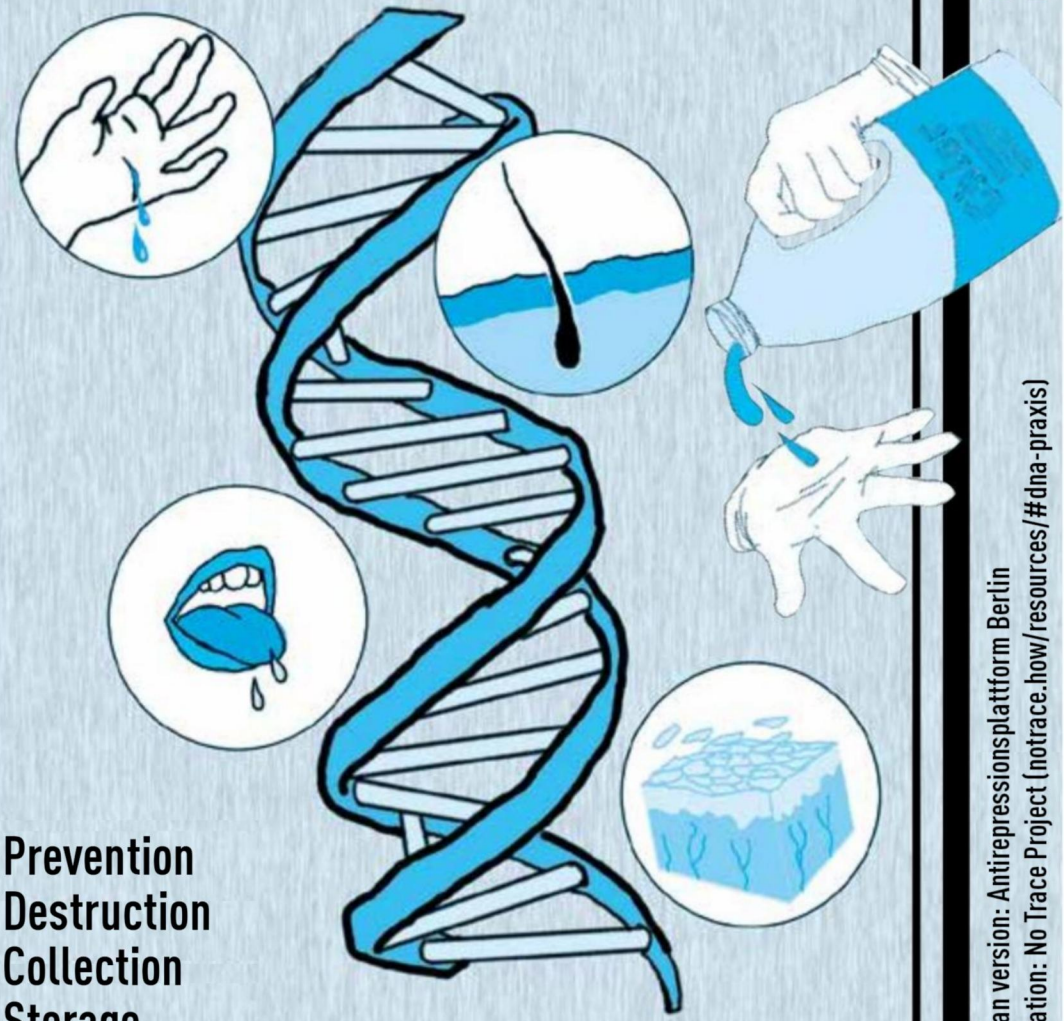
This brochure is based on previously published experiences. Always remember: criminal trials are not an individual matter, but concern the whole movement. Share your knowledge!

Dealing With DNA in Practice



Prevention
Destruction
Collection
Storage
Use
In criminal proceedings, in court and afterwards

First edition: July 2021
English translation: November 2024

Original German version: Antirepressionsplattform Berlin
English translation: No Trace Project (notrace.how/resources/#dna-praxis)

Dear reader,

Avoiding leaving fingerprints or walking through a surveillance camera's field of view is something we already know. Or at least it seems self-evident to us.

In recent years, however, DNA analysis has become increasingly important in political investigations. Police are collecting more and more DNA traces from crime scenes and suspects. Thanks to improved techniques, even small traces can now provide information about people. Sometimes a DNA trace is decisive for a conviction in court.

All of this raises questions that we want to address, at least in part, in this comic. Where is DNA found to begin with, and how does it get there? What is appropriate during actions or when repression is imminent? We want to become more confident in dealing with DNA in actions and criminal cases.

Have fun, see you in the streets!

Deletion and appeal deadlines

If you have been informed that your DNA has been stored, you can first submit a request for deletion to the police. If this is unsuccessful, it is possible to apply for a **"court decision" against the refusal in accordance with §98, paragraph 2, sentence 2 StPO**, during which the three conditions for storage will be examined by a judge (see reclassification, page 25). You should seek legal advice for such a request, as even the decision of the appropriate court can cause problems. If the application is successful, the DNA must be deleted by the police.

In addition to the absence of the three prerequisites, there is another reason for deletion: if you have been acquitted by a final court decision in the case your DNA was collected for, or if the case has only been provisionally discontinued, **further processing of your data is not permitted as per §18, paragraph 5 of the Federal Criminal Police Office Act (BKAG)**. This means that the DNA identification sample must be deleted.

If the storage of the DNA is not contested, a "**segregation review**" for adults takes place after ten years. However, this review period is extended if further storage targeting you is carried out in the meantime. After the end of this period, the storing authority only has to check whether there is still a reason to store data. Therefore, there is no automatic deletion.

Confirmation of deletion through a new request

Since you cannot rely on the police, if you have given DNA, you should regularly submit a request for information (e.g. via the project of the Roten Hilfe: datenschmutz.de), and ask whether your DNA is (still) stored.

