed potential interviewees that their participation would not in any way – neither negatively nor positively – affect their chances of obtaining early release from prison.

Interviews lasted between 30 and 110 minutes (70–80 minutes on average). All interviews were transcribed, coded and analysed by the authors over the course of the following 10 months. Translation into English was done by the authors.

The entire research process was guided by principles of the Grounded Theory approach (Glaser & Strauss [1967], in the tradition of Charmaz [1990]. See also Charmaz [2000]). The interview questionnaires were developed according to Weiss (1995) and entailed a list of topical questions covering three large fields: (1) the interviewee’s life prior to the crime which led to his imprisonment; (2) the crime that led to imprisonment with a particular focus on DNA evidence (if applicable); (3) a more general discussion about crime scene traces and the interviewees’ conceptualization of the nature
### TABLE 1
List of interviewees

<table>
<thead>
<tr>
<th>Prisoner</th>
<th>Year of birth</th>
<th>Primary crime that led to imprisonment</th>
<th>Year(s) in which crime was committed</th>
<th>Sentence (duration of imprisonment)</th>
<th>DNA traces played a significant role in investigation/trial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anton</td>
<td>1965</td>
<td>Severe sexual abuse of minors</td>
<td>1998–2003</td>
<td>3 years</td>
<td>No</td>
</tr>
<tr>
<td>Bernhard</td>
<td>1979</td>
<td>Burglary</td>
<td>2006</td>
<td>3 years</td>
<td>Yes</td>
</tr>
<tr>
<td>Christoph</td>
<td>1967</td>
<td>Kidnapping, blackmail</td>
<td>2004</td>
<td>10 years</td>
<td>No</td>
</tr>
<tr>
<td>Dorian</td>
<td>1947</td>
<td>Murder</td>
<td>2005</td>
<td>15 years</td>
<td>No</td>
</tr>
<tr>
<td>Ernst</td>
<td>1977</td>
<td>Fraud</td>
<td>2005</td>
<td>3 years</td>
<td>No</td>
</tr>
<tr>
<td>Fritz</td>
<td>1975</td>
<td>Offences against the <em>Addictive Drugs</em> Law, burglaries, robbery</td>
<td>2003</td>
<td>8 years</td>
<td>No</td>
</tr>
<tr>
<td>Gert</td>
<td>1977</td>
<td>Rape</td>
<td>2004</td>
<td>3.6 years</td>
<td>Yes</td>
</tr>
<tr>
<td>Hubert</td>
<td>1966</td>
<td>Sexual abuse of minors</td>
<td>1998–2000</td>
<td>7.5 years</td>
<td>No</td>
</tr>
<tr>
<td>Ingo</td>
<td>1964</td>
<td>Robbery, murder</td>
<td>1997</td>
<td>Life</td>
<td>Yes</td>
</tr>
<tr>
<td>Jürgen</td>
<td>1978</td>
<td>Severe battery</td>
<td>2003</td>
<td>5 years</td>
<td>No</td>
</tr>
<tr>
<td>Karl</td>
<td>1957</td>
<td>Murder, attempted murder</td>
<td>2001</td>
<td>17 years</td>
<td>No</td>
</tr>
<tr>
<td>Ludwig</td>
<td>1978</td>
<td>Murder</td>
<td>1999</td>
<td>15 years</td>
<td>No</td>
</tr>
<tr>
<td>Matthias</td>
<td>1974</td>
<td>Murder in two cases</td>
<td>1998</td>
<td>Life</td>
<td>Yes</td>
</tr>
<tr>
<td>Norbert</td>
<td>1957</td>
<td>Attempted murder in three cases</td>
<td>1998</td>
<td>Life</td>
<td>No</td>
</tr>
<tr>
<td>Oliver</td>
<td>1973</td>
<td>Attempted murder, attempted rape</td>
<td>1997</td>
<td>Open (depending on evaluation by psychologist)</td>
<td>Yes</td>
</tr>
<tr>
<td>Paul</td>
<td>1970</td>
<td>Severe robbery, armed theft</td>
<td>2001</td>
<td>15 years</td>
<td>Yes</td>
</tr>
<tr>
<td>Quentin</td>
<td>1982</td>
<td>Arson</td>
<td>2003</td>
<td>8 years</td>
<td>No</td>
</tr>
<tr>
<td>Richard</td>
<td>1959</td>
<td>Severe sexual abuse of minors, rape</td>
<td>2005</td>
<td>5 years</td>
<td>No</td>
</tr>
<tr>
<td>Sigi</td>
<td>1970</td>
<td>Battery, coercion</td>
<td>2005</td>
<td>18 months</td>
<td>No</td>
</tr>
<tr>
<td>Thomas</td>
<td>1987</td>
<td>Arson</td>
<td>2004</td>
<td>24 months</td>
<td>No</td>
</tr>
<tr>
<td>Uwe</td>
<td>1974</td>
<td>Murder, battery, disturbing the peace of the dead</td>
<td>2003</td>
<td>Open (depending on evaluation by psychologist)</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Continued*
<table>
<thead>
<tr>
<th>Prisoner</th>
<th>Year of birth</th>
<th>Primary crime that led to imprisonment</th>
<th>Year(s) in which crime was committed</th>
<th>Sentence (duration of imprisonment)</th>
<th>DNA traces played a significant role in investigation/trial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vincent</td>
<td>1968</td>
<td>Various offences against the <em>Addictive Drugs Law</em>, against the <em>Law on Firearms</em>, severe battery, robbery</td>
<td>2001</td>
<td>8 years</td>
<td>No</td>
</tr>
<tr>
<td>Walter</td>
<td>1978</td>
<td>Rape and several cases of attempted rape</td>
<td>2001</td>
<td>Open (depending on evaluation by psychologist)</td>
<td>Yes</td>
</tr>
<tr>
<td>Xaver</td>
<td>1980</td>
<td>Battery</td>
<td>2006</td>
<td>18 months</td>
<td>No</td>
</tr>
<tr>
<td>Ygor</td>
<td>1985</td>
<td>Attempted rape</td>
<td>2004</td>
<td>18 months</td>
<td>Yes</td>
</tr>
<tr>
<td>Zeno</td>
<td>1978</td>
<td>Various offences against the <em>Addictive Drugs Law</em>, battery, attempted severe robbery</td>
<td>2006</td>
<td></td>
<td>No</td>
</tr>
</tbody>
</table>
of these traces, their incriminating potential, their scientific background, as well as desirable and undesirable future scenarios.

