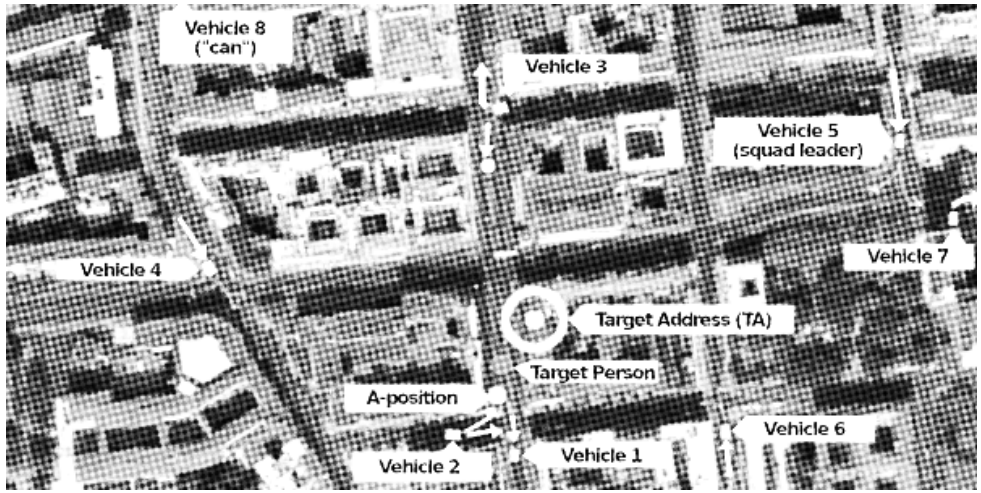
Surveillance and surveillance countermeasures: this text deals with options, risks and countermeasures. It is based on research, personal accounts and inside information, as well as a few publications on this subject.

No Trace Project / No trace, no case. A collection of tools to help anarchists and other rebels **understand** the capabilities of their enemies, **undermine** surveillance efforts, and ultimately **act** without getting caught.

Depending on your context, possession of certain documents may be criminalized or attract unwanted attention—be careful about what zines you print and where you store them.

Measures Against Surveillance

Part 1/2



most surveillance takes place from surveillance vehicles, the appearance of which does not match the "scene" outfit operators might wear.

Measures Against Surveillance
Part 1/2

Original text in German

Maßnahmen gegen Observation

Luchs / Michael Schmidt and Andrea Müller

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In the vast majority of surveillance, especially if they are not expecting to have to follow closely behind their target on foot, the operators' best disguise is their mediocrity. You look like thousands of others on the street. Sometimes it is claimed that in the past, plainclothes policemen could be recognized by their identical mustache, whereas today they are camouflaged with piercings and hair gel—in reality this only reflects the change in general social norms towards a greater variety of appearances. Subtle tattoos, earrings and daring haircuts can also be seen on riot police in uniform these days. Exaggerated aesthetics are not to be expected mainly because they do not match the personality profile of people who take up this profession. Active camouflage measures are only taken for a short time; BfV officers, special units in particular, sometimes take a wig with them. However, there are always some officials in the MEK's undercover reconnaissance who go to great lengths to blend in with the scene and get a punk mohawk haircut for a long time. In general, however, the officials also have a private life and do not want to be stared at in their free time by their bourgeois neighbors, especially not when they hide their status as BfV officers under the cover story of a boring work life.

Above all, their clothing should be inconspicuous and easy to move around in: they wear comfortable average clothing, "casual wear". Jackets are usually worn to hide the radio and footwear is almost exclusively sporty. Since you change or swap shoes less quickly and willingly than, say, jackets, and because you have to expect to be out and about for hours, the shoes have to be comfortable. Tight patent leather shoes, cowboy boots or pumps are ruled out. Women almost always wear trousers and do not dress conspicuously "feminine" because that attracts looks, makes them more conspicuous and is impractical for longer pursuits. Men usually do not wear ties and suits unless the target is moving in the appropriate environment. Of course, bright colors or similar irregularities are avoided. Sunglasses and baseball caps, on the other hand, are seen often.

In special cases, especially in the case of surveillance of the left milieu, more value is placed on camouflage; shaving is avoided for three days, a stained old jacket is thrown on or the haircut is changed. But only a few from the surveillance team camouflage themselves so well, since

Note from the No Trace Project:

Although much of the Introduction and "Surveillance Basics" section is specific to the German context, we recommend reading both for the general concepts scattered throughout and as an example of a structural analysis. This analysis is relevant to other contexts where surveillance authorities might be organized in a similar way.

The "Countermeasures" section makes the claim that it is often impossible to detect surveillance, or only possible with the help of some friends who take counter-surveillance measures. We believe this is discouraging and simply not true: detecting surveillance is difficult but is a process that can be learned. Despite the limitations of this pessimism, and the correspondingly inadequate countermeasures presented, we believe that this publication is important for understanding how surveillance teams work.

Contents

harmless "normal" car that has a very similar license plate) so that any inquiries can be answered evasively: "There must be a mix-up". Incidentally, such a "plausible deniability" is an important principle when camouflaging, including when choosing camouflage names and properties, etc.

Each surveillance vehicle has a set of interchangeable license plates in the trunk. During a surveillance operation, the license plates are usually not changed—unless they fear that the target noted it, which rarely happens. When the target vehicle leaves the city and appears to be embarking on a longer journey, license plates of the surrounding State or other large cities are installed as soon as possible. Changing the license plate number during surveillance is done by hand in an inconspicuous place like a supermarket parking lot—automatic license plate changing devices are still only available for James Bond.

5.5. People

The work in surveillance units is exhausting and is less well paid than a post as a senior criminal investigator or analyst. For most, it is not the end stage of their careers, but only an intermediate step. This work is particularly attractive for police officers of the "middle service" who are striving for the "higher service". After a few years the officers often lose their motivation to sit around for hours in the car at uncomfortable times of the day or to drive back and forth for whole weekends without success. Only a few officers are older than 40 years, most of whom are managers. Only the intelligence services of the surveillance squads are frequently manned by veteran, experienced and correspondingly "leisurely"-looking officers. The typical people are between 25 and 35 from the police force, so they meet the necessary conditions in terms of average body size and athleticism. You will not see people with physical disabilities, noticeably short or overweight people. Their posture is generally controlled and upright, facial expression attentive, and the gaze often concentrated. The feeling of belonging to an elite squad, of knowing secrets and being able to exercise invisible power as a group leads to a mostly calm, relaxed and dominant body language. Nervousness and a hectic pace only prevail during the first missions.

labels with telephone numbers are avoided, since it is feared that someone will actually call the number.

The vehicles are equipped with a "silent alarm" and the alarm system is directly connected to the police.

5.4.1. Antennas

Antennas are not as clear a feature as they used to be, but they are still informative. Good radio still requires free-standing antennas. Even car models that can be found on the road without an antenna or only with very short stub antennas (GSM/GPS antennas for cellphones and navigation devices), such as Audi and BMW, are often equipped with longer antennas for surveillance use or upgraded with commercially available mobile magnetic base antennas.

TETRA radio is handled on the "70cm frequency band". The length of an antenna should ideally be a straight divisor of the wavelength (L, or "lambda"), which is why BOS vehicles have been equipped with 70cm antennas since 2009, an antenna length that is absolutely unusual in road traffic. These 70cm BOS antennas cannot only be seen on every patrol car, but also on numerous civilian vehicles. Since the responsible technicians have also noticed this, in the meantime, camouflaged civilian vehicles are gradually being retrofitted with more inconspicuous antennas.

Camouflage antennas for special units are usually L/2 (35 cm) or L/4 (17 cm) in length. 35 cm antennas can best be used as commercially available radio roof antenna camouflages, as has been customary for a long time, since the previous "2m frequency band" also allowed such antennas. Usual radio roof antennas are 45 cm long. In contrast, 17 cm antennas are more like cellphone antennas, and many modern vehicles no longer have any visible radio antennas, but only GSM/GPS stub antennas.

5.4.2. License plates

The official license plates are also important. They are almost always clean and well-kept. The license plates of special units are specifically selected for the purpose of "plausible deniability"—there is always a double (a

1. Preface

Surveillance and surveillance countermeasures: this text deals with options, risks and countermeasures. It is based on research, personal accounts and inside information, as well as a few publications on this subject. But sources are limited—neither journalists nor former members of surveillance units seem to have a particular interest in sharing information on the topic. In the media, it is mostly only the outcomes or the presence of surveillance that are mentioned, and only a few films or documentaries convey more than clichés and half-truths.