Further reading

- "Strategies for Countering Police Access to DNA Data" ("Der polizeiliche Zugriff auf DNA-Daten: Strategien der Gegenwehr"), Gen-Ethisches Netzwerk, notrace.how/resources/#strategies-dna.

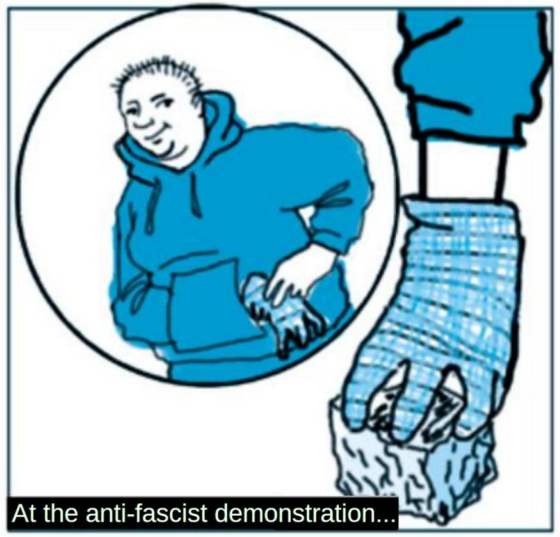
- Flyer "Hausdurchsuchung. Was tun?", Rote Hilfe, rote-hilfe.de/rechtshilfetipps/hausdurchsuchung (in German).

- Flyer "Um Haaresbreite (DNA-Entnahme)", Rote Hilfe, rote-hilfe.de/rechtshilfetipps/dna-entnahme (in German).

[No Trace Project note: We also recommend "DNA You Say? Burn Everything to Burn Longer: A Guide to Leaving No Traces", notrace.how/resources/#dna-you-say.]


In court
Acquittal. When in doubt, give the defendant the benefit of the doubt!
Say, are there actually ways to delete my DNA from the database?
A few months later


... we inform you that we have deleted their DNA from the database...


At the anti-fascist demonstration...


Hey, leave it. I'll explain later.
Okay, as you say.


You were wearing the same gloves you've been wearing for weeks. The cops have gotten into the habit of checking thrown rocks for DNA traces.
I didn't want to leave fingerprints on the rock. Isn't that enough?
That's good, but you're still spreading your DNA all over the rock with the glove.
Throwing rocks is great, but better without DNA!
...back home

What is DNA, anyway?

You may have heard the complicated word before: deoxyribonucleic acid—DNA. The A in DNA stands for acid. DNA is like a blueprint for cells. This blueprint is in every cell and contains unique information about how the body develops and functions. If the remains of human cells are recovered, they can be used to determine who left them (e.g. at crime scenes).

The blueprint contains individual building blocks called nucleotides. These are strung together to form long chains. DNA molecules consist of two such chains wrapped around each other. These two chains, called DNA strands, are held together by bases on one strand joining with bases on another strand. The base pairs form the rungs of these "ladders", and individual sections are called DNA strands or DNA sequences. This is where the genetic information of a cell is stored.
According to the current state of science, not every single section of DNA contains information about the human being, or at least this information is not yet "readable". Sections that we can associate with certain characteristics of a human being are called "genes" or coding sections of DNA.
The non-coding sections of DNA are crucial for DNA analysis: non-coding sections of DNA are not genes, but DNA that lies between the genes. These contain the blueprints for proteins. They are interspersed with a series of "short tandem repeats" (STR).

These are repeats of DNA sequences that occur in short succession, and the number of different repeats (repeat motifs) is used to distinguish the DNA of different people. A complete DNA trace is made up of several repeats, each with a specific value. A partial trace (on an object, for example) has only a few repeats.

An example from court: Person A and B touched a stone. Person C throws it against a building, and the stone is subsequently analyzed for DNA traces. Partial traces from person A, B, and C may remain on the stone. This complicates the comparison with complete DNA samples (which may be stored in databases), because then only partial matches are likely.
How close these matches must be to be legally significant is a matter of debate. The reasoning is as follows:
First of all, it is not possible to know when the traces got on the stone. However, if person A had sweaty hands and therefore left particularly intense traces on the stone, there may be many repeats with values that match person A, i.e. the majority of the DNA is from them. Person A has nothing to do with throwing the stone, but is still prosecuted.
Keep in mind that in order to match such traces on objects to complete samples, the authorities must first obtain those complete samples (e.g. through DNA collection).

Strategies for the use of DNA evidence

In order to use DNA in court, an expert is appointed to analyze the collected DNA and compare it to the trace DNA profiles. The expert makes a statement about how probable it is that the personal DNA profile and a trace DNA profile come from the same person. But **probabilities are not certainties**. A "hit" does not mean a conviction!

Differences in the calculation can occur due to the "comparison groups" that are used as a basis. Trace DNA profiles can occur with different frequency in the population (e.g. regionally specific) and reduce the probability that it was exactly YOU who left this trace DNA profile there.