The fact that all interviewees were Austrian citizens or residents limits the generalizability of our findings to the situation in other countries. In some respects this limitation is mitigated by the fact that, as outlined above, Austria currently holds one of the largest forensic DNA databases in the world. Furthermore, while 26 interviewees is not a particularly small number in the context of a qualitative interview project, the interviews may or may not represent opinions and understandings of forensic DNA technologies among Austrian prisoners in general. While there is sufficient variation in age and delinquency type (both regarding the category of crime leading to imprisonment, and regarding habitual and non-habitual delinquency) among the volunteers in our sample to assume a reasonable representation of such characteristics among those serving long-term sentences in Austria, attitudes and understandings of DNA profiling and databases among short-term prisoners might vary from our findings. We hope that future research in a variety of different national and delinquency contexts will shed light on these open questions.

Furthermore, we are unsure of the extent to which our sample might be biased by the fact that our interviewees were convicted offenders. It is possible that offenders who have been ‘smart’ or ‘skilled’ enough to not be caught think and act differently about DNA profile evidence. However, we believe that this potential limitation on the generalizability of our data does not detract from the value of insights obtained from a population of individuals who have in common that their DNA profiles are stored in a forensic database. This, as we have also argued elsewhere (Prainsack, 2008), is a sufficient reason to regard them as stakeholders in a debate in which they have had a chance to participate.

‘Other’ Ways of Knowing Forensic DNA Technologies

Learning about DNA: TV and ‘Real Life’ Experts

Unlike in many movies and TV series, in ‘real life’, crime scene investigators often secure traces that do not lead to any clues, and at the same time fail to secure traces that would lead to clues. Crime scene investigators make sense of the messiness of a crime scene by a particular way of ‘seeing’: their expertise, acquired through professional training and practical experience, allows them to distinguish between potentially useful trace material and ‘background noise’, and it remains vulnerable to error.

So-called ‘habitual’ or ‘chronic’ offenders acquire professional expertise in a very similar manner. Although their training is not standardized as it is for law enforcement officers (and is certainly not officially certifiable), they become experts through learning from peers and through their own practical experience. Many ‘habitual’ offenders have developed a ‘selective gaze’ that enables them to identify suitable venues and opportunities relatively swiftly and effortlessly (Wright & Decker, 1994). The situation
tends to be different with first-timers in general and with sexual offenders, child abusers, and people charged with battery in particular, for whom compensating for life crises may prevail over rational planning as the driving factors behind the crimes (see also Lang, 2003). In our interviews, individuals convicted for the latter group of crimes tended not to regard themselves as ‘professionals’, and frequently made a point of not knowing (and not wanting to know) anything practically relevant to crime scene management.

The majority of our interviewees in both groups were familiar with practical rules for reducing the risk of leaving traces rather than mastering highly specialized techniques of planting evidence. When asked from where they got their knowledge of DNA forensic profiling and databases, virtually all referred to TV series such as CSI (Crime Scene Investigation, the US TV series), or Tatort (‘Crime Scene’; a TV series broadcast in the German-speaking world for 35 years). An illustrative example of such a reference occurred during the following exchange between the interviewer and Anton, who at the time of the interview was serving a 3-year prison sentence for sexual abuse of minors (DNA was not part of the evidence that led to his conviction; see Table 1):

**Interviewer**: Do you know how people leave DNA traces?

**Anton**: [Through] many different things. Through ‘humid language’, through skin, or through particles of clothing. Like you see on TV.

**Interviewer**: Do you think that people make an effort to avoid leaving traces, like on TV?

**Anton**: No, no. I believe that they don’t worry at the time of the deed. I don’t think so.

**Interviewer**: Why not?

**Anton**: The guy would be an idiot if he broke into a house and thought about how not to leave DNA traces. ... He doesn’t have enough time to think about where [not] to leave traces.

**Interviewer**: I mean beforehand – that the person thinks about how to avoid leaving many traces – how to avoid that.

**Anton**: Well, OK: mask, gloves. Anything more than that is irrelevant. If I break in somewhere, then it is the target object that counts – I’m not gonna worry about whether there’s a piece [sic] of saliva or a shred of my sweater lying around somewhere. I’ll see that I get out as fast as possible, that I have my bootie, and that nobody catches me. [laughs]

This quote reflects two features that we typically encountered when this topic was discussed with prisoners. First, as mentioned above, TV series serve as important sources of information about DNA in the context of crime. Second, TV as a source is not fully trusted: it’s ‘only’ TV, after all, and our
respondents have a good understanding that life is not like on TV in many regards. The combination of fascination with high technology featured in TV series on the one hand, and the awareness that not only the plot but also the techniques and technologies shown in such series were not entirely ‘real’ on the other (see also Houck, 2006), is reflected in Quentin’s quote:

Quentin: I can’t get enough of this forensic technology stuff. I watch every episode of CSI. And it continues with Autopsy, and so on. It’s plenty of fiction, but also lots of facts.

Interviewer: Where is the fiction?

Quentin: Well, the fiction is: first [the crime scene investigator] finds a corpse, then he finds [the murderer’s] traces, and eight hours later, he’s got the criminal. No – that’s a bit strange, this entire thing. But I guess they are not disclosing everything that is really being done [in real life]. But [they show] the rest.

Quentin knew that television series contain ‘plenty of fiction’ because the speed of the investigation on TV conflicted with his own experience of how slow the process worked in ‘real life’. In Quentin’s account – he had been convicted of arson, which he had committed together with friends out of ‘boredom’, as he said – police were so ‘unprofessional’ in securing evidence that some of Quentin’s accomplices had to be acquitted due to lack of evidence. The reason why he, Quentin, had ended up with a conviction was that one of his accomplices had boasted about what they had done (‘he could not keep his mouth shut’, as Quentin said). Quentin did not have a credible alibi and eventually confessed.

Quentin’s confident ability to dismiss some portrayals of police work on television as ‘fiction’ was reinforced by the fact that his own experience with ‘slow’ and ‘unprofessional’ police work (in Quentin’s account, they had ‘messed around with my hands’ so clumsily that they failed to locate traces of the accelerant that he and his accomplices had used) resonated with similar stories of his peers in prison. Such exchanges of stories, often combined with practical information on how to avoid leaving traces, represent the second source of knowledge about forensic DNA technologies among our interviewees. While one-half of our interviewees insisted that they never participated in such conversations and tried to avoid overhearing them (‘I don’t discuss such things – I got different plans for my life’ [Bernhard]), others told us that such conversations usually started with accounts of ‘mistakes’ that inmates had made on their crime scene, and ended with the exchange of useful practical information. For example, if people are so nervous that they ‘need’ to smoke at a crime scene, they should take the cigarette butts with them (Ernst); one should always touch as few things as possible, and not only wear gloves but also cover one’s head because of the hair one could easily lose (several interviews); one should avoid coughing (several interviews; see also Anton’s earlier mentioning of ‘humid language’). Occasionally, the deliberate planting of DNA
Evidence was the substance of threats among prisoners (for seminal work on power relations in prison, see Sykes, 1958; Mathiesen, 1965. See also Ireland, 2000; Bosworth & Carrabine, 2001). This is what Ernst, convicted of fraud, told us:

**Interviewer:** What do you know about DNA traces?

**Ernst:** What do I know? Only that it is a genetic fingerprint, and that I am a little fearful of [this technology]. This I know as well. Especially here, in prison.