On the other hand, clandestine activities have always been captivating: spy movies and crime novels, political thrillers and police shows fill cinemas, bookstores and televisions. But how real are the depictions in "Tatort"[1] or by Bruce Willis in an action film? Is it really a single hero who uses luck, strength and technical miracles to hunt down gangsters, terrorists or corrupt politicians? Surveillance is neither the work of one or two detectives, nor wild manhunts ending in shoot-outs. In reality, there are large machines at work; teams and technical facilities where sole individuals do not play a major role.

In Berlin alone there are more than 300 bureaucrats on duty every day! Such a machine works day and night and is hardly controlled by political or "moral" authorities. Their work is often a banal, boring routine. It is not, however, without consequences. Hundreds of people, even thousands, get caught up in the machinery of State investigations and surveillance, and most of them never find out about it. Anyone who is "lucky" to have noticed their surveillance is often overwhelmed by the situation, makes mistakes or feels they are at the mercy of the surveillance authorities. For some, being surveilled even becomes a traumatic experience.

This text is intended to close information gaps. It is not a comprehensive overview of the security apparatus, but was compiled to specifically approach the topic of "surveillance". What is surveillance? Who is sur-

[1] *No Trace Project (N.T.P.) note:* A German crime show.

veilling whom, why, and how? How can a surveillance operation be detected and how can those being targeted respond if necessary? The more general aspects that will remain relevant over time have been brought to the foreground. Of course, there are also particular details that continuously change, or which would be changed immediately in response to their publication, which is why mentioning them in a public text makes no sense.

First of all: the surveillance conditions in large cities are completely different from those in small towns or rural areas. This text is based on the situation in Berlin, which is also the surveillance capital of Germany. In principle, the big city significantly expands the scope of surveillance through special units, which can act anonymously and with more technology at their disposal. In the countryside, "social control" and open spaces set narrower boundaries for both pursuer and pursued and require different methods.

This text covers many surveillance practices, but there are certainly new techniques, special practices, and special cases that are not covered.

Considering the possible extent of surveillance can lead to paranoia… However, this text clearly has the opposite intention: to stimulate further discussion about the surveillance of society. State apparatuses already have a monstrous scope, but their potential is far from exhausted. If the political situation changes, the implications could be catastrophic.

Michael Schmidt and Andrea Müller, May 2011

phones already have so much software in use that most of them can be hacked and reprogrammed remotely like a computer. The same applies here as applies to the use of bugs: the analysis of the resulting data is personnel-intensive, so in the near future this type of monitoring will only be used against important individual targets.

5.4. Vehicles

Surveillance vehicles can be any type, from small cars to minibuses. A couple of motorbikes and bicycles are also possible. Most special units also have one or more taxis.

The vehicles must meet the following criteria: inconspicuousness in everyday traffic, usability in as many different environments as possible, usability by many different drivers, service and maintenance friendly, i.e. no exotic brands. Overall, they often appear impersonal and are easily mistaken for company or rental cars. Conspicuous and unusual paintwork is avoided.

The vehicles are usually clean, well-maintained and without special personal characteristics. For example, there is rarely anything hanging from the rearview mirror. They have a lot of horsepower, almost always with an automatic transmission, and only in very exceptional cases do they have diesel engines. They almost never have extra equipment, i.e. no wide tires, spoilers, special rims, leather seats… They almost always have four doors and often they will have a sunroof. Normally they also have an auxiliary heater, the control of which is integrated into the on-board computer in modern cars and can no longer be recognized. Inside the car there are sometimes telltale objects, e.g. a hand fire extinguisher, sometimes even a red and white police-issued trowel peeping out from under the passenger seat, or an additional interior mirror like in a driving school.

Bumper stickers are applied very sparingly and more temporarily. In general, camouflaging additions are rarely used, as they are double-edged: what makes the car inconspicuous at first glance becomes a problem during a second encounter, as it is memorized as a special feature and thus may have drawn attention to the vehicle. In particular, forged company

RFID transponders that have small batteries can reach ranges of several hundred meters. This means that in principle mini-tracking devices can be built with which not only cars, but also bicycles and people can be tracked.

Apart from that, passive RFID transponders are being built into more and more objects for everyday use and allow their identification and localization. Future mass applications include access controls for buildings, e-tickets or road toll registration using an "E-plate", and more license plate-RFID readers installed in more places. In the medium term, it is primarily a technical question of to what extent this can be used for surveillance purposes: the reading devices would have to be networked and large analysis capacities created, the standards of identification and data transmission would have to be adapted, the legal and technical requirements for the transfer of data analogous to the Telecommunications Surveillance Ordinance would have to be created—then it would be possible to track RFID fully automatically. With the general spread of this technology, sooner or later every person could carry chips with them on some card that is government-registered somewhere and therefore traceable. It will certainly be many years before this becomes routine. But the technicians of the intelligence services are definitely already researching its practical implementation.

IP identification: more and more electronic devices have their own Internet Protocol address (smartphones, ebook readers, etc.), and more will be added in the future, for example on-board computers in vehicles also have an IP. If such devices make contact with the Internet via a wireless connection, the dial-in area can be located in a similar way to how cell phones are located.

The remote control of computers and telephones and the associated acoustic and visual room monitoring still requires a great deal of technical know-how. But the more people become used to having their devices in constant background use and lose track of the technology beside them while being distracted by the colorful screens, the more attractive such surveillance becomes.

Older simple cellphones still have to be physically manipulated in order to turn them into eavesdropping devices. The new generations of cell-

2. Introduction

The police force and the Office for the Protection of the Constitution (BfV) belong to the "Authorities and Organizations with Security Tasks" (BOS). So it makes sense to mention both authorities in the same breath when it comes to surveillance. The separation between the "police" and the "intelligence service" has always been blurred and is often the subject of political and legal disputes. This so-called "mandate" of separation, which has haunted the security policy debate in this country, is less prominent in other countries. In Germany it was enforced by the Allies after 1945 to prevent a new Gestapo and to that extent, it is a unique result of a specific historical situation. Civil rights and liberal norms were less effective arguments for the necessity of maintaining this separation.

In the eyes of State security politicians and executive officers, to have an authority that both works as an intelligence service and has executive powers is so sensible and effective that it should be restored as a norm in Germany in the medium term. The role model for this is the FBI[2], i.e. a police agency with intelligence resources rather than a regular secret service like the CIA[3]. Such a German FBI would also fit better into the post-Cold War global political landscape. Whereas up to 1989, comparably strong, highly armed State apparatuses faced off with each other, the "rogue States" of today are far weaker. Islamists or Kurdish guerrillas, let alone left-wing radical groups, have no safe haven or resources worth mentioning, and counter-espionage can only be carried out to a very limited extent. The western intelligence services and police are therefore much more confident, even arrogant, today than they were 20 years ago. These days they can reach and take out their opponents at will.

In addition, modern secret services tend to use fewer agents and less infiltration (in the technical jargon "HUMINT" for "human intelligence")

[2] *N.T.P. note:* Federal Bureau of Investigation, the domestic intelligence and security service of the United States.

[3] *N.T.P. note:* Central Intelligence Agency, a foreign intelligence service of the United States.

and more technical surveillance methods (in the technical jargon "SIGINT" for "signal intelligence"). Possibly because one of the most important criteria for success is the head-start in information acquisition and analysis, and technical means and surveillance operations often work faster than dead drops[4] and conspiratorial meetings with informants. The job description of the secret agent, which haunts the media as the term "spook" repeated ad nauseam, has changed—there are fewer morally and ideologically motivated well-rounded specialists and more employees with niche specialized knowledge getting paid overtime.

The ideology of defending the constitution of the Federal Republic of Germany is quite similar between the police and intelligence services.

Both are only supposed to be law enforcement agencies with politically neutral officials, but they need politically educated and motivated people to fulfill their analytical tasks. For information analysis, young people are sought at universities, but in the area of information procurement, especially in the surveillance units, most employees come from the ranks of the police. Police officers are generally loyal to the State and have security clearance, and possess at least a basic knowledge of law enforcement and investigative activities, which is why they are obvious candidates for the intel-gathering departments of the intelligence services. Some police officers work for a limited time in the intel department of the Federal Office for the Protection of the Constitution (federal intelligence, referred to as the BfV) and then switch back to the police force—a welcome guarantee that they remain professionally involved and do not start disclosing inside information. Therefore, the surveillance operators of the BfV differ only insubstantially from the surveillance operators of the State Criminal Police Office. The only stupid thing is that the intel officials often only have limited political horizons and do not really understand much of what they are surveilling.