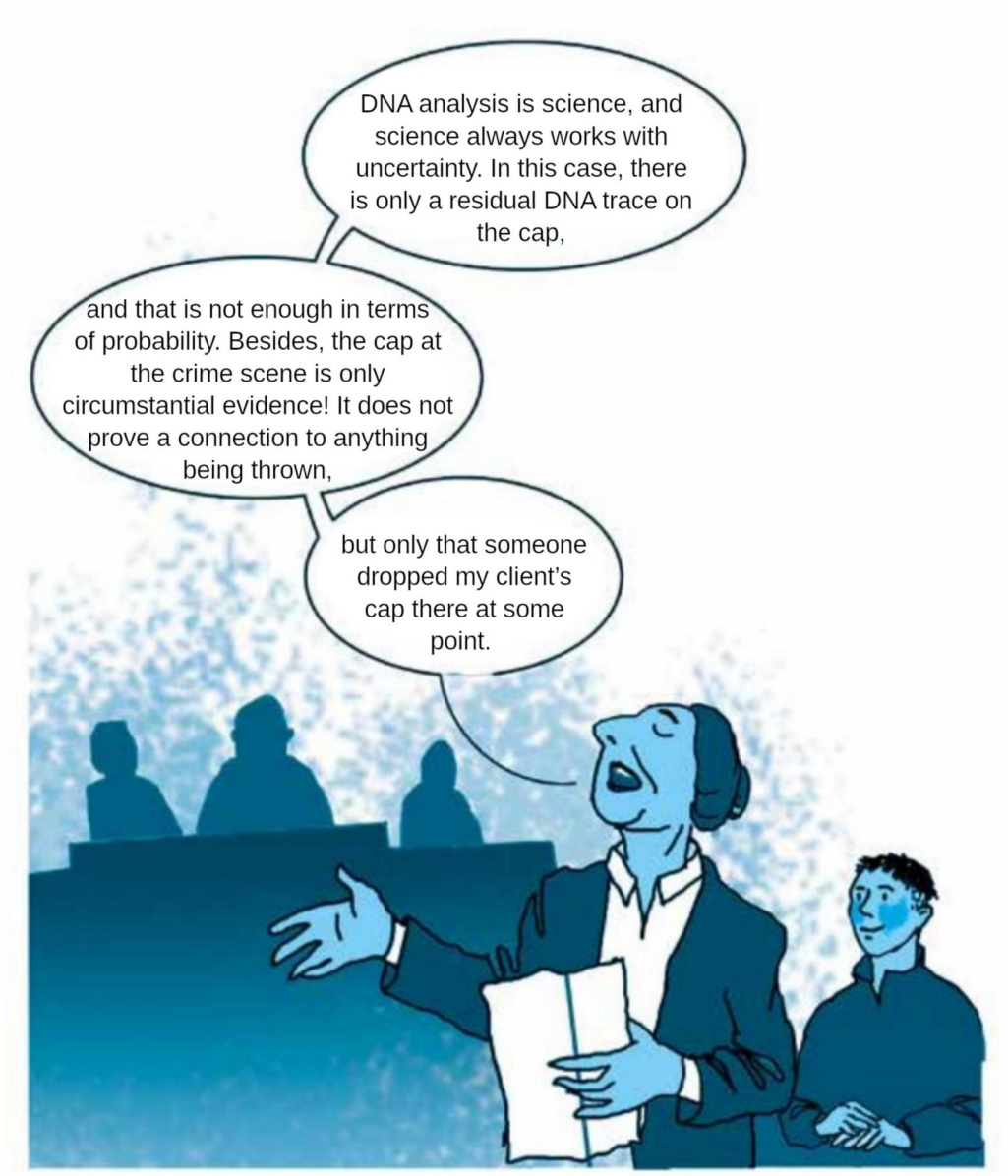
When comparing the two DNA profiles, the **condition of the trace DNA profile is also important**. It may be partial or contaminated with traces of other people (this is called a mixed profile)*[1]*. There are different calculation methods that account for these uncertainties. In court, it can be disputed whether the expert has chosen the correct calculation method. For example, a probability calculation must take into account how many other people could have contaminated the DNA trace found at the crime scene. A DNA trace on the door handle of a public washroom is therefore more difficult to use in court than a DNA trace on the door handle of an apartment.

In addition, the link between the DNA trace and the crime must not be overlooked. For example, if DNA from the defendant's DNA is found on a door handle at the scene of the crime, this does not tell us whether the defendant left the DNA there at the time of the crime (or at another time). A defense argument is often the reality of "secondary transfer." Often, DNA from others remains on a person. For example, if person A shakes hands with person B and person B touches a stone afterwards, person A's DNA may be on the stone even though person A never touched the stone*[2]*.

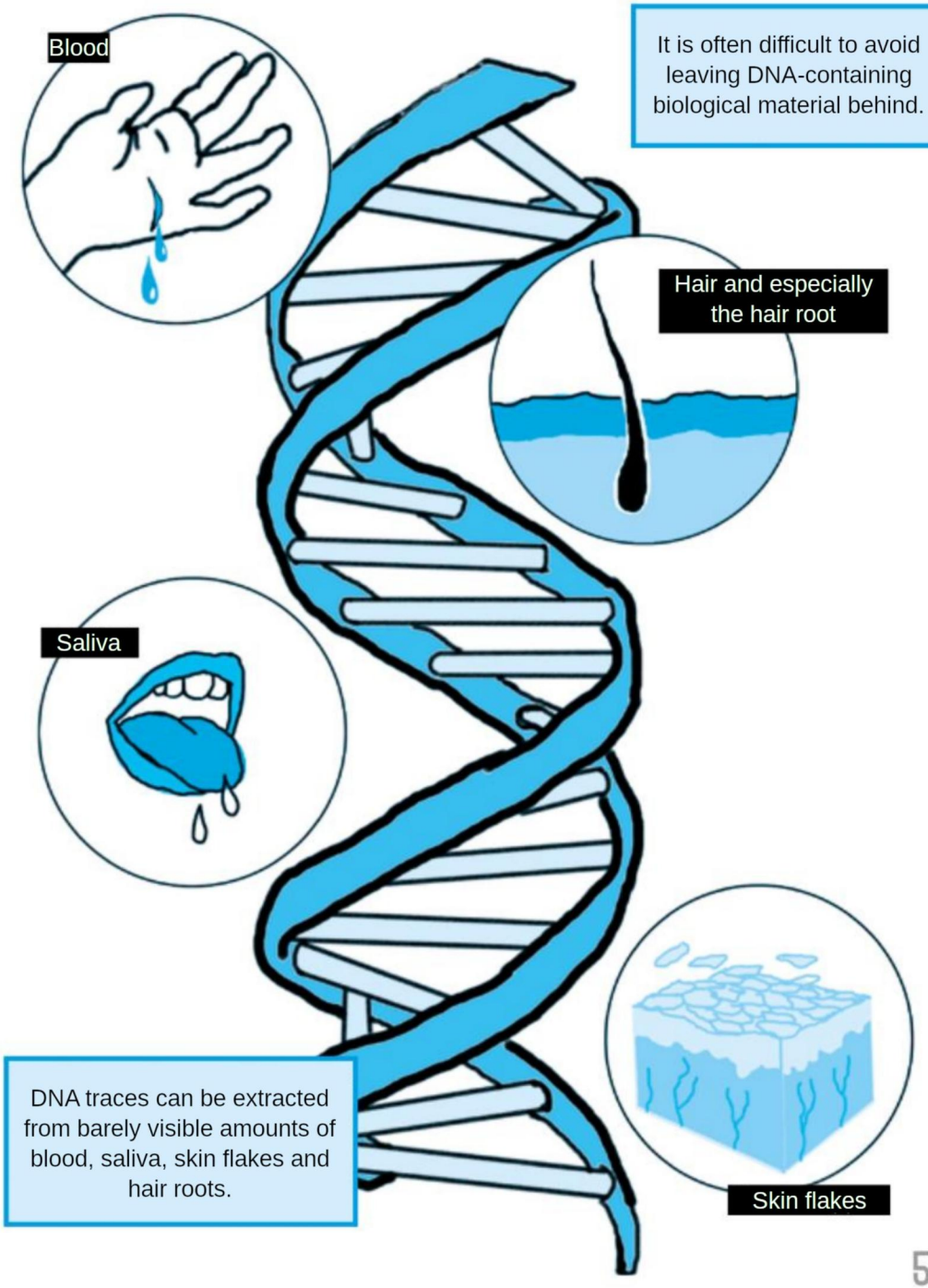
It is therefore worth looking into both the DNA expert opinion and the link between DNA and the crime. You should consult a specialized lawyer for this.