**Interviewer:** In what sense are you fearful?

**Ernst:** Rumour has it that people can do all kinds of things with it. For example, I can take a cigarette butt of my colleague and give it to somebody [who could then plant it at a crime scene. If that happened to me], it would not matter, because I am a fraudster, I was not convicted of a violent crime. If somebody stole a hair from me and dropped it at a crime scene, I don’t think I would get in trouble. But if it were another kind of criminal to whom such a thing happened, one who had committed a burglary, a theft, or something like that in the past, and now the true culprit thought he could put the blame on that first guy, and he took something from [the first guy] and dropped it at the crime scene, then it would be obvious that it was the first guy [who committed the crime].

**Interviewer:** How do you know that, has this ever happened to anybody?

**Ernst:** No, but I can imagine that it happens, and there are rumours that it does.

**Interviewer:** What are these rumours?

**Ernst:** Well, people talk a lot in here; 90% of the stuff is not to be believed, but everybody has their one guy ... whom they want to set up.

When asked how prisoners protect themselves from such risks, Ernst explained that ‘you adopt the habit to check your ashtrays and hairbrushes. You’re simply being careful.’ At the same time, however, Ernst repeatedly emphasized that he, as a non-violent offender, did not really need to worry: ‘But the violent ones – [name of a murderer] for example – those are seriously concerned. He’s worried. I’m not worried.’

Ingo, serving a life sentence for murder and robbery, when asked whether DNA was a topic discussed in prison, told us:

**Ingo:** They [the other prisoners] are not stupid! It is an issue.

**Interviewer:** In what sense is it an issue?

**Ingo:** Well, I am not a habitual criminal, but lots of them say ... that one must be more and more careful not to leave traces. [silence]
Interviewer: They are talking about hair and blood and so on?

Ingo: Not directly. [Discussions are] more general. The best option is to burn everything, or bury it in the ground.

What also emerges from these quotes is the large extent to which practical discussions about how to avoid leaving traces were related to particular types of crime. There seemed to be distinct bodies of knowledge pertaining to burglary situations, and to situations of violent crime. For example, Ingo’s comment that ‘the best option is to burn everything, or bury it in the ground’ would not very useful for a drug addict breaking into a store; in that case, Bernhard’s ‘trick’ to pour milk over blood stains (see below) seems more practical. Ingo’s statement that it was best to burn or bury evidence stemmed from the fact that he was a murderer. Indeed, he had burned his victim after cutting off certain parts and burying them in the ground, out of the fear that teeth and other non-combustible material would allow the identification of the victim (interview with Ingo, and files on Ingo’s case).

Another recurrent pattern in many interviews was that offenders said they had been found out because they had been ‘unprofessional’ in choosing accomplices who had been unable to keep their ‘mouths shut’. Even when contact trace material had played a crucial role in accounting for their conviction, most interviewees attributed this to ‘mistakes’ in their strategy, or to lack of ‘professional care’ (for example, committing a burglary when intoxicated). In other words, it was lack of control on their part that was seen as the decisive factor in their convictions.

**DNA Out of Control: Challenging Offenders’ Expertise**

At the surface of our interviewees’ initial accounts of their crimes, DNA technologies were not singled out as in any way ‘unique’ or ‘special’. Anton, in the quote presented above, referred to a practical cost–benefit analysis that many burglars performed prior to the commission of their crime. According to Anton, this analysis took into account dimensions as diverse as the target object, the potential bootie, obstacles in accessing the premises and the risk of being caught. The risk of being caught included the risks of being seen by witnesses, being betrayed by potential accomplices and leaving traces behind. With the exception of one case (Gert, who had been convicted primarily on the basis of DNA evidence; see below), DNA was not singled out as a particularly important consideration in this equation.

There was one aspect, however, in which forensic DNA profiling and databases seemed to play a special role for the prisoners we interviewed: some told us that it made the lives of certain criminals much harder. Karl, for example, who was serving 17 years for attempted murder, explained:

There is the status of so-called habitual criminals, and they’re saying: ‘Assholes, life is becoming really shitty.’ ... They say that you need to go in a diving suit in order for [the police] not to find anything. They swear
because life is getting tougher. But I am rubbing my hands gleefully, thinking: ‘You assholes, how about going to find work for a change?’ Some of them will need to do that. They swear because there are so many hits, through DNA and partly also through electronic surveillance. These are things that really bother the habituals. Many say: ‘Shit, you can’t do anything anymore because of the DNA!’

Karl’s gleeful hand-rubbing in light of the increasing difficulties for habitual criminals can also be explained by prejudices against ‘lower class criminals’, such as burglars, thieves and robbers, prevalent among members of the criminal aristocracy such as Karl. (Prior to his conviction, Karl had been a successful entrepreneur in the prostitution sector, which he viewed as honest work.) Sigi, serving 18 months for battery, also told us that for many of his colleagues the risks involved in certain categories of crime have become too high. As a consequence, he continued, the ‘sissies’ among the professional criminals were being pushed out of business:

**Sigi:** I am an old-school criminal. When I say that something is green, then it is green. My kind still relishes the word of honour – the crooks’ word of honour ... If somebody does something, then he should bear the consequences. It’s as simple as that. This is how it is. Otherwise he should go and find work. I cannot decide today that I do X and Y and then I get convicted and then I say: ‘Oh, I am so sorry!’ Then I shouldn’t have done it in the first place. Then I need to go find work, it’s as simple as that. ...

**Interviewer:** You were saying that the risk to be found out has become very high?

**Sigi:** That’s right. One needs to consider carefully what to do and what not to do. If somebody tells me: ‘Let’s do this and that!’ , then I say that I will look into it. If it’s interesting, then I look into it, and then I say: ‘Look, 90% that we will get caught. Forget it.’

Thomas (serving an open-ended prison sentence for arson [he will be released upon positive evaluation of the progress of his therapy by a psychiatrist]) also distinguished between ‘clever’ criminals – the ‘pros’ – and the rest. The latter, he said, were very strongly affected by forensic DNA technologies: ‘Fingerprints or footprints, or you get stuck somewhere and tear off a piece of your shirt – make a small mistake and you’re done. You need to be a real pro in order not to make any mistakes.’