When it comes to surveillance, the different authorities act in a very similar way, because the methods of surveilling suspicious people are logically not that different. The police and the BfV differ almost only in terms of the number of personnel and the material equipment that is deployed.

[4] *N.T.P. note:* A dead drop or dead letter box is a method of espionage tradecraft used to pass items or information between two individuals using a secret location.

via video is theoretically well advanced, but in practice it is still prone to errors. In practice, this will only play a marginal role for surveillance in the foreseeable future, because the personnel effort required to analyze this data in real time is quite high. Such surveillance techniques are more likely to become more important for retrospective investigations.

Above all, the inconspicuous camera "domes" are becoming more and more common in the cityscape.

Various models of **optical scanners for license plates** are already being tested by the police, for example, in connection with toll systems—these could be used in the future for automated detection and recording video footage of vehicles. These readers look similar to mobile radar speed cameras and can occasionally be seen at the edge of highways.

Two license plate scanners in test use.

RFID (Radio Frequency Identification) technology could have a great future in surveillance technology. Today, RFID chips are already being used in billions of units, especially in inventory management and access control, but in some countries also for road toll systems. The classic passive RFID transponders are tiny and do not have their own power supply —they only react to the external signal from a scanner. However, their range is usually only centimeters to a few meters. Active and semi-active

activists that cellphones at demonstrations would be monitored by police IMSI catchers belongs to the realm of paranoia[14].

The situation is similar with remote monitoring methods such as directional microphones and "Tempest". The technology is complex and prone to failure. It cannot be integrated into normal everyday surveillance because specialists have to be called in. In addition, detailed information about the target and their communication and movement behavior must be available and even bad weather can spoil all plans.

That is not to say that such techniques are irrelevant. Some specialty techniques will become routine in the next few years. This is mainly due to the fact that the transmission rates of digital data are increasing rapidly from year to year—so it is gradually becoming possible to transmit amounts of information by radio that seemed unimaginable a few years ago.

5.3.2. Future resources

Optical surveillance: Image and sound recordings consume a lot of storage space, and a corresponding amount of energy is used to send large amounts of data. In a few years this will no longer be an obstacle to placing cameras and listening systems in handy packages in target vehicles, similar to those used today. Nevertheless, this remains a technique for individual cases, because the analysis required is labor-intensive. Allegedly, intelligence services have been using mini cameras for years, for example to visually document the route of a target vehicle.

The optical monitoring of at least the area close to the apartment, e.g. the hallway, if not the apartment itself, is seen by the police as a desirable extension of their scope—pressure on legislation will grow in this direction in the coming years.

With the increase in **public video cameras** and the advancement of biometric software, it may become possible to track a person's movement through the streets of the city. The automated identification of people

[14] *N.T.P. note:* Unfortunately, this is no longer true. In at least one recent case in Europe, cops used IMSI-catchers to monitor hundreds of cell phones during a demonstration. They then requested hundreds of corresponding names from phone providers, to try to establish links between those individuals.

Conclusion: the separation of police and intelligence services is (still) a sensitive topic in Germany at the political-administrative and management levels, but in practical work the borders have been blurring for many years.

2.1. Surveillance

When people think of "surveillance" today, they tend to think of more of technical things, i.e. postal and telephone monitoring, bugs and cameras, GPS or cellphone tracking. The intelligence services are constantly developing new methods that give them an edge over opposing services, people under surveillance, and colleagues from other authorities. Most of it, however, will also be available to the police a few years later, at the latest. Isolated political stunts and lawsuits are effectively immaterial in this sense—think of the bizarre situation in which "online surveillance" was legally supposed to be available to the police, but not to the Office for the Protection of the Constitution.

Ultimately (from the authorities' perspective), there is often no way around in-person surveillance. What use is a tracking device on a car if you cannot see what the target is doing after they have parked the car? What use is telephone monitoring if the target does not speak on the phone but only at conspiratorial meetings?

Surveillance departments have long been a central component of the "operational forces" of police and intelligence services. They devour a lot of money and have considerable technical facilities. The civil servants employed by them are professionals and have been trained for this work. Some do nothing else, the surveillance of people is their everyday life, and the question of what the surveillance is actually about is secondary. They provide a lot of data—sometimes more than the authorities can analyze—but they can also become targets as, unlike the "technical means," they not only surveil, but can also be surveilled themselves. They communicate over the radio. They use vehicles that can attract attention, as can the operators themselves, which is called being "burned" in technical jargon. Their approach inevitably involves certain consistencies that the target can become aware of.

2.2. Squads and teams

A surveillance squad usually has between five and twenty members, although it is seldom possible to fill all the positions. Larger squads are difficult to coordinate and therefore rare. Several dozen surveillance teams work in Berlin every day, but not always at full capacity.

A brief explanation of terminology: in this text we use the term "squads" even though in everyday speech people use the phrase surveillance "teams." Strictly speaking, the "squad" refers to the most basic organizationally-defined unit, while "teams" are informally composed small groups within this unit. In surveillance practice, a "squad" is usually composed of several "teams".

The following information is only a snapshot, as the special departments in particular are constantly being restructured and regrouped.

Police surveillance is carried out either by the criminal police departments of the six local police departments or the FAO ("Search, Investigation, Observation") groups, the riot police, the specialist departments of the State Criminal Police (LKA) and the FAO groups located there, individual short-lived or even lengthy special commissions and "operational groups", the surveillance subdivision of the State Criminal Police (LKA 56) or, last but not least, the currently seven groups of the Mobile Operations Command (MEK) of the LKA division 6 (Operational Services), who process around 250 surveillance jobs a year.

The Berlin Office for the Protection of the Constitution (BfV) presumably has two active surveillance squads.

In addition, there are the Federal Police ("Mobile Search Unit", MFE), Customs Criminal Police Office, authorities in other federal States with guest appearances and finally the MEK of the Federal Criminal Police Office (BKA) and the surveillance department of the Federal Office for the Protection of the Constitution (BfV) with their surveillance squads. These two federal authorities are often active in Berlin with several teams at the same time.

Adding all this up, it is estimated that more than 300 officers from the "authorities and organizations with security tasks" are busy surveilling

pest[13]") or listening to and identifying cellphones using an IMSI-catcher or even disrupting GPS signals ("GPS jammer"). Such reports are usually grossly exaggerated to add sensation and newsworthiness. The corresponding techniques look relatively simple in theory, but in practice they are time-consuming, prone to failure and can only be effectively used by experts with a high level of technical and financial commitment.

Basically, it should be noted: every surveillance technology is used (or not) according to a cost-benefit calculation. With large effort, large results must be obtained, and a large effort means a large personnel expenditure. If they get a lot of easy-to-process data with limited resources, as is the case with GPS bearings, the technology quickly becomes a routine resource. If, on the other hand, they have to spend a lot of time analyzing data, the vast majority of which is worthless, e.g. with acoustic room monitoring of a suspicious target who does not talk much, they will likely forego it. This explains why many of the highly developed technologies that the media describe are of little importance in everyday surveillance.

5.3.1. IMSI-catcher & Co.

As for the legendary IMSI-catchers, this technology is very expensive and specialized. A modern IMSI-catcher costs several hundred thousand euros and it can only be operated by highly paid specialists. In 2011, for example, the Berlin LKA budgeted 500,000 euros for the purchase of such a device. In order to use such an expensive device, there must be important reasons. This essentially applies to targets who work with several (sometimes unknown) cellphones or who are at least expected to do so, mostly in the fields of "international terrorism" and "organized crime". The BfV reports 10–15 deployments to the parliamentary control commission each year, with an upward trend; even if an unreported field is taken into account and other possible users such as the BKA and State authorities are included, "only" a double-digit number of deployments per year can be assumed. At least at this point in time, the worry of left

[13] *N.T.P. note:* TEMPEST is a U.S. National Security Agency specification and a NATO certification referring to spying on information systems through leaking emanations, including reconstructing the image displayed on a computer screen from its unintentional signal radiation.