[1] Cf. page 10; also a case of the Federal Supreme Court from 2019 (BGH 4 StR 318/19, ruling of November 20, 2019).
[2] The Federal Court of Justice dealt with such a case of secondary transfer, for example, in 2016 (BGH 1 StR 409/15, ruling of February 18, 2016).

DNA in court

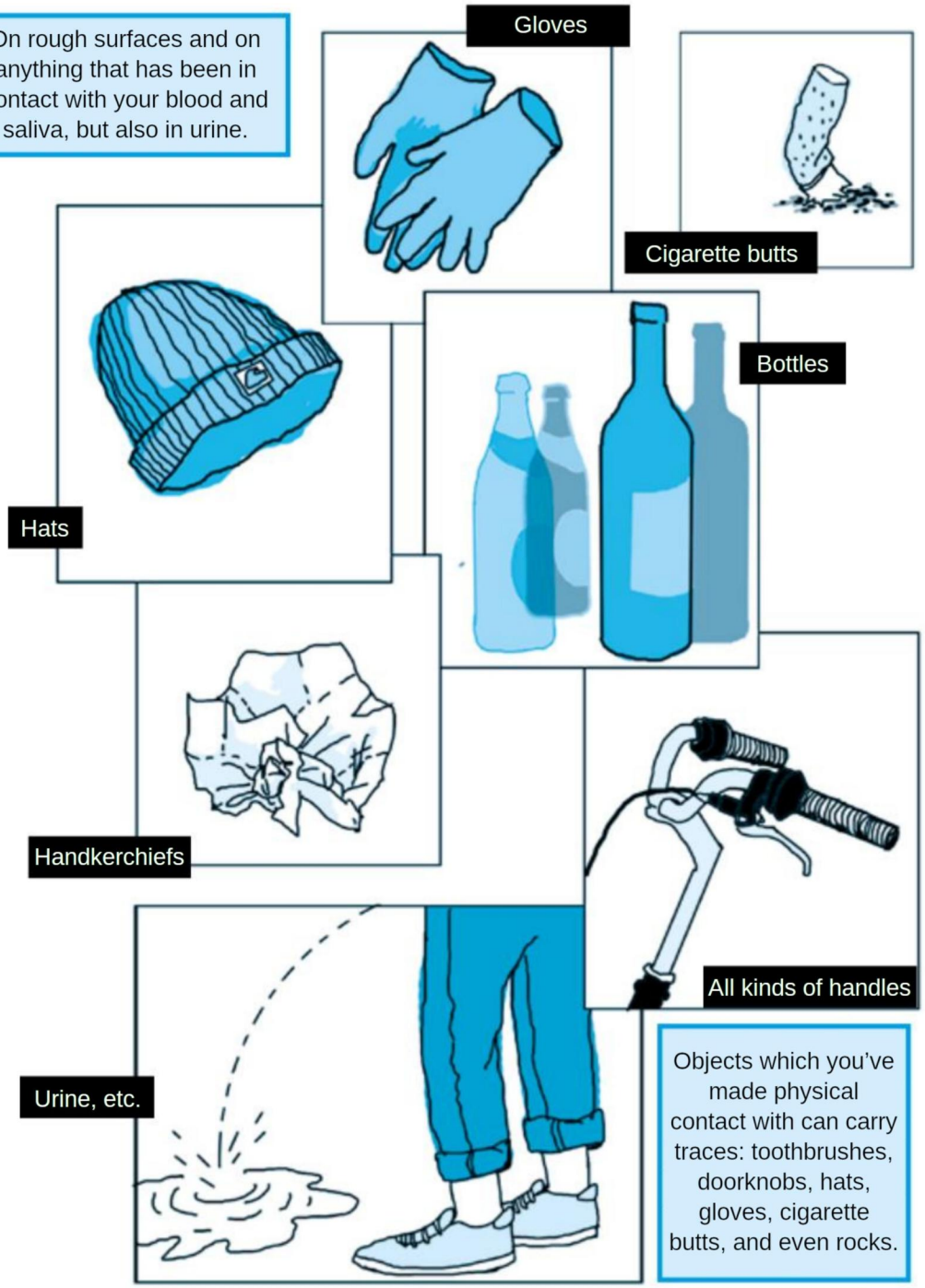


We always leave DNA



Where is DNA easily detected?