We argue that the answer to the question of what makes DNA evidence ‘special’ for our interviewees lies in the lack of control that many of them expressed in their accounts of it. As illustrated above, ‘professional’ behaviour played an important role in our respondents’ accounts of their own careers and identities, as well as when judging the quality of police work. References to one’s own expert status (or lack thereof) in ‘managing’ the commission of a crime were common and often emphasized. DNA
technologies seemed to unsettle and challenge offenders’ expertise. They seemed to have an intimidating effect on our interviewees, and were seen as beyond their control, partly because of the relative novelty of DNA technologies, and also because of the sophisticated science they thought was behind it (for a critical discussion of the public trust in DNA profiling because its alleged scientific ‘rigor’, see Murphy, 2007: 729). This had already been reflected in the very first quote above from Quentin about reality and fiction in TV crime series: The statement: ‘I guess they are not disclosing everything that is really being done’ (emphases added) illustrates that while he saw himself an expert on many practical aspects of crime, police were experts on the scientific technologies, which Quentin saw as inaccessible, and therefore beyond his control.

*The Power of DNA Profiling*

The feeling of lack of control resonated with the way our interviewees spoke about the science behind DNA profiling: they characterized it as ‘1000 per cent [sic] accurate’ (Walter), and as an effective and ‘good’ way to find the ‘truth’. This is what Quentin said:

> Quentin: [DNA profiles] are the absolute fingerprint of every human being. That maybe one [person] in two million, or one in one million – they have the same DNA. They need only 1/1000 g of your skin, your hair, any body tissue, and they know exactly who you are. The process in detail, I don’t know how it works. I only know that if somebody has [this particular DNA profile], then the registry starts to flash: ‘This one we know! This one we have already!’ So, it’s a good thing.

*Interviewer: Why?*

> Quentin: In case of sexual offenders – because much more comes into the light. He can’t say, a hundred times, no, it wasn’t me. If the DNA says it was you, then it was you. I think it’s a good thing.

For Fritz also, serving 8 years for several drug-related crimes, burglary and robbery, DNA evidence – along with other forensic technologies – was absolutely ‘true’ (although he did not agree with Quentin that it’s *entirely* a ‘good thing’):

*Interviewer: Your [first] burglaries took place early 1999. People were not aware of DNA traces back then, were they?*

> Fritz: Oh yes. This stuff about DNA is old. It was in the movies, and [the news] had already spread.

*Interviewer: Did you watch such movies yourself?*

> Fritz: About DNA? Yes, sure.
Interviewer: So what is the most dangerous [technology]?

Fritz: Well, everything, if you think about it. You are a hit. It doesn’t matter what material, if they found something from you then it is you. This is why I think it’s great, that they do that, for example, in case of child abusers or rapists and the like. Of course it’s not bad with regard to murderers and so on either. I think it’s great that they have achieved that. But on the other hand, for the small criminals, it’s bad.

It was a recurrent pattern that when probed to explain how forensic DNA profiling works, our interviewees stated that they did not know the scientific details behind it. Rather, they shifted the conversation to the contexts of use of the technology. The person who gave the most detailed answer to the interviewer’s questions about the science behind DNA profiling was Bernhard:

Interviewer: [When you did that break-in], from where had you gotten your knowledge about avoiding DNA traces?

Bernhard: I can tell you honestly that I don’t know anything at all about DNA. The only thing I can say about it is that one can find out immediately whether it was a man or a woman, without knowing anything about the person.

Interviewer: Right …

Bernhard: Or from an animal. Those three things one can always keep apart, right? This is blood from an animal. This is blood from a human being, male, or female. That I know. I don’t know anything beyond that. Well, and that every person has his [sic] own DNA, which has to do with chromosomes, or something like that. I learned about it in high school but I don’t recall it very well. That’s the only thing I know about DNA.

While Bernhard said that he did not know much about how forensic DNA profiling worked ‘scientifically’, he had practical knowledge about how to compromise the quality of DNA traces he left. During one of his burglaries he had cut his hand while breaking a glass window and had spilled blood on the floor. Because he had had no time to remove the stains, he had poured milk over it: ‘This changes the DNA strand’. He had learned this method from peers.

As mentioned above, first-time offenders tended to have had no such expert knowledge on how to avoid traces when they had committed their crimes. Uwe, for example, had killed his first and only victim with a sharp weapon and chopped up the body afterwards, which naturally left the crime scene stained with blood and other traces of both himself and his victim. Uwe told us that the incident had been so traumatic for him that he was constantly drunk for weeks afterwards, trying to convince himself that it all had not really happened and that he had only chopped up an animal. He had attempted to get rid of the traces by taking off the surface of the
wooden floor at the crime scene and sealing it with varnish afterwards. When police had found blood irrespective of his efforts, and the DNA analysis had shown that the blood was really from the missing person (Uwe’s victim), then Uwe ‘knew that it really had happened. And I confessed immediately.’

The feeling of a lack of control probably also explains why almost all of our interviewees assessed the incriminating potential of a DNA trace at the crime scene as much higher than in the case of fingerprints, which had been puzzling to us at first:

*Anton:* A fingerprint one can forge. Not DNA.

*Interviewer:* Why can one forge a fingerprint?

*Anton:* Well, you see a lot of movies. You can make a copy, and voila, then you have a fingerprint. [But] DNA, that’s 100% foolproof. The DNA trace is only mine, nobody else has it.

Quentin also offered an explanation why DNA evidence was much more ‘dangerous’ for offenders than fingerprints:

A fingerprint I can modify. Over the years, it degrades. DNA, on the other hand, always remains the same. The chances are one in a million or one in two million that another person has exactly the same DNA as you do. And this is only on the basis of 13 [sic] chromosomes. As soon as they are improving the thing it will become even more unique. This is why I say: if you have the DNA trace, then it is you. You will need a very good explanation for why your trace is there. Random excuses such as ‘Well, I walked into this room by chance’, nobody is going to believe this anymore.

In Quentin’s account, it is the sophisticated science involved in DNA profiling which renders it ‘unique’. This creates a need for offenders to adapt new strategies: ‘Random excuses’ were not going to be believed ‘anymore’. Offenders’ traditional expert knowledge on how to minimize the risk of being convicted is being challenged.