Tracking module attached to the underside of the vehicle in a cavity. It is wrapped in plastic to protect it from splashing water. In winter, packaging also increases the service life of the battery (protection against discharge through cold).

5.3. Things to come

The three technical means of telephone connection data, video cameras and GPS tracking are today's standard of good surveillance units.

Other techniques, such as directional microphones, bugs, and eavesdropping on computer screens, are the exception and can be found in individual cases in operations by intelligence services or industrial spies. In the media, special methods are repeatedly presented as very easy to implement, be it recording signal radiation from computer screens ("Tem-

people every day in Berlin. This intensity is also due to the fact that there is an above-average number of targets there: 5 percent of the German population lives in Berlin, but it accounts for 20 percent of all political "extremists" (only right-wing extremists are probably more strongly represented elsewhere), with "organized crime" and espionage also above average.

A professional surveillance team handles 30–40 different surveillance assignments every year. The number of people directly affected by surveillance each year is in the four-digit range in Berlin.

It should not be forgotten that surveillance activity has increased steadily over the past 40 years. The surveillance industry is booming.

Before the BKA was equipped to combat the RAF[5] in 1972, it did not have its own surveillance forces and had to borrow them from the BND (Federal Intelligence Service), which itself only had two surveillance teams. When the BfV observed RAF members Christian Klar and Adelheid Schulz during an extremely secret operation in Hamburg in 1978 and then lost sight of them, the on-site surveillance team was allegedly only eight people—a force that a local police surveillance unit could easily muster today.

The Berlin MEK was founded in 1969 as a small group of policemen who were eager to work towards de-escalating demonstrations, and had four surveillance squads in 1985. Fifteen years later there were seven, despite overall police downsizing.

Today's "surveillance density" has not always existed. On the contrary, even at the peak of the actual or supposed threat to the State at the end of the 1970s and the beginning of the 1980s, when a liberal public spoke of the "German autumn" and the "surveillance State", when protests were carried out against census and computer searches, the surveillance capacities of the security authorities were much lower than they are now.

[5] *N.T.P. note:* Red Army Faction, a West German far-left militant group founded in 1970.

2.3. Aim of this text

Our focus is on the surveillance methods of the true specialists, i.e. the teams from the BfV, BKA-MEK and LKA-MEK. They are all professionals, but have different material and financial resources. Federal authorities have more resources than State authorities and the BfV is less restricted by regulations and laws than the police.

Authorities below the LKA-MEK have a lower capacity for comprehensive surveillance. That sounds insignificant, but it is very important because if a surveillance operation is noticed, one of the most important questions is which authority is behind it and with how many resources available to them? From there it is possible to clarify questions such as the reason for the surveillance, its anticipated approach, possible consequences and sensible countermeasures. It is very important for those affected to be able to differentiate "worst case scenario" surveillance from less serious cases. By "less serious" we mean cases in which there are no consequences, such as imprisonment, for those directly or indirectly affected, where the intrusion into privacy remains limited, without long-term or intensive monitoring. Hypotheses and assessments play a central role in dealing with surveillance. The aim of this text is to help those affected deal with surveillance through discussing detailed questions and considering fundamental concepts.

Inevitably, reading this will teach you a lot about surveillance techniques. It can of course be assumed that the authorities are also reading along. This had to be accepted, especially because this audience already has training departments and more thorough internal textbooks than those available in stores. And, as the author of one of the few field reports aptly remarked from a surveillance operator's point of view: a tactic can be described as ideally executed if the other person, with full knowledge of the basic tactics, cannot escape its effect (quoted from "*Joachim Kalz, Target Human—What you wanted to know about mobile police units*", 1989).

Installation of a GPS transmitter next to the rear wheel arch, in this case the GPS receiving antenna (at the very bottom) separate from the rest of the module.

Inside view of a GPS tracking module. At the top left the GSM card for transferring data via cellular network.

A GPS transmitter is placed, the technician is secured by two officers.

3. Surveillance Basics

3.1. Terminology

The term "surveillance" is not as clear as it appears at first glance. From a legal point of view, "surveillance" encompasses much more than its common usage.

For the police, the Code of Criminal Procedure (StPO) and the General Security and Order Act (ASOG) form the legal basis for surveillance activities. Section 163f of the StPO permits "long-term surveillance" if the investigation is not possible or considerably more difficult by any other means. "Long-term surveillance" is usually accompanied by technical surveillance such as tapping phones, taking photos and filming outside apartments in accordance with Section 100 of the Code of Criminal Procedure. Measures under the Code of Criminal Procedure are not taken by the police at their own discretion, but are permitted to them for a certain period of time with permission from a judge. The police have two options. Either they need a general warrant, which are usually issued for three months and can be extended several times by the court, or they have a very specific time window in mind, e.g. a meeting between suspects, in which case a warrant is only requested for this date. Even if the actual surveillance only lasts two hours, it can be "long-term" in this sense. Usually, "long-term" means more than a day. The surveillance can also be resumed again and again with shorter or longer interruptions over a long period of time.

Surveillance, according to Section 100 of the Code of Criminal Procedure (§100 StPO), is usually implemented very quickly after the judicial decision. In particular, telecommunications surveillance (TCS), which includes telephone monitoring and all online activities such as email, internet, etc., can be set up without any difficulty. Most commercial providers only need a fax or, in the case of "imminent danger", a call from the investigating authority to fulfill their legal obligation to activate surveillance. Other areas of §100 StPO are tied to surveillance activities or the

deployment of personnel on site, i.e. above all the use of video cameras, eavesdropping devices and GPS tracking devices and, in practice, mostly in connection with Section 163 measures.

In the case of a general warrant for three months of "long-term surveillance," it is by no means stated which measures will actually be carried out. This depends on various factors: when it appears appropriate to the investigating authorities, when resources are available, and when the necessary preparations have been completed. Sometimes surveillance is granted a permit but not carried out at all. The target would then be subject to "long-term surveillance" on paper, but would never actually be surveilled. In particular, the far greater numbers of personnel needed to commission a surveillance team has a limiting effect here—while TCS can be processed and analyzed by the investigating department itself.

The intelligence services work on different legal bases, but in principle function similarly. Active measures (beyond TCS) are regulated, for example, by the constitutional protection laws of the federal and State governments as well as in the G10 Act, which repeals the provisions of Article 10 of the Basic Law for postal and telecommunications privacy. Most of the measures for which the police need a judicial decision can be carried out by the Office for the Protection of the Constitution at their own discretion or with the consent of the respective interior ministry; authorization from a judge is needed for audio and visual monitoring only within "key private areas" i.e. an apartment. One problem for the Protection of the Constitution is the parliamentary control bodies such as the G10 commission of the Bundestag (German federal parliament) and the constitution protection committees in the federal States—not because they actually control much (they have too little insight) but because it is feared that despite the obligation to maintain secrecy, details of surveillance measures leak out.

In practice, the limitations of the intelligence services in surveillance are their own personnel, technical and financial resources.

As mentioned in the introduction, police and intelligence operations are similar. However, the Office for the Protection of the Constitution requires less bureaucratic preparatory work and has slightly better resources. Above all, they have somewhat larger teams and more quickly

the frame, which is not very promising due to the shielding effect of the metal. Alternatives could be a permanently installed lighting system such as the dynamo (electrical generator for bicycles employed to power a bicycle's lights) and plastic parts with cavities such as reflectors and lighting. For a target, however, it is very possible to quickly examine a bicycle for foreign objects.

Left: GPS transmitter from the LKA Schleswig-Holstein (2007), GPS antenna and battery set separately.

Right: GPS transmitter from the BKA (2007), GPS antenna separately.

Four classic or commercially available GPS tracking modules from the years 2007–2009.

Top left: self-made with external GPS antenna; top right: Gmyrek; bottom left: Fugon; bottom right: Rettenegger.

mitter modules fit into a matchbox, so they also fit comfortably in the exterior mirrors of modern vehicles.

Permanently installed devices

In order to set up a combined device for voice recording and location tracking, with which not only the vehicle can be localized, but conversations in the interior can also be monitored, secure access to the target vehicle is necessary, if possible in an autoshop. Most of the time, the vehicle has to be "hijacked" for a few hours, which both requires considerable effort and risks discovery—and the same problem arises when the technology is recovered. The authorities can certainly come up with something to gain inconspicuous access to the vehicle. In the investigation against alleged members of the "Militante Gruppen" (mg), for example, the BKA went so far as to sabotage a parking gate so that the target vehicle could not be parked in a theft-proof way, and placed a similar vehicle into the parking space during the "kidnapping".