On rough surfaces and on anything that has been in contact with your blood and saliva, but also in urine.



Objects which you've made physical contact with can carry traces: toothbrushes, doorknobs, hats, gloves, cigarette butts, and even rocks.

Back at the lawyers

<u>The requirements (described in §81g, paragraph 1) are as follows:</u>

1. Crime: the current case against you must be for a crime of significant importance OR you must be suspected of having repeatedly committed the same crime AND
2. Negative prognosis: this means that due to the crime itself, your personality or other findings, it can be assumed that you will be prosecuted for crimes of considerable importance in the future.
3. Necessity: These must be crimes that typically involve DNA being found.

This is called "reclassification" because the personal DNA profile, which was originally taken only to solve the current criminal case, is dedicated to future criminal proceedings by being stored in the database.

If such a reclassification occurs, you should be notified immediately in writing by the police.

The DNA Analysis File (DAD) of the Federal Criminal Police Office (BKA)
The database for the storage of DNA profiles is maintained by the BKA. However, the various state police forces (e.g. LKA Berlin) decide which DNA identification samples are stored and deleted in this database, as per §29, paragraph 5 of the Federal Criminal Police Act (BKAG). In principle, the German police and, to a limited extent, European police forces have access to this police database.

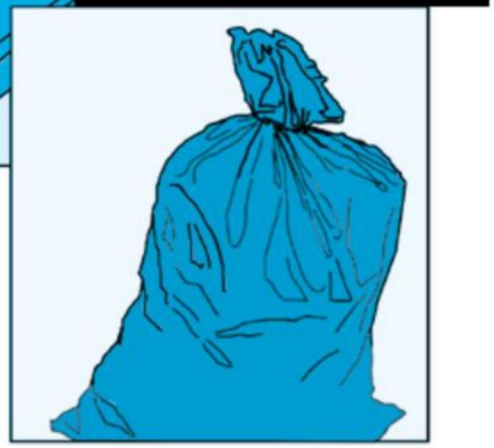
The basis for the exchange of DNA data, fingerprint data and vehicle registration data within Europe is the Prüm Treaty (officially: "Treaty on the increase of cross-border cooperation, particularly in combating terrorism, cross-border crime and illegal migration"). Currently, 13 European countries are part of this agreement. When the German police enter a trace DNA profile into their database system (e.g. POLIKS in Berlin), the system also accesses the databases of the Prüm Treaty countries. The German police will then only receive "one hit." For further information, e.g. about the person and the circumstances of the storage in the other treaty country, the police must contact the respective authorities of the storing country by means of a request for legal assistance.
This database contains both personal DNA profiles and trace DNA profiles, which can also be compared with each other. Of relevance:

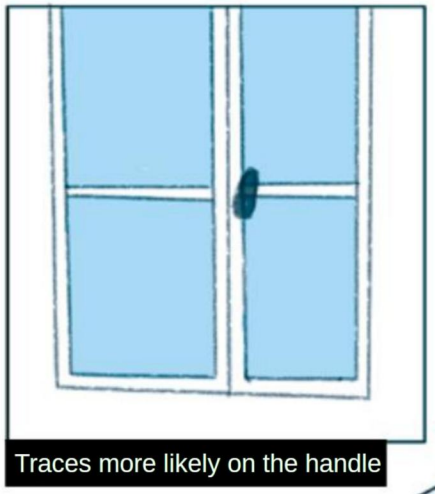
As of March 2020, more than 1,200,000 records were stored in the DAD, including approximately 870,000 personal entries and approximately 358,000 trace entries of unidentified offenders.

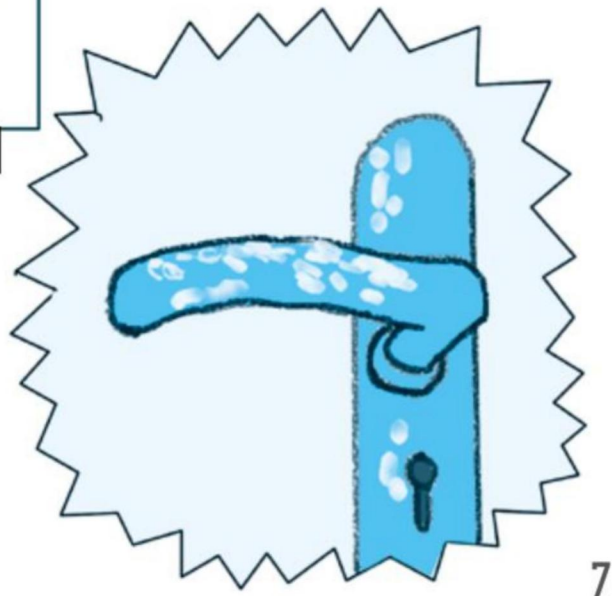
Where is DNA searched for?

Note

The smoother the surface, the less the DNA will stick. Wiping will only help on extremely smooth surfaces.







Mixed traces

Where there are many different DNA traces (e.g. on a door handle), it is not as easy to detect traces that can be individualized.

DNA minimization

A bath cap helps prevent hair loss. A baseball cap also works, as long as the hair does not stick out.

Mouth covering to prevent loss of saliva.

Medical **rubber gloves** but depending on how you put them you can leave DNA on their exterior surface.

A lint roller reduces skin flakes or hair on clothing.

Product tip: Use gloves that are packaged in pairs.

No Trace Project note: A study found that the "laundry process does not remove all the DNA from washed items" (*Laundry in a washing machine as a mediator of secondary and tertiary DNA transfer*, in *International Journal of Legal Medicine*, 2017).

It is important to keep the **clothing sealed** so that skin flakes do not fall out. For example, put gloves over your sleeves.

Your DNA is on your clothing. To minimize your traces, wear clothes that are newly bought or washed at 60°C (or higher) in a public laundromat.