Gert’s case is particularly interesting in his respect. Having been convicted for rape based on DNA evidence found at the crime scene, Gert still insisted that he was innocent. According to his account, the victim, whom he had known from work, had set him up. He even had a theory for how she had done it: ‘I figure she took sperm from her husband – she must have gotten that very easily without [the police] figuring it out – and then mixed it with my saliva. I am not a biologist but somehow it must have worked like that.’ He felt that the fact that the victim had named him, Gert, as a suspect, and that police had ‘found’ evidence ‘2 or 3 months’ after the incident, supported his suspicions about having been set up. (In contrast to what Gert said, it is our understanding that what had happened ‘2 or 3 months’ after the crime was that the results of the DNA analysis had come in, and not the initial evidence.) Confronted with incriminating DNA evidence, Gert had been asked to voluntarily submit a DNA sample, which he
said he had done happily (having nothing to hide). At the time of the interview, in an attempt to explain what factors had conspired against him to effect a conviction, he scrutinized the possible behaviour of the victim rather than questioning the accuracy of the technology: it must have been her, not the technology, that was responsible for his fate. On the one hand, this line of reasoning resonates with the general pattern of focusing on human action, rather than technology, when explaining professional failure and success, which we encountered both in the criminal and in the police domains. One the other hand, however, Gert’s statement also reflects the power gap between him (who is being ‘worked upon’ by the technology) and the technology itself, which represents the criminal justice system (the mighty and powerful). As the power to determining guilt or innocence lies with the criminal justice system, this also extends to its technological tools. For Gert, when the powerful technologies take the form of DNA traces, they are beyond his control:

Interviewer: [In the course of the police investigation, w]hen you were asked to provide a DNA sample, were you aware of what that meant?

Gert: Yes, I was. I had heard it on TV too. But how, what exactly, yes ... Skin and saliva and the like, with that they can determine somebody’s DNA at any place. And the DNA, it is unique among 10 billion or million, or something like that. ... I agree, if they found [my DNA], it’s going to be mine, I do believe that, I am not as dumb as not to know that.

Gert’s only claim to power in this regard was to demonstrate that he was ‘not so dumb as not to know’ that if the technology ‘says’ it was him, then it was him. Given that the ‘truth’ of the technology, in his mind, was unchallengeable, Gert’s only way out of the dissonance between his feeling of innocence and the criminal justice systems’ verdict of guilt was to look for possible explanations that focus on the victim (concluding that she had ‘set him up’).

Delinquency ‘Deep Inside’ the Body: Forensic DNA Databases

The power differential between those who use forensic DNA technologies and those on whom they are used is increased by the fact that convicted offenders are the only group who are usually not considered to be stakeholders in the debate on forensic databases, which corresponds with criminals’ assigned position at the fringes – or completely outside – of ‘normal’ society. Commentators have argued that it is not justifiable from the perspective of justice and equity, as individuals whose DNA is already stored in a forensic database have an increased ‘risk’ of being found out – and wrongfully convicted – in future cases (depending on particular national regulations about inclusion and storage criteria for DNA profiles, in some countries, this applies to arrestees as well as convicted offenders).
Interestingly, DNA databases in general were seen as something positive by all but two of our interviewees. Most explanations related to two arguments: (1) forensic DNA profiling was a positive development because it helped ‘catch the truly bad guys’ (rapists, paedophiles and murderers – Dorian, for example, said that ‘if society didn’t catch the criminals then everything would sink into chaos’); and (2) the availability of DNA profiling ‘forced’ police to carry out a thorough investigation and not just to arrest individuals with prior convictions on the basis of the ‘evidence’ that their previous crimes fitted the modus operandi of an open case, thereby emphasizing its potential for exculpation. Other interviewees also mentioned that DNA evidence could ‘prove their innocence’.

Simultaneously, many of our respondents also articulated fear of potential abuse of these technologies, although such fears pertained to police and the criminal justice system as well as to their own peers. This is what Norbert, serving a life sentence for three attempted murders (all victims were members of his family), told us:

Interviewer: In your case, DNA traces did not play a role in the trial. What do you know about DNA traces in general?

Norbert: I have to tell you honestly that I do believe that one can plant evidence. For example, if I am a suspect today, who makes sure that the saliva [found at the crime scene] is really mine? It is not 100% foolproof. If I am a suspect today then they take a hair and somebody can plant it at the crime scene just because they want to destroy me [mich auslöschen]. ... Due to pressure from the media, if [the police] do not have a [suspect], and then there is somebody who would make for a good conviction because he might have had a murder [conviction] in the past, then [they might say:] ‘we go get him’.

The theme of police being pressured by the media to find the perpetrator, which in turn might entice them to forge evidence, was frequently addressed by our respondents. The media, rather than the police, was seen as the main cause of wrongful convictions. Furthermore, our respondents did not only fear that state authorities (the police and the legal system) could ‘set them up’, but also that other people could do that. Some even expressed the hope that state authorities would protect them of such false accusations initiated by evil-minded and/or desperate peers. Let us take a look at how Norbert’s account developed:

This is a real fear of mine [that somebody could plant DNA evidence], also with regard to rape. I’m registered as a violent criminal. I need to be cautious, if I go out and I tell [a woman] honestly [about my conviction] and I sleep with her, then you’re back with the DNA. And she claims you forced her, and I think this is not OK.

In one account, Uwe’s, the desire to be protected by the police was extended from occasions of wrongdoing by peers to natural disasters, reflecting ambivalence about the negative and threatening aspects of total surveillance on the one hand and its comforting aspects on the other:
I don’t care, I am not a highly criminal person. If they want to put a chip in me, fine, as long as the technology does not get into the wrong hands ... It could be that I don’t know where I am and I call the police and I say: locate me, I am in an avalanche. That’s not bad, and with dogs and cats, it’s being done already. They get a chip implanted and if they run away, GPS\textsuperscript{21} can locate them.

Uwe’s quote also demonstrates the extent to which our interviewees’ presence in discussions about DNA databases was both physical and totalizing. When asked about forensic DNA databases, Uwe, who is currently physically restrained and ‘enveloped’ by the criminal justice system, refers to a situation in which he would be physically restrained and enveloped by an avalanche (and rescued by the police!). Fritz and others, in quotes presented above, said that if police find a trace of you (‘something of you’), ‘then it is you’, extending the effects of DNA profiling and database searching not ‘only’ to their bodies but to their entire being.

While we found no evidence for any novel notions and identities being created by the use of DNA profiling and databases in the criminal justice system, it seemed that forensic DNA technologies literally ‘deepened’ the somatic dimension of the notion of delinquency. It inscribed it deeper into the body and therefore anchored it closer to the core of our interviewees’ identity. This is a quote from the interview with Jürgen, convicted of battery:

\begin{quote}
Jürgen: I had to do that [provide a DNA sample]. They took my saliva and I had to do fingerprints. [Silence. Looks unhappy]

Interviewer: Did you mind?

Jürgen: Yes.