The installed device is by far harder to detect than the other trackers we discussed, even with precise searches. Modern cars have many cavities and difficult to identify components, and the electronics are so complex that it is almost impossible even with professional measuring devices to identify unwanted foreign electricity consumers. The positioning of the microphone(s) is problematic, since the interior of the vehicle is severely impaired by background noise. In practice, only pieces of the conversations in the vehicle can be reliably understood.

Simple GPS tracking via tracking modules are now used routinely by all special forces.

For the sake of completeness, it should be noted that there are also tracking devices of comparable size on the market based on cellphone connection data (see the "triangulation method" described above), for example, for monitoring vehicle fleets of trucking companies. As far as we know, however, these transmitters play no role in the surveillance process.

The devices described can be installed in all motor vehicles, and tracking modules in principle can also be placed in motorcycles, although this is a little more complex because there are only a few possible hiding spots. It is very difficult with bicycles because they can only be concealed in

available technical means and data such as the locations of cellphones or the data of targets registered with any authorities. In terms of professionalism, there has been no significant difference between the MEK police and the surveillance teams of the "operational" department at the Office for the Protection of the Constitution for years.

3.2. Other forms of surveillance

There are forms of surveillance that will feature less prominently in this text.

First, "open/blatant surveillance". It is used extremely rarely, at least much less often than is suspected in the circles of those who are potentially affected, and is almost never carried out by special units. Open surveillance is different from the personal "intimidation approach" at the beginning of demonstrations performed by State security or PMS ("politically motivated street violence" special unit at the Berlin LKA). Rather, it is carried out by several operators in order to put a target under pressure, and to instigate actions that give the operators information. For this, the operators have to reveal themselves, something that no member of a surveillance unit likes to do. In addition, the result is rather uncertain. Therefore, such "surveillance" is the absolute exception and should usually only be suspected if there's already proof of prior surveillance.

Secondly, preventive surveillance that is not directed against a specific target. During every major police operation, civil reconnaissance forces observe the environment and potential dangers of a demonstration or football game, etc., whereby individual "officially known" persons are also observed and sometimes followed for longer. Various departments cooperate here and communicate with special control centers, whose findings flow together through the management team. During large-scale operations such as May 1st in Berlin, more than 100 undercover vehicles from police departments to the riot police to the MEK can be used for surveillance. There is also preventive surveillance at police-defined "no-go-zones" where civil patrols look for indications of criminal activity such as drug trafficking. They use the General Security and Order Act (ASOG) as their legal framework and do not require a permit from a judge.

3.2.1. Non-openly investigating officers (NoeB)

This section concludes by exploring a certain grey area where police and intelligence actions meet. Special police units such as the LKA 64 (see below) have been placing comparatively high demands on the qualifications of their officers since the late 1980s: they should be familiar with the milieu of their target groups in order to be able to act inconspicuously if necessary and to quickly assess situations. As a practical exercise, this requires, for example, the occasional evening visit to trendy bars. The gap between such tactically camouflaged investigators and real "undercover investigators" (men and women with a false identity) appears here. "Non-openly investigating officers" (NoeB), occasionally also "non-openly investigating police officers" (NoeP), penetrate the milieu using the rudiments of a cover story, without consistently carrying this story forward. Such a procedure protects against exposure by suspicious opponents and at the same time circumvents the strict legal requirements for the use of an undercover. In 1994, two such NoeB of the MEK were exposed in the Berlin left milieu, who had covered each other and had repeatedly brought colleagues with them as "friends" to smuggle them into the milieu, all of whom had to be withdrawn after the exposure to be on the safe side. After that, the Berlin MEK became a little more cautious with such operations and increasingly relied on more offensive reconnaissance concepts such as the PMS, but this does not mean that there are no more NoeB.

With each of these police procedures, findings arise, including incidental ones, which are recorded in notes for the general picture of the situation. The political departments of the LKA and BKA keep internal files in which they update developments and findings on persons and groups who are not (yet) targets of an investigation. These "findings" can condense into thesis papers or even public prosecutor's "structural proceedings". For example, at the BKA, files have been kept for many years on the structure and alleged members of the left-wing underground magazine "radikal" without an official investigation.

In addition to the clearly-defined legal forms of surveillance described above, there is a diffuse area in which surveillance knowledge of all kinds is used by the police, but without qualified analysis apparatus such as

GPS (Global Positioning System) requires a little more technology and larger transmitter units, but this is offset by their ease of use.

For example, a highly sensitive GPS antenna, a GPS module for data transfer, a GSM transmission unit, a technically adapted cell phone module, and a power source are required for GPS tracking. There are essentially two forms of application: the handy tracking module, also known as the "Quick-Pack", which can be attached to the target vehicle from the outside within seconds, and the "combined device for voice recording and tracking," which must be laboriously installed inside the target vehicle.

"Quick-Pack"

Depending on the size of the batteries, a tracking module is about the size of a thick paperback and is attached with strong magnets somewhere on the underside of the vehicle where it is not noticeable, is somewhat protected while driving, but is also quickly accessible and does not trigger an alarm system. Depending on the car model, the places that are best suited for this are the lower body frame around the wheels, the bumpers, and the empty spaces around the mudguard or the fuel tank. The engine compartment is looked into for maintenance too often to be suitable, and the area near the tailpipe is not an option either because of the heat. In principle, the metal of the body has a shielding effect, but it is so slight that it has to be accepted as long as the metal does not completely enclose the device. The tracker usually has high-capacity batteries that last for months and a vibration sensor that activates it as soon as the engine is started or the vehicle is moving. The tracker then continuously locates the movement, and the transmitter unit sends this data to the control center. This means that the movement of the TV can be tracked down to the meter from the office 24 hours a day. Most devices also store the data locally, so that even if the transmitter module fails, the data can be read later after the physical retrieval of the tracker.

Another possibility is to use external power sources on the vehicle, e.g. electrically adjustable exterior mirrors. This manipulation is less inconspicuous than placing it on the underside of the vehicle and takes a little longer, but removes the need for large batteries. The receiver and trans-

even more important to ensure that, especially in the evening/at night, the windows are protected from outside by curtains or that there is no room light. A monitor in a dark room can also be recognized by its bluish reflection on walls or ceilings. Due to the high expenditure of personnel and costs involved, State authorities only use conspiratorial apartments in particularly important cases, while the well-equipped federal authorities such as the BfV often set up vehicles over longer periods of time, from which video surveillance is carried out for months or even years. A cheaper variant of the CA is the temporary use of commercial space that is provided by companies or owners, and the use of favorably located real estate in State or federal ownership, such as fire stations, police stations, and administrative buildings.

To monitor a rear exit, a small webcam can also be installed inconspicuously somewhere, the quality of the images being irrelevant. But that is the exception.

The camera recordings can be uploaded directly to the vehicles of the surveillance team.

In the case of surveillance in "terrorism" cases and/or the simultaneous use of eavesdropping equipment, video surveillance of the concerned house entrance can be assumed on principle.

5.2.3. Tracking devices

Due to technological progress, the monitoring of cars with tracking devices has become routine. The classic radio tracker has now largely been replaced by the GPS tracker.

With conventional radio tracking, a small transmitter is attached to the target vehicle. The range of its signals is small, only approximately 2 km in the city, and in order to use them the surveillance vehicles must have the appropriate technology on board: two receiving antennas. The strength of the signals indicates the distance of the TV and their compass direction. In spite of the tracking device, the pursuing vehicles must be relatively close to the TV and will often waste time searching.

an intelligence service. The collected findings are therefore not processed systematically, but remain in a department or in the memory of veteran officials for possible later use. If another department takes on a similar case, they may conduct the same investigation again. You could say that the police know more than what is legally authorized—but they themselves do not know exactly how much they know.

3.3. The various authorities

3.3.1. Police

The police are divided into the preventive police and the criminal police. Departments of the preventive police are only rarely involved in surveillance, and if so, mostly within the framework of the ASOG, e.g. as undercover scouts for the riot police during demonstrations. Individual members of the preventive police are, however, active in special units that formally belonged to the criminal police, such as the PMS. Surveillance is, however, typically carried out by the criminal police. This is divided into local sections and the State Criminal Police Office, which has investigative departments for certain offenses as well as special units.