DNA often sticks to shoes. If you really want to be sure, wear **covers.**

It makes sense to make sure you don't "contaminate" the action site or the materials you'll be using with your DNA. However, it is difficult or impossible to completely avoid leaving DNA traces. Therefore, it makes sense to consider how DNA can be removed from objects. Because:

Prevention is good, destruction is best!

The **DNA analysis** is ordered at the same time as the DNA collection and there are no further requirements for this. In Berlin, for example, the analysis is carried out at the Department 5 of the Forensic Institute of the State Criminal Police Office (LKA KTI 5). What exactly is analyzed is defined in §81e StPO.
Previously, only the non-coding sections of DNA were analyzed (see page 4). These are areas from which individuals can be identified, but from which—at least according to the current state of science—no information about the person can be derived. Gender and genealogical relationship (for example, to the victim of the crime) could also be determined. This changed on December 13, 2019 (no joke).

Now, according to §81e, paragraph 2 StPO, a so-called extended DNA analysis may also be carried out, i.e. age, skin, hair and eye color may be determined when investigating unidentified individuals.

Law-and-order politicians hope that this will provide them with a "genetic sketch." However, the technology does not (yet) allow this. It is already clear that this will be used primarily for racist purposes.

Storage and reclassification
In principle, the DNA profile of an accused person obtained by analysis in a criminal case is only used for that case. However, the state police can store it in the database of the Federal Criminal Police Office (BKA) even prior to a conviction and thus compare it with trace DNA profiles from ongoing investigations (see page 18). The basis for this is §81g, paragraph 1 in conjunction with paragraph 5, sentence 2, no. 1 StPO. The problem is that, in contrast to the collection and analysis of DNA, the presence of a judge is not required, i.e. no court decision is necessary. The police themselves check the three requirements for storage.

Extraction, analysis, storage

If you voluntarily consent to DNA collection (which you should not do!), it will be done with a cotton swab. In all other cases (i.e. if you refuse voluntary collection or put up a fight), the DNA will be collected through a blood sample. DNA collection from a saliva sample may be performed by police officers themselves, as it is not a "physical" examination in the sense of §81a StPO. However, DNA collection from a blood sample may only be performed by a doctor, which is usually done by so-called police doctors. However, you can try, perhaps with the help of a lawyer, to have your blood taken by a doctor you trust. You can also make the request for DNA collection public and present it in a political way.

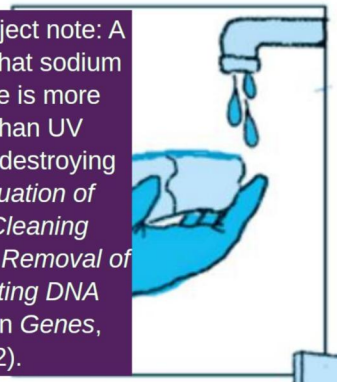
The collection of DNA during lawful investigative measures (such as the collection of cigarette butts during surveillance)* is legally permissible.

However, it is unclear whether the police can seize DNA samples from **biomedical databases** for analysis. This is conceivable if the samples are stored for an extended period of time, or even if the DNA identification pattern itself is stored. This could be the case with spinal cord donation databases or genealogical research companies. This is not covered by the law, but the courts have not yet had to deal with such a case.

*This likely happened with anti-Castor activists (for more information, see Cilip 082 from 12/2005).

How to destroy DNA?

DNA chains break down when exposed to moisture, UV light, intense heat, and in the absence of air. Dried traces persist for decades. A good approach to destruction is the same methods used in laboratories to create a clinical environment.



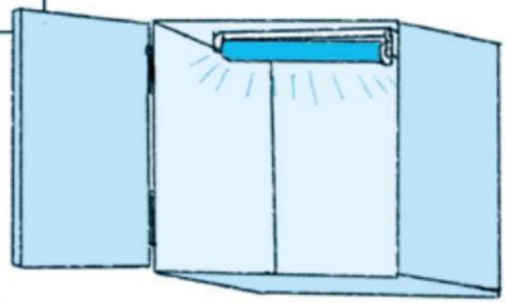
No Trace Project note: A study found that sodium hypochlorite is more effective than UV radiation for destroying DNA (*Evaluation of Different Cleaning Strategies for Removal of Contaminating DNA Molecules* in *Genes*, 2022).

Mechanical removal:
Small particles can be wiped off smooth surfaces. A rough sponge may help. Running water (e.g. disposal in a river) is not sufficient, as DNA can persist under water for a long time.

Thermal destruction:
Heat, e.g. by baking in an oven at 180°C.

DIY light box:
Reflective walls with UV-C emitters. UV-C light is used to disinfect against microorganisms in aquariums, pools, etc.

Warning: risk of causing blindness.



Other types of chemical destruction:
- Formaldehyde, ethylene oxide or peracetic acid (also known as peroxyacetic acid or PAA).
- Hydrogen peroxide (the higher the dosage, the better).

Alcohol is NOT a good choice because it can preserve organic matter (DNA). It only helps against grease like fingerprints.

Chemical destruction:
Sodium hypochlorite in bleach decomposes organic matter (DNA). Also good is a mold remover with active chlorine.

No Trace Project note: In the English-language forensic literature, bleach containing sodium hypocholorite is the most thoroughly studied method for reliably destroying DNA. For more information about using it, see *DNA You Say? Burn Everything to Burn Longer: A Guide to Leaving No Traces* (notrace.how/resources/#dna-you-say).

What types of traces are there?

There are three types of DNA "profiles": complete, partial, and mixed. Complete profiles can be obtained, for example, by collecting saliva or blood from a person, but also by finding blood, saliva, urine, stool, semen, or vaginal secretions. In most cases, the traces found at crime scenes, for example, are partial and mixed profiles. In mixed profiles, DNA from more than one person can be detected.