Interviewer: Why?

Jürgen: Because it was then that I knew: now I am a criminal. Like, now it is getting serious.

Interviewer: What did you mind more, the DNA or the fingerprint part, or did you mind both the same?

Jürgen: I would say: more the saliva.

Interviewer: Why?

Jürgen: \textit{Because it comes from the inside}. I am of the opinion that a fingerprint one leaves everywhere in the same way, while the saliva is inside of me and this is why I mind more. [Emphasis added]
\end{quote}

Jürgen’s quote also illustrates that forensic DNA profiling and databasing did not add a somatic dimension to the notion of delinquency and criminality (what could be more somatic than being locked up in a cell, and perhaps assaulted by one’s cellmates?), but it deepened these notions in the
sense that it extended them deeper into the body. For some of our respondents, the notion of carrying the marks of delinquency inside their bodies reinforced the feeling that they would be stigmatized for life.

Given the strong effect forensic DNA technologies had in inscribing the stigma of delinquency within the body, it was surprising for us to see that our interviewees seemed uncomfortable with the idea that everybody’s DNA profile should be stored in a database. The reason for our surprise was that the establishment of a population-wide database could be seen as a relatively efficient way to abolish some of that stigma. In addition, extending the scope of DNA databases with more inclusive criteria (such as including profiles of arrestees for more types of delinquency) could benefit convicted offenders because it would reduce their risk of being investigated or convicted for a future crime they did not commit (on the basis that their previous conviction ‘fits the pattern’ of the open case).

Xaver, for example, a young father of four serving an 18-month sentence for a number of violent crimes and offences, described the situation of being an ex-convict as follows: ‘No judge believes anything you say. The one I had said to me: “Hello, I know you, no need to talk, you’ll get your share.”’ Still, Xaver was strongly opposed to including everybody’s DNA profile in a database because ‘then it’s like in America, you don’t have your peace anymore, nobody leaves you alone. You don’t have any personal space anymore, nothing that people can’t intrude.’ Xaver’s statement can be interpreted as the expression of the perception that forensic DNA databases threatened to dissolve the boundary between the individual and the state (and/or the public). Having found this experience very distressing himself, he did not want ‘normal’ people to suffer from the same fate. Other interviewees used words to the same effect. While our interviewees were of course aware that they, as prisoners, were under constant surveillance, they did not deem it a desirable scenario for their family members and friends ‘outside’ of prison. This is what Oliver (attempted murder and attempted rape, convicted on the basis of DNA traces) said:

**Oliver:** Let me put it this way: it’s not bad that DNA traces exist, but [sic] that it can lead to somebody’s conviction is good. But one should be careful about potential opportunities for misuse by the police. Because you shouldn’t think that somebody is a saint just because he [sic] is wearing a police uniform. ...

**Interviewer:** What do you know about the DNA database?

**Oliver:** I know that such a thing exists. There is also a European one. They want to – or they already did – connect them. Italy is against it. Great Britain is the spearhead, and Orwell says hello.

**Interviewer:** So you’re not enthusiastic about this idea ... 

**Oliver:** Let me put it this way: in order to protect the population, it’s good. And I am not against it. Only what some people want, that a person is born and his DNA is taken [immediately and stored in a database], this I am opposed to. Where do we start
and where do we end? Then everybody is a suspect by definition. The law and order-type politicians reply to this: ‘If you didn’t commit any crimes, there’s nothing to worry about.’ But here we are getting philosophical and then there will be no end. It all started with the Patriotic [sic] Act of the Americans. They started the whole thing. And the DNA database is part of it.

The notion that a population-wide forensic DNA database threatens to dissolve the boundary between the individual and the state could also be seen as underlying the spontaneous links that some of our interviewees drew between a DNA database and the abuse of state authority: ‘there is far too much control already’ (Hubert); ‘we are already as transparent as glass’ (Ingo). Striking a similar chord as Oliver in the quote above, Quentin said that comprehensive observation of everybody with the help of espionage satellites has been in place since the 1980s (‘What does mankind think? There is total surveillance. ... In 1980 we had the first satellites which raised suspicions, and today we see it confirmed. We have Google Earth ... ’).  

If forensic DNA databases blur the boundary between the individual on the one hand and the state, state authority and society on the other, then the only way to remain unaffected is to remove oneself from the latter. Paul (convicted of armed robberies and theft) argued that forensic DNA technologies affected only those within the boundaries of ‘normal’ society:

DNA traces are only useful ... if the police knows that person X is at place Y. [That he] works at place Z. [That this is his social security number, this is his workplace. Then they can arrest me. [If they don’t know my whereabouts], they can’t do anything other than putting ‘wanted’ pictures up with my photo. In hindsight, after the arrest, they can prove everything [on the basis of DNA]. But for the manhunt it’s relatively unimportant.

Paul did not feel threatened by the existence of DNA profiling because although he was well aware that DNA profile was stored in the database, he planned to continue his career as a professional criminal outside of the boundaries of the ‘normal’ society (‘if you have licked blood once it’s impossible to stop’).  

Ygor also said that the truly professional criminals, those who do not partake in ‘normal’ life, had nothing to worry about with regard to DNA traces:

Ygor. I am fully convinced that if somebody is a capable guy, a good contract assassin, he won’t be caught because of any traces.

Interviewer: Why not?

Ygor. Because he doesn’t leave any.

Interviewer: How does he do that?

Ygor. Well, if he’s good, then that’s his way. [Police] will never find a corpse or anything else.
Interviewer: But in theory, they could find something ...

Ygor: Yes, OK, they’ll find a DNA trace in the apartment of the victim, but what will they do with it?

Interviewer: Because it’s not seen as a crime scene?

Ygor: Exactly.27

The common perception seems to be that the greater somebody’s professional expertise and professional status, the larger the likelihood that he/she can successfully disentangle him- or herself from the dangers of normal society.

Productive ‘Deficits’: Concluding Remarks

This paper is concerned with ‘other’ ways of knowing of forensic DNA technologies. We have discussed several interlocking themes emerging out of our interviews with convicted criminal offenders in Austrian prisons. First, the theme of professional expertise became prominent when our interviewees discussed their own actions and those of the police. This emphasis on professional expertise, which had surprised us at first, seemed to resonate with, and lead us to, a second theme: that DNA evidence was seen as ubiquitous, so that DNA traces were treated as uniquely difficult (or impossible) to avoid. This, in turn, was related to a third theme: the fact that DNA was regarded as being linked with the body, and with the person, at a much deeper level than fingerprints or other trace evidence. This strong somatic dimension of forensic DNA technologies can probably account for the emergence of a fourth theme: our interviewees’ perception that such technologies deepened the inscription of the stigma of delinquency within their bodies. Together, these themes contributed to a blurring of the boundaries between the body of the criminal (and the incarcerated person as a whole) on the one hand and state authority and ‘normal’ society on the other.