At the lower end of the surveillance scale are the criminal police of the local police headquarters and smaller FAO units from various departments, including the riot police. Often only two or three vehicles are available to them, with which some officers carry out surveillance that cannot meet textbook requirements due to insufficient resources. The representations of surveillance in the media almost never go beyond this lowest level. Occasionally such forces work together in larger cases.

At the LKA there is more funding available for wanted persons or for independent LKA investigations such as narcotics and organized crime. In such cases 4–5 vehicles with 6–8 operators are normal. Five cars may not sound like a lot, but they are a difficult number to manage on the road! The same applies to the surveillance unit of the LKA 56 (State security), which is more likely to face the problem of its targets expecting police surveillance than other departments, thus requiring greater effort. LKA

56 has a total of around 40 vehicles and can easily deploy eight vehicles for larger surveillance operations.

3.3.2. Mobile Operations Command (MEK)

The upper end of the police scale is made up of the large special units, which in Berlin are grouped under LKA 6 "Operative Services": Mobile Operations Command (MEK), LKA 62, Special Operations Command (SEK) and Sniper Squad (PSK-LKA 63) as well as the LKA 64 combined reconnaissance groups (PMS and "Covert reconnaissance"). LKA 64 performs the tasks of "preventive surveillance" described above in the division of labor: PMS operates more or less openly and at the edge of the action, even if mostly in civilian clothes; whereas their colleagues from "Covert reconnaissance" operate well-camouflaged from inside demonstrations and from older, more inconspicuous vehicles. LKA 64 does not play a major role for surveillance in the narrower sense, but in the case of surveillance with a political element, competent officials from this department are occasionally involved. The SEK/PSK is only involved in "long-term surveillance" in exceptional cases, especially for the purpose of arrests.

In the area of surveillance, the "Covert reconnaissance" groups form the core of the MEK. There are currently seven "Mobile Task Forces" of the MEK with around 15 officers each, totalling around 100, who have a fleet of more than 80 vehicles at their disposal, plus a group for technical support and surveillance training.

Surveillance by the MEK generally has a force of approximately 6 and a maximum of 12 vehicles.

It should also be noted with regard to the LKA that there are regroupings every couple of years, especially in the area of special units, meaning the information given here may need to be checked to ensure that it is up to date. The Berlin MEK was originally founded in 1969 as an "intelligent" police department, whose officers should be able to debate with protesting students, similar to what is used today to try to pacify May Day demonstrations. But as early as 1971, the qualified officers were used

MEK officers working in a conspiratorial apartment.

Cars with hidden/camouflaged cameras in an otherwise open interior are less conspicuous, but have the disadvantage that the camera has to be realigned to the target after each time the vehicle moves. Such cars are therefore used for recording the comings and goings at a fixed destination over a long period of time. The issue of storage capacities and battery power arises here, especially in the cold of winter, which is why such vehicles have to be regularly serviced. Usually, a stationary camera is positioned as close as possible to the target property in order to avoid any obstructions to the line of sight. Only when there is no alternative is a camera vehicle parked on the other side of the street, because traffic flows significantly obstruct the desired viewpoint and nobody is present to bridge gaps in surveillance.

If it seems worthwhile and/or no vehicle can be placed, a stationary camera is set up, usually in an apartment diagonally opposite the target property—a "conspiratorial apartment" (CA). Since empty apartments are not available on demand, it can take some time before a CA is available. If time is of the essence, contact is made with police-friendly tenants, who, as already mentioned, are gladly told that it is for the surveillance of drug traffickers, because this has the most widespread social acceptance. If possible, the CA should be on an upper floor, as the view is better here and the target does not look at it as regularly, but also not too high because of the obstructions from trees, awnings, signs, etc. For example, the camera can be camouflaged by plants, curtains or blinds, but it is almost

Official inside a camouflaged van (elevated position). The large window on the right is mirrored or heavily darkened.

Small trucks/vans are mostly used for camouflage. These have tinted or curtained side windows, especially when they are occupied by people. Such vehicles have the advantage of being very flexible: they can quickly change location in the course of the surveillance. The essential feature of almost all of these vehicles is that their interior cannot be seen even from close up, but they are not completely windowless. Either the panes are heavily tinted, often with additional curtains behind them which cannot be seen due to the tint. For the tinted effect, it is not the light that falls on the window from the front that is decisive, but the complete sealing of the interior against background lighting—the strength of a window tint is therefore best recognized by a bright light source behind the vehicle. Or the panes are covered by curtains or the like, which have a small gap, or "two-way mirrors" are used—surfaces mirrored on one side, which are usually not located directly on the pane so they are less noticeable. Small window hatches between the cargo area and the driver's compartment of a van are particularly suitable for this. The disadvantage of tinted windows is the loss of light, which is why cameras in such vehicles can only be used during the day in good lighting conditions and are usually removed when dusk falls.

Camouflaged cameras in vehicles and homes

for State security surveillance. Since then, this unit has grown with each regrouping.

In Berlin there are a total of around 2,300 police vehicles, of which around 200 are "camouflaged" surveillance vehicles with changing license plates and around 550 other "neutral" vehicles for civil patrols. The latter are usually only involved in smaller local surveillance.

3.3.3. Protection of the constitution (BfV) and federal authorities

The Federal Criminal Police Office (BKA) has its own MEK, which can be compared to the LKA-MEK in terms of size and equipment and is located, along with several task forces, in the "Central Services" department (ZD 35) in Meckenheim near Bonn. Up to 15 vehicles are used for surveillance.

The Federal Police with its "Mobile Investigation Unit" (MFE) and the Customs Investigation Office have their own operational departments with limited capacities, which carry out surveillance in their areas of responsibility and support other criminal police.

For the police as a whole, it is customary to man surveillance vehicles with two officers.

Overall, the Federal Office for the Protection of the Constitution (BfV) is a much smaller apparatus than the police, although its surveillance departments as a sub-group of the "operational" area are relatively large in relation to the entire authority. The Berlin State Office for the Protection of the Constitution has a staff of around 180 civil servants, of which around 50 can be assigned to the operational area. During surveillance, 10 to a maximum of 20 vehicles can be expected.

The BfV, headquartered in Cologne, has several surveillance teams of 15–20 operators each. Here too, 10 to a maximum of 20 vehicles are used for surveillance. Contrary to the publicly maintained image of a "desk authority" that primarily analyzes sources and information from the State offices, the BfV is highly active in surveillance operations, even if the

"analysis" department is significantly larger in relation to the "operational" department than at the State offices.

Surveillance vehicles for the BfV are usually manned by only one person.

Surveillance squads of the Protection of the Constitution are recruited predominantly from the middle service ("masters") of the police, especially from the riot police and the federal police. The salary level of the surveillance officers is in the border area between middle service and upper service, grades A7–A10, which makes the job financially unattractive for highly qualified officers despite the security clearance and training, not to mention the irregular working hours. Incidentally, in 2010 a court decision in Rhineland-Palatinate established that an officer for the BfV is entitled to a lower hazard allowance than an MEK police officer, since he does not have to make arrests.

Well-equipped special units, i.e. essentially those of the federal authorities and MEKs, try to achieve a ratio of around 1:1 between surveillance personnel and number of vehicles.

3.4. Differences between intelligence and police surveillance

Differences between intelligence and police surveillance are less noticeable in their processes than in their consequences. Intelligence service surveillance usually operates with more staff, with much more video surveillance from rented locations or camouflaged vehicles, and accompanying telecommunications surveillance (TCS) operations.

The main differences lie in the interests behind the investigations and the political and criminal dimensions of the cases that are being dealt with. Therefore, BKA surveillance often contains aspects of both types of authorities, since the BKA is both a police force and a political authority.

3.4.1. Police surveillance

The investigative interest of an authority is influenced by various factors: in addition to the immediate interests of the department responsible

ministrative effort would be too great, but above all because the effort to analyze such data is out of proportion to the benefit. The police will not monitor hundreds or thousands of cell phones during a large-scale demonstration in order to discover the plans of the "troublemakers" because this would not be possible in terms of personnel, and the tactical planning and management of surveillance operations is determined by active measures such as their own reconnaissance and on-site movement. On the other hand, it cannot be ruled out that individual cell phones that are considered relevant are monitored in this way.

5.2.2. Cameras

Cameras are essentially used for surveillance in two ways: for photographing or filming the target and their contact persons during active surveillance and for inconspicuous monitoring of house entrances or other important properties.