Door handles, sinks, and carpets typically contain cell fragments from many people, so the DNA traces found there often yield only mixed profiles. In contrast, a saliva stain of about 2 cm in size has a very high informative value about the person who left the trace.
In the case of partial profiles, the DNA trace may be poorly preserved or contaminated, making further processing difficult or even impossible. "Poorly preserved" can be the result of a natural degradation process or the result of chemical influences, e.g. hair that has been dyed.
Partial and mixed profiles are no less dangerous, because these traces found on objects can — depending on their significance — still be matched to complete profiles in the databases. The significance depends mainly on the amount of DNA: a few micrograms are better for the police than a few picograms; or a 2 cm bloodstain has a higher significance than a 2 mm bloodstain. But DNA can still be detected even from skin flakes that are not visible.

Personal contact: When two or more people come into physical contact, DNA traces can be transferred. For example, blood and skin traces during a fight.

Items left behind: DNA traces are found on items such as masks, shoes, tools, beverage cans, water bottles (in the case of cans or bottles, saliva is collected).

Touching: Even briefly touching objects is usually enough to leave DNA behind.

The amount and quality of DNA that can be transferred on contact depends on the condition of the person's skin.

For hair: Torn-out hairs usually do not contain nuclear DNA, although DNA analysis for torn-out hairs with hair roots is certainly possible. But the technology is still developing. There have been cases where a fallen hair was sufficient to match the DNA to a complete DNA profile.

Particularly exciting from a cop's point of view: cigarette butts, handkerchiefs, drinking glasses, but also objects or paper that have been touched. When writing letters, for example, be careful not to get saliva on them.

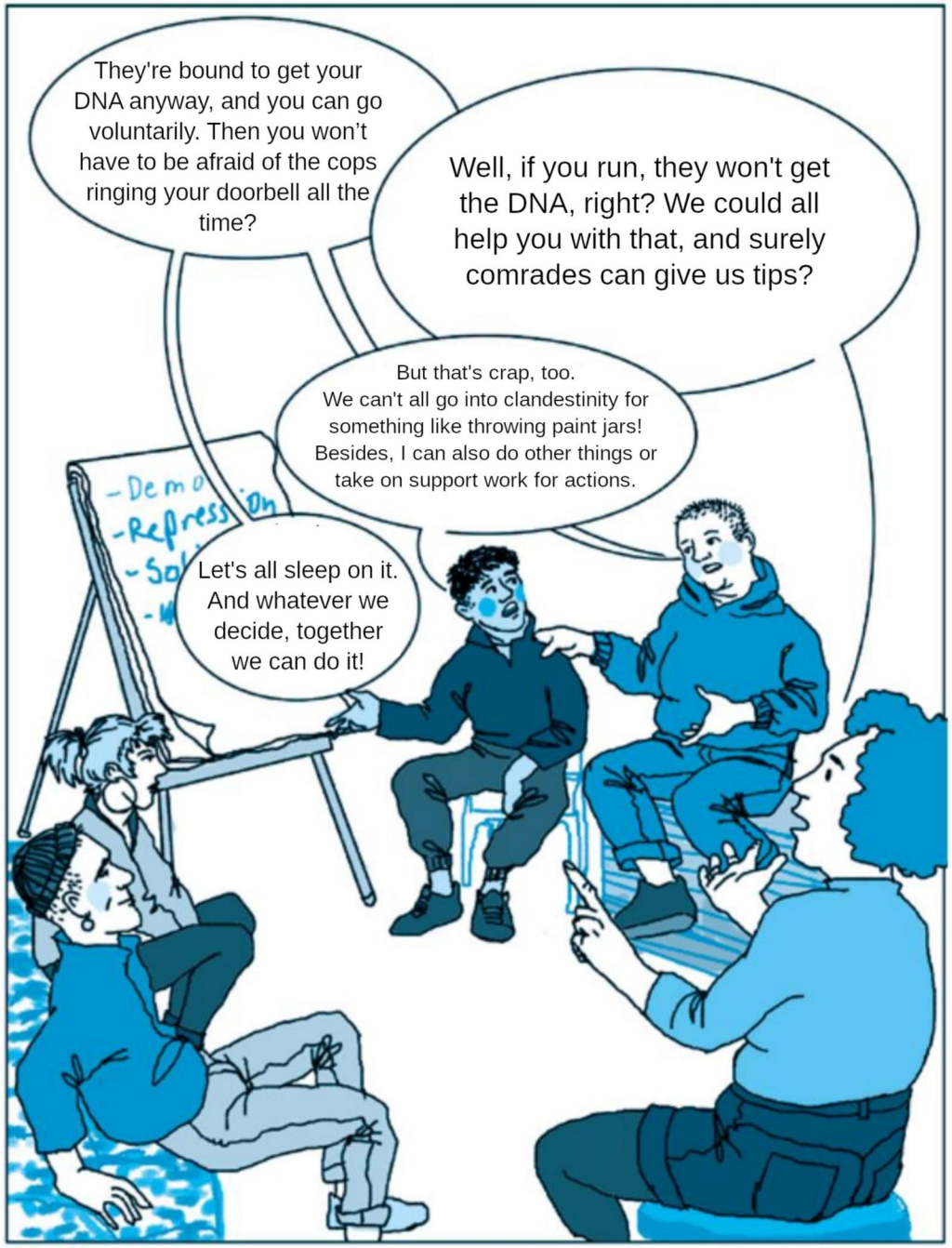
No Trace Project note: We think narratives of non-violence like this should be avoided, as they contribute to the State's repression.

DNA in the streets

Where: The house of a nationalist and sexist fraternity

Do not leave any DNA at the location during reconnaissance. Watch out for cameras and try to dress and act appropriately for the location. We never know how much investigative effort will be made after the action.

During planning: decide on goals and means



It can certainly be possible to evade DNA collection by being absent for an extended period of time. However, the effort of “going into clandestinity” should be weighed against the nature of the charges and the outcome of similar charges in the past. We need to debate this anti-repression measure in a way that avoids heroic (!) narratives and takes into account the psycho-social consequences for all involved.

They will try to make you feel isolated

Repression often makes us feel powerless, fearful, isolated, and thus unable to act. In order for this logic not to be effective, we need to support and be in solidarity with each other.