These themes raised by our interviewees support our argument that for the criminal offenders we interviewed, one of the most important effects of the availability of forensic DNA technologies was the increase of the power differential between those who use these technologies and those upon whom they are used.

The science behind DNA technologies was seen by our interviewees as an area of expertise possessed by ‘the other’ (namely those who judged and sentenced them), while it compromised their own (criminal) expertise. DNA profiling had the air of something high-tech that most of our respondents presumed (by virtue of their positions in the social system and previous life experiences) they could not possibly understand. It was our impression that most prisoners were intimidated by what they assumed to be the science behind DNA profiling. When talking about DNA evidence,
our interviewees regarded themselves as non-experts. Work in the field of public understanding of science has shown that in the domain of the life sciences, proponents of scientific advance have long sought to overcome the ‘knowledge deficit’ and resistance on the side of ‘non-experts’ by ‘educating’ them (see, for example, Irwin & Wynne, 1996; Locke, 1999; Cook et al., 2004; Wright & Nerlich, 2006). Our study indicates that the opposite is the case in the realm of criminal investigation: people in law enforcement authorities often state that the less ‘the public’ knows about police work at the crime scene, the better (see also Houck, 2006). Also in the context of our study, several policemen articulated anger about US television series showing ‘far too much’. Criminal investigators and the legal system make productive use of the discrepancies between ‘scientific’ versus ‘non-scientific’ knowledge for their own objectives. For the offenders, DNA is the institutionalized memory of their delinquency.

Notes

We would like to thank our interviewees without whom this project would not have been possible, and the GEN-AU program of the Austrian Federal Ministry of Science and Research (<www.gen-au.at>) for funding this research. We are grateful to the Austrian Federal Ministry of Interior, the Austrian Federal Ministry of Justice, the Austrian Police Force and the staff of ‘our’ two prisons in Austria for their outstanding support, as well as all those who helped us with their expertise: Wolfgang Annerl, Troy Duster, Irene and Roland Eberl, Wolfgang Haupt, Richard Hindmarsh, Rudolf Gollia, Dietmar Junker, Matt Ratto, Nikolas Rose, Reinhard Schmid, Victor Toom, Peter Staudinger, Karl Ucakar, Hendrik Wagenaar and the anonymous referees for SSS. Thomas Kotauschek and Alice Vadrot transcribed the interviews. Special thanks go to Michael Lynch for his intellectual generosity and his patience.

1. All names are pseudonyms; other possibly identifying information (such as exact age) was slightly modified to protect the anonymity of our interviewees. This also applies to information on when crimes were committed in the overview of Table 1. Delinquency types, duration of prison sentences and information on whether or not DNA had played a significant role in the conviction, however, are accurate.

2. Also for this reason – to grant the defendant the opportunity to challenge a fingerprint or DNA match (including its interpretation; see paragraph 5.6), the Nuffield Report (Nuffield Council on Bioethics, 2007) recommends to implement provisions for the ‘compulsory and timely disclosure’ of the results of bioinformation analysis to all parties involved (paragraphs 5.8–5.9). For a critical discussion of the Nuffield report including social science and STS perspectives, see ‘Forum on the Nuffield Report’ in BioSocieties (2008). It is worth mentioning that the Nuffield Report treats fingerprint and DNA evidence as a joint problem in this respect, which resonates with the observation that not only DNA but also fingerprints have been used to ‘lure’ suspects into a confession (see, for example, Cole [2001: 128]). It could be argued that it tends to be the most recent technology – still a bit obscure and ‘mysterious’ – which is used by some crime investigators and the police to provoke a confession.

3. They could probably be seen as ‘specialist experts’ with primary source knowledge according to the categorization of expertise according to Collins & Evans (2007).

4. The empirical relevance of the ‘CSI effect’ has recently been challenged by Schweitzer & Sachs (2007). See also Cole & Dioso (2005).

5. As Bosworth and Carrabine (2001: 502) note, drawing upon the Bosworth’s extensive fieldwork in prisons, in the process of maintaining their identity as agents (rather than merely passive objects of governance) prisoners ‘draw upon their lived experiences outside the prison walls’. We would argue that in this light, the use of terminology of
business life in the context of ‘criminal business’ can also be interpreted as an attempt to maintain a minimal level of ‘normalcy’ in addition to being seen as a sign of complete loss of capacity to distinguish between ‘right’ and ‘wrong’. Maintaining connection to the outside world seems to be an objective that manifests itself in a wide variety of contexts. Participating in research projects could be one of those contexts, as a US prisoner stated in a paper which he co-authored with peers (see Bosworth et al., 2005: 254): participating in academic research ‘would be a chance to engage my mind. As a prisoner I thrive on contact and engagement from the outside world. My worst fear is to be cut off.’ For work on the ‘career’ aspect of criminal trajectories, see Piquero et al. (2007) and Blumstein et al. (1986).

6. Maruna (2001) uses the term ‘condemnation script’ to signify the life narratives of persistent offenders who see their lives as a succession of discrimination, repression, and blocked opportunities. Also in the accounts of some of our interviewees, all institutions in the person’s life – family, employers, the social security system, ‘the state’ – were seen in this light, culminating in the ultimate repression embodied by the criminal justice system.

7. We are grateful to Michael Lynch for drawing our attention to this point, and for coining the phrase ‘third constituency’ in this context.

8. While the National DNA Database (NDNAD) in England and Wales was officially established in April 1995 (Parliamentary Office of Science and Technology (UK), 2006), the method of DNA profiling has been used in the context of criminal investigation since the mid 1980s (see Walker & Cram, 1990).

9. The ratio between the number of subject profiles in the forensic DNA database versus the total population is about 1:15 in the UK, and about 1:81 in Austria. In the European context, France (about 1:169) and Germany (about 1:183) hold the third and fourth largest forensic DNA databases (sources: Nuffield Council on Bioethics, 2007; websites of the European Network of Forensic Science Institutes [ENFSI]; and R. Schmid, Director of the Department of Forensic Identification in the Austrian Federal Police Office, Vienna, personal communication).

10. There are cases in which individuals were convicted on the basis of DNA evidence alone, without any other or circumstantial evidence supporting the guilt of the convicted (see Duster, 2006). For a discussion of the implications of large-scale forensic DNA databases on calculating random match probabilities, see Cole & Lynch (2006).