During the surveillance, several team vehicles always have cameras with them. Everything that the market has to offer is used, especially DSLR[12] cameras with powerful telephoto lenses and small digital cameras. These digital cameras usually have an image resolution that is too low to take effective portraits, but they can be used to record actions and movements and create mnemonic aids: which house did the person come from, which one did they enter? Entrance panels and mailbox labels can also be digitally documented quickly instead of standing suspiciously in front of them with a notepad.

When monitoring entrances etc. strong telephoto lenses are often used in order to reliably identify people. Such cameras have to be well camouflaged—despite all the miniaturization, a good telephoto lens is still relatively large and noticeable today.

"Cans"

[12] *N.T.P. note:* Digital single-lens reflex cameras, a type of digital cameras.

longer be reached at the same time, the conclusion can be drawn that a conspiratorial meeting is taking place.

Monitoring of content

The qualitative tapping of phones, on the other hand, takes some work. The calls have to be listened to, often translated, and analyzed, which is very personnel-intensive. A real-time application of eavesdropping knowledge, i.e. its immediate forwarding to the active surveillance team, does not occur very often. For this, the case must already be very important—politically sensitive, or putting human lives in danger.

Incidentally, this also applies to the use of listening devices inside properties, whether apartments or vehicles. According to a study by the Federal Criminal Police Office in 2008, more than 30 police wiretapping measures were carried out in apartments in Germany in 2003, and after the restrictive ruling by the Federal Constitutional Court at the beginning of 2003 fewer than 10 police interception measures were carried out annually, around half of them in §129/129a proceedings. According to the study, "the personnel capacities for acoustic surveillance of living spaces are often only sufficient in the field of State security".

"IMSI catchers" are a technology which can be used at close range to identify and eavesdrop on cellphones that operators were not previously aware of. This technology is very expensive and complex to use, which is why it is normally only used in very high-profile cases or in cases in which the data is really needed urgently, e.g. in blackmail/kidnapping cases[11]. In order to record the cellphones in a certain area, for example as an aid to the identification of participants in a meeting, it is much easier and cheaper to request the corresponding connection data from the mobile network provider soon afterward. Both this and the other procedures require a court order.

This applies to all TCS measures that are carried out in the case of specific investigations, but not preventively and/or on a large scale as defined by the General Security and Order Act (ASOG). Both because the ad-

[11] *N.T.P. note:* More contemporary sources indicate the use of this technology is more widespread today.

for the investigation, there are macro-structural influences within the authority as well as the influence of judicial authorities and interior ministries. The "political level" is probably anathema to most officials, but it cannot simply be ignored in investigations under the "terrorism" umbrella or investigations with international implications, e.g. organized crime, espionage, drug smuggling. Political interests do not aim to push police investigations to turn a blind eye to criminal offenses, but rather to justify conducting investigations despite insufficient evidence. Such investigations are "pushed" by the interior ministries or the BfV, often mediated by the general public prosecutor's office. The overriding motivation behind such investigations, i.e. publicly effective "executive measures", the intimidation or paralysis of a milieu, or the acquisition of information for completely different purposes such as to benefit the BfV but not the police, must then be linked to the police approach, which does not always go smoothly. The police can have a hard time exerting direct influence over such investigations, since the public prosecutor's office is involved. In addition, the "principle of legality" forces them to observe certain rules, such as largely obeying the law during investigations and intervening if it becomes apparent during the course of surveillance that serious crimes are being committed. On the other hand, the police are also quite ready to operate on the edge of legality. The phrase "for tactical reasons" is used to cover up all kinds of misleading and lies. "For tactical reasons", it is common practice when conducting political surveillance to give the impression that the person being investigated is a drug dealer when renting a surveillance post to make landlords more willing to cooperate.

Ultimately, the basic aim of police surveillance is the conviction of offenders and the conviction of the target by a court. If this seems improbable from the outset, tensions can arise between the authorities involved, which can negatively impact the motivation of the surveillance operators.

3.4.2. Intelligence service surveillance

Intelligence service surveillance has other investigative motivations, most of which are aimed at exposing the nature of structures and relationships. They are often based on earlier surveillance of certain people and result in later surveillance of other people, creating a network of information

that has to be continuously analyzed and updated. Some targets are observed over and over again for a period of time. While the police are under strong pressure to succeed due to the expectations of the prosecution and courts as well as the constant presence of crime in the media, the success of intelligence operations is less precisely defined, and lots of surveillance has no measurable result at all. Some surveillance is only used to prepare for approaching a potential informant, comparable to the initial police surveillance for creating a movement profile of the target. This is followed by a BfV officer contacting the target—to recruit them as an informant or to provoke a reaction which provides the BfV with new knowledge, or as a tactic to plant information in a milieu, to make something public or to exert political influence.

As already mentioned, the BfV is relatively close to the police: its officers maintain the perspective of the police officers they once were and often do not possess the political horizons to judge their counterparts beyond the scope of criminal law. The ideology of the BfV is more that of a secret police than that of an intelligence service, because its hostile counterparts —public enemies, etc.—are considered to be more in the categories of regulatory and criminal law than in those of political conflict. Since the State and its officials are supposedly neutral, this is not seen as a problem.

While the police is moving closer to the intelligence service through technical and personnel upgrades of their special units, the intelligence service is moving closer to the police in their self-image.

As described in the introduction, with the end of the political East-West conflict, the work of the intelligence services has become internationally "police-ified". This development in Germany also includes the disappearance of the left-wing armed groups, whose high level of organization had forced all authorities involved to engage in very high level surveillance and occasionally to put intelligence logic before police logic. Currently, only individual organized cells of "left-wing extremism" are viewed by the police and intelligence services as opponents "on an equal footing" because of their motivation and sometimes high intellectual competence, along with well-organized crime due to their large financial and material resources.

A few complex steps are still required to locate a cellphone to the exact meter, but this is usually not necessary—the registration of the phone in a certain cell tower already limits its possible location to such an extent that the surveillance squad has a good chance of finding the target or their phone with its prior knowledge of the target and their movements based on the connection data. For more precise location, the "triangulation method" can be used, in which the location of a cell phone can be determined to within a few meters by comparing the connection data of several neighboring cell towers. Many modern smartphones, iPhones and other devices with navigation and internet functions are already preset accordingly. If the signal from the GPS satellites is too weak for an exact location to be determined, e.g. in bad weather or in buildings, the triangulation method is automatically used. In order to locate a cellphone from the outside in this way, direct cooperation with the cellphone provider is required—the surveillance personnel cannot just call it up.

Not all connection data will be saved. When the cellphone is turned on and off, when changing from one coverage area to another, in the event of fluctuations in signal strength or during the regular automatic "Periodic Location Update" (PLU), the cellphone contacts the base station without this data being stored as connection data in the real-time monitoring of the device. However, it can in principle be localized in this way.

Connection data in the true sense of the word, which is stored centrally, is created during sending and receiving activity. This allows the cellphone to be located using "silent SMS" (in technical jargon: "pings"). Such an SMS from surveillance forces is not displayed on the cellphone, but generates connection data. Occasionally, "pings" are sent to a target phone at regular intervals, not only to locate it, but also to determine whether it is turned on—especially for targets who are believed to have intentionally turned off their cellphone as part of conspiratorial behavior. One can confidently assume that intelligence services in particular have been routinely and automatically using this method for a long time against numerous suspects, especially "terror suspects", to create movement profiles, for example in the form of hourly "ping" requests around the clock or at least from early in the morning until late in the evening. If several target phones can no

TETRA devices currently in use: hand-held device permanently installed in the car; MRI (base unit) from Motorola; HRT (hand-held) from Sepura.

5.2. Technical means

5.2.1. Telecommunications surveillance (TCS)

Strictly speaking, telecommunications surveillance measures, which include e-mail and the Internet, are usually part of contemporary surveillance. However, telephone calls are a particularly important part of surveillance practice. A distinction must be made between several areas of TCS: the collection of connection data, the location of cellphones, and the qualitative interception of conversation content.

Connection data

Connection data is constantly recorded by the telecom companies, stored for a certain period of time and passed on to authorities upon request, which companies are legally obliged to do, even if the duration of the storage is still controversial—the keyword here is "data retention". The legal threshold for obtaining this data is lower than the threshold for recording conversations, which is why connection data is routinely queried by surveillance personnel. This happens at the head office, where the responsible clerk then informs the management of the surveillance team whether the target's phone is currently being used, who is on the phone with whom, and, in the case of cellphones, whether it is turned on and connected. This data is therefore available to surveillance teams regularly and very promptly.