In general, we think it is important to emphasize that the support and emotional work, including in relation to repression, should not be left to female socialized comrades supposedly because they would be intuitively better at it and would have more capacity for it. If necessary, this work should be more formalized and the care efforts should be shared in a committed and transparent way.

In the case of persistent anxiety and paranoia, tasks other than care of the person directly affected may arise, e.g. when people cannot go to work or manage their daily lives. In this case, it is important to think about funding and long-term perspectives. The more we live and shape our daily lives in a collective way, the less we are alone when affected by repression.

So a long-term perspective could also be to create and maintain collective spaces for this and to discuss among ourselves.

Tips may help

Tips from the editors

- Talk openly about your experiences and fears.
- If necessary, seek the perspectives of comrades or an anti-repression group.
- Take your fears seriously, address them and talk about them.
- Try to remain politically active (despite DNA collection).
- Make daily plans and enable/facilitate participation to them (e.g. move the meeting to the living room, get up and have breakfast together or go to demonstrations together).
- Exchange with others, also to find political responses to repression.
- Go together to meetings with lawyers or with the anti-repression group.

<u>And last but not least: get support!</u>
In many cities, there are “action burnout” groups or an “anti-repression group” that can help assess the extent of the repression and its consequences. Demonstration medic groups sometimes also offer psychological support, which can be called on both immediately and over the long-term.

1.

Jars should not be sourced from your own trash.

Private rooms are full of DNA.
If at all possible, move outside.

Craft location: spread out a DNA-free garbage bag.

2.

Not wearing a bath/baseball cap.
Not wearing a mouth covering.

3.

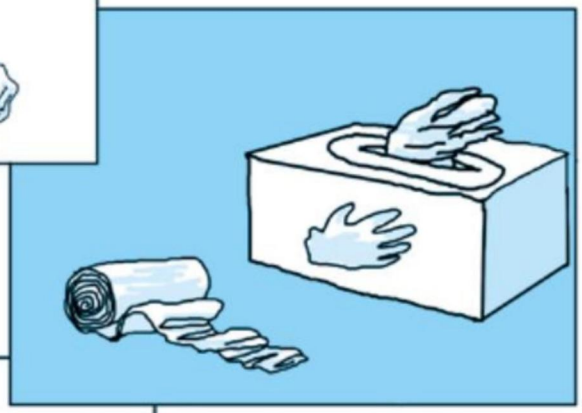
Mechanical removal combined with chemical destruction should be safe enough. Rub it down properly. Do not be stingy with the bleach. Use a fresh sponge.

Food jars (but also plastic bottles) are registered. On the lid, on the bottom of the bottle, or on the label is information that can be used to determine its origin, as well as where and when it was purchased. So it's not just DNA that counts!

1. Gloves should be worn

2. Pour in paint

Not wearing a bath/baseball cap.
Not wearing a mouth covering.
Gloves are not enough.



3.

Once consumables have been contaminated with DNA, they can no longer be used for other actions! It is best to dispose of them securely (especially not in your own household waste).

If DNA contamination has occurred during the action due to carelessness, spray surfaces and objects with a chlorine-based mold remover. This is available in a handy spray bottle.

At home

Panic attack

DNA in the Code of Criminal Procedure

[*No Trace Project note: This section is specific to the German context but has been included because it may be similar to many other contexts.*]

Regarding the law, we are particularly interested in everything between §81a to §81g StPO (*Strafprozeßordnung*, Code of Criminal Procedure), especially three procedures: DNA collection (§81a), DNA analysis ("molecular genetic examination" in §81e and §81f), and DNA storage (§81g).
A request for DNA collection is probably the thing that makes us most nervous when we are criminally charged, which is why we will look at this section in more detail below.
DNA collection is regulated as a so-called "physical examination" in §81a. There it says that collection requires a warrant. However, the police do not need a warrant if they think there is "imminent danger." In addition, an initial suspicion that the person has committed a crime is sufficient, and there is no limitation that it must be a particularly serious crime. Furthermore, the DNA must be relevant to the criminal case. This is especially for when DNA traces are found at the scene of a crime.
Usually, you'll receive a letter asking you to hand over your DNA during an investigation, which gives you time to discuss the procedure with friends or legal counsel.

However, it is also possibile that the repressive authorities will not inform you in advance of the planned DNA collection and will enforce it, for example, during a house raid. They can do this if they believe that informing you in advance would jeopardize the purpose of the collection (§33, paragraph 4, sentence 1 StPO). This can be the case if they argue that you would be able to evade or significantly delay the collection due to your social environment and contacts. There is the possibility to take legal action against both. Contact a lawyer immediately! You have the right to have a lawyer present at your DNA collection.
In the meantime, the police routinely ask those affected if they consent to a voluntary DNA collection. Always refuse!

As always, do not consent, do not sign anything, have everything recorded, and then do not sign the record anyway.

By the way, the saliva or blood sample collected must be destroyed immediately (unlike the DNA identification sample, see page 25). However, the police do not have to prove this, and there are exceptions if there is the possibility of a retrial. On the other hand, DNA traces that are found can be stored indefinitely. So be aware of the collection's limitations.

Personal DNA profile and trace DNA profile

A personal profile is the complete DNA profile of a person, which in practice is taken from suspects. A trace profile is found at a crime scene and compared to personal profiles to try to find a match. Sometimes trace profiles are also compared to other trace profiles collected in separate investigations to try to find a "trace-trace match." For example, in the G20 Elbchaussee case [*No Trace Project note: During the 2017 G20 summit in Hamburg, Germany, a destructive riot took place on the Elbchaussee street.*], 161 trace-trace matches were found, partly thanks to DNA collected from objects months later.

4. At the frat house

Ask yourself: Which hand will I use to throw, and which hand will I use to mask myself? Did I touch my face and contaminate my gloves with DNA?

1. Throwing hand
2. Masking hand

Score!

Paint, dirt, and moisture complicate DNA analysis (see “Partial profile” page 10).