11. On 1 September 2007, 209 (4.2%) of 4983 individuals serving prison sentences of more than 18 months were female. Source: database search Integrierte Völlzugsverwaltung, courtesy of the Enforcement of Sentences Office [Vollzugsdirektion] of the Republic of Austria.

12. In Austria, early release can be granted depending on prior convictions, severity of the crime, insight/regret on the side of the convict, use of psychotherapy and other counselling, ‘good conduct’ in prison, and other factors (Austrian Penal Code [Strafgesetzbuch, StGB], §§ 43–56, and Enforcement of Sentences Law [Strafvollzugsgesetz, StfVG] §§ 179–180).

13. Anton refers to the tiny particles of saliva that people emit when they speak.

14. Ygor, who served an 18-month sentence for attempted rape, was one of the many who told us that when somebody had a conviction matching an open case, then:

they arrest him without even looking [any deeper into the case]. I get so angry when I hear such stories! In some cases you just know that the guy didn’t do it. He’s getting arrested because he has the right prior conviction and [he does not have an alibi]. Very simple, no need for an investigation, they just get him.

15. This is how Dorian (serving 15 years for murder) phrased it:

It’s always a risk if you work with somebody, or if in the drug business you collaborate with a group. Then the risk is much more dangerous [sic]. When you do something alone, then you know what to say, and what, and how. You don’t need to be
afraid about what the other one leaks, whether he’ll be loyal or not. This is why I
did most of my jobs on my own.

16. This strong belief in the accuracy of DNA evidence resonates with some reported views
of wrongfully convicted individuals after their exoneration (see, for example, Lynch
2003). In that case the great trust in the truthfulness and scientific soundness of DNA
technologies could partly be explained by the fact that many exonerations become
possible on the basis of forensic DNA profiling.

17. Note that ‘nothing’ applies to both his deed and his body in this context.

18. In the UK, Lord Justice Sedley made headlines with a call for a population-wide
database (BBC News, 2007; Haddow, 2008). See also Connor (2003) and Kaye &
Smith (2004); for a discussion see also Guillén et al. (2000), Simoncelli (2006) and
Rothstein & Talbott (2006). Other equity-related arguments in favour of a population-
wide DNA database pertain to the over-representation of ethnic minorities in forensic
DNA databases of some countries. Supporters argue that this kind of stigmatization of
minorities could be mitigated by storing DNA profiles of the entire population in the
database.

19. One of the two exceptions was Vincent (serving 8 years for a number of crimes including
offences against the Addictive Drugs Law, severe battery and robbery), who said that
from his perspective, there was nothing positive about forensic DNA technologies:

For a criminal, the DNA [stuff] is crazy, I have to say that. Shit. With the DNA you
are – if you didn’t shave yourself a bald head, or if you had a tiny little hair on your
pullover, or a bit of liquid, and that’s enough. It has become very difficult, crime, it
has gotten extremely difficult. For the opponents of crime it’s great, but for us, it’s
total shit. When DNA came out, they got us and all of us went …

In the last sentence of the quote, Gert referred to the time after the forensic DNA
database became operational in Austria (1997). In those years, DNA samples were
taken from prisoners, and numerous open cases were solved. For more details see
Prainsack (forthcoming).

20. Life sentences in Austria typically last less than 20 years, of which Norbert had already
served a significant part. This is why Norbert worries about what will happen after he
has been released.


22. For an excellent albeit very brief discussion of the heuristical ‘depth’ often ascribed to
genetics, see Rose (2007: Chapter 4).

23. While many countries, most prominently England and Wales, have been continuously
extending the scope of the inclusion and storage criteria in their forensic DNA databases
(such as in terms of age of the suspect or offender, types of offences and crimes, status of
arrest, and so on; see BioSocieties [2008]), this has typically been justified in terms of crime
control, not in terms of justice for the convicted. In the UK, the idea of poly-criminality –
assuming that individuals engaging in small offences are likely to engage in serious crimes
later – has not only led to suggestions to establish a forensic DNA database comprising the
general population (critical: Jeffreys, quoted in Science Daily, 2008), but also to the idea
that DNA samples could ‘preventively’ be taken from young children displaying antisocial

24. Oliver probably referred to the Prüm Treaty
(<www.europarl.europa.eu/sides/getDoc.do?language=EN&type=IM-

25. Jürgen linked the question about a population-wide DNA database to the need to fight
crime also on the level of governments, not only at the level of the individual: crime
‘starts on the small scale and ends with nuclear atomic tests in China, and so on. That’s
crime too. War means killing.’

26. Paul said that he did not see a reason to ‘change his mind’ (with regard to wanting to
remain a professional criminal): ‘Society needs people like me as much as it needs a
priest … I look for a reason not to do this [robbery] anymore … I ask myself this question all the time. The worst case would be if the police killed me’, which he said did not deter him either. ‘Imprisonment, that’s no deterrence; I am not lonelier inside than outside. My life in prison is better than the life I left. It was more worrisome than life in here.’ It is worth mentioning that Paul was trained in philosophy.

27. According to Ygor, contract assassinations were carried out by two kinds of people. The first were ‘too professional’ to make any mistakes (that is, they fly in and out of the country on the same day, and do not leave any evidence to mark the place of the crime recognizable as such; or they resort to drive-by shootings). The second group were homeless people who had nothing to lose. For a relatively small sum of money, Ygor and others told us that those people would ‘do almost anything’. The thought of a prison sentence could definitely not deter them: ‘if they stripped him to his underwear and put him in an empty cell, he’d still be better off than outside’.

References


---

Barbara Prainsack is Senior Lecturer at the Centre for Biomedicine & Society (CBAS) at King’s College London. Her research interest lies in the ways in which science, politics and ‘religion’ mutually constitute each other, and what effect they have on how we understand ourselves as human beings, bodies, persons and citizens. Together with Richard Hindmarsh she is currently editing a book entitled DNA Profiling and Databasing: Governing the Challenges of New Technologies (Cambridge University Press, forthcoming).

Address: King’s College London, Centre for Biomedicine & Society (CBAS), Strand, London WC2R 2LS, UK; tel: +44 20 7848 1585; email: barbara.prainsack@kcl.ac.uk

Martin Kitzberger is a forensic-clinical psychologist at the Federal Assessment and Evaluation Centre for Sexual and Violent Offenders (BEST) in Vienna, Austria. Besides his day job he is currently also carrying out
empirical research on re-offending versus non-recidivism in the field of property crimes in Austria for his PhD thesis.

**Address:** Federal Assessment and Evaluation Centre for Sexual and Violent Offenders (BEST), Justizanstalt Floridsdorf, Gerichtsgasse 6, 1210 Vienna, Austria; tel: +43 650 92 13 088; email: martin.kitzberger@justiz.gv.at