3.4.3. Themes of surveillance

Police surveillance is not necessarily aimed at catching offenders in the act. It is often used to investigate criminal offenses, for example to collect information about suspects or to be able to arrest them in a "reliable manner."

Most surveillance activities are aimed at drug-related crime and property crimes, with a clear majority of the targets being non-German.

Political surveillance with the goal of criminal prosecution is almost always carried out as a result of investigations into Section 129/a/b of the German penal code (StGB) or related crimes, unless it is preventive surveillance, for example, because of publicly announced "days of action" by the left milieu that involve nightly arson attacks. There are three main focuses: Islamist groups, left-wing Turkish/Kurdish groups and German left-wing radicals. In Berlin, this surveillance is generally the responsibility of the LKA 56 or the MEK, and the more the Federal Public Prosecutor's Office is involved, the more often the BKA-MEK is also involved. In recent years there have been numerous collaborations between authorities. For example, the two major political proceedings from 2005 to 2007, the "militant campaign against the G8 summit" and the "militant group (mg)", were so staff-intensive that various authorities had to step in to provide support, from the federal to the local Berlin Offices for the Protection of the Constitution to the Saxony LKA.

Those who want to know who the BfV is surveilling can more or less find out in the annual Constitution Protection report, which outlines the subject areas where the federal and State offices predominantly find their targets: Islamist groups, left-wing Turkish/Kurdish groups and German left-wing radicals. Of course, not all of the groups, currents and people mentioned can be monitored, and by no means are all of them surveilled. Right-wing extremist groups are more closely monitored by informants and TCS than by surveillance, which apart from a certain bias on the part of the authorities can also be explained by the fact that right-wing extremists usually have a low level of self-protection and so can be surveilled with relatively simple means.

For about ten years, the most important field of activity of the surveillance squads of the BfV has been Islamism. Islamists are an uncomfortable counterpart for German authorities, less because of their dangerousness or a high degree of organization (internally, most of them are considered to be amateurs) but more because of the confusion about this milieu and the cultural and linguistic barriers between officers and targets. In fact, the Islamists are not a great danger, their milieu is very closely monitored, and many personnel structures are known to the BfV and can be considered under control—if it were not for the great uncertainty about whether someone will suddenly go out and blow themselves up. The political sensitivity of this constellation forces the BfV as well as the State offices to invest a lot of time in their surveillance.

While the federal and local Berlin Offices for the Protection of the Constitution work closely together in the area of Islamism, there is a division of tasks in the area of left-wing extremism in Berlin. Larger cases from the field of terrorism, which include conspiratorial "autonomous groups", are processed by the BfV, while the State authority is more concerned with the local milieu and Turkish/Kurdish groups. Surveillance with the aim of recruiting informants or "tactical approaches" (for example, by manipulating the individual they contact by sharing specific information that they want to be spread) are carried out independently by the Federal and the Berlin Offices for the Protection of the Constitution.

streets, it is almost impossible to speak in coded form—the colleagues simply cannot keep up. Instead, a typical jargon emerges within the units that avoids certain key words without strictly following the textbook.

Radio discipline is rather lax within special units. The official nickname of the unit is usually omitted because there is no need for it to address itself. The correct address is actually the two- or three-digit numbers that identify the vehicle (police) or the person (BfV), but instead, often the first name is used, and they sometimes chat about trivial matters when nothing is going on. Quite a few operators also know each other privately and will chitchat. This is likely to increase with the introduction of TETRA and lead to excessive conversations during the quiet phases of the surveillance.

5.1.3. Science-fiction?

Another aspect of TETRA is that the common handheld radios from the manufacturers Motorola and Sepura look similar to cellphones (see photos) and can hardly be distinguished from professional radios. It is conceivable that devices disguised as cellphones will be developed. This could make it much easier to use in some areas, such as in foot pursuits. The reports of undercover agents in demonstrations, which had previously been sent to the control center by cellphone and forwarded from there to the rest of the squads with a time delay, in the future could possibly be fed into the radio circuit from the beginning. Telephoning with what appears to be a cellphone arouses much less suspicion than murmuring into the lapel of your jacket[10].

[10] *N.T.P. note:* Officers with good discipline would not talk into their jacket. Wireless microphones are very sensitive. Bluetooth headphones or smartphones are now so prevalent that it makes more sense for operators on foot to use these so they do not get spotted talking to themselves. Smartphones also provide a way for taking quick photos that seem casual.

tion system for German BOS radio that guarantees "end-to-end encryption" (all transmitted data is encrypted). This encryption is based on a built-in chip. Since every radio device has an ID number, every device that has been reported as lost can be blocked immediately, creating additional security against unwanted eavesdroppers.

BOS-TETRA radio is handled in the 380–395 MHz range ("70 cm frequency band"). There is a lower and upper band, as in the earlier analog duplex radio, in which mobile subscribers transmit on the lower channel ("Up-Link") and are received on the upper channel ("Down-Link"). The channel spacing is between "Up-Link" from 380 MHz and "Down-Link" from 390 MHz is 10 MHz. The channel spacing is 25 kHz. The transmission rate is relatively high due to the high frequency, but too low for the transmission of images. This problem is still being worked on.

5.1.2. Radio practice

The "radio discipline" that was taught to all operators during training is important in large radio circuits with many participants, regardless of whether they can be eavesdropped on by opponents, because otherwise communication will be ineffective: everyone has to be brief, only speak when permitted, use clear language, etc. This is less urgent for surveillance because the radio circuit is very manageable and the channel only belongs to a single team. In the past, radio discipline was more necessary for surveillance squads because of the risk of unauthorized interception. The textbook provided for people to be abbreviated as "P", the target being "P1", known contact persons then "P2" etc., vehicles as "F", properties as "O". Persons, vehicles and properties already known in the planning phase should be familiar to all operators and should only be referred to with their abbreviations in the course of the surveillance. Street names should, as far as possible, be abbreviated or circumscribed: for example, the street in which the target lives was then the "target street", other streets in the vicinity the "K-street", the "B-street", etc. That's the theory. In practice, this was and is hardly done as long as it is not about extremely sensitive cases with appropriate briefing at preliminary meetings. Even with good intention, unforeseen events occur, discipline deteriorates or the wrong word slips out in the excitement. When the target moves across several

4. Surveillance Practices of the Security Authorities

4.1. How surveillance works

The following explanations do not make any particular distinction between the various services or authorities; the aim is to provide a picture of the surveillance process within special units that is as generic as possible.

4.1.1. The preliminary stages: from the desk of the administrative department...

In the lead-up to surveillance, the case is processed by the responsible clerk or the public prosecutor's office. Only when the paperwork has been dealt with do the surveillance units come into play.

Surveillance is done if other attempts at investigation and evidence gathering are foreseeably unsuccessful. This formula is part of every application for a judicial permit for "long-term surveillance", but it is more than just a formality, because surveillance costs time, personnel and money. After all, in order to control a single target, up to 20 people including their vehicles and technical equipment have to work for days. The surveillance units get many more inquiries than they can handle, so they can often only act when the clerk sees fit. In addition, there is the ever-present risk of "burning" the surveillance; that is, the target notices that they are being surveilled and thereby learns that they are under investigation. In addition, technical monitoring, i.e. above all, cellphone connection data, but also other telecommunications surveillance (TCS) and hidden video cameras, can often answer many of the investigators' questions about the movements of the target without costly surveillance.

When the judicial decision and the public prosecutor's order for enforcement are in place, the officer responsible for the case turns to the surveillance department and applies for an assignment. It usually takes a while

before the surveillance actually starts because the department has many cases to process and it first has to plan the new assignment. Who is the target? Are there up-to-date photos? Is there only one target or several? What findings about the target are already available? Does a "conspiratorial apartment" (CA) have to be rented to monitor the target address? Telephone monitoring has most likely already taken place at this point in time, so some details about the target are known. However, it can take a few weeks before physical surveillance actually begins. A common procedure is to carry out a short surveillance operation with weak forces at the beginning in order to obtain the "movement pattern" of the target, i.e. to determine whether they are really at the assumed address, which means of transport they use and whether there are regularities. There is also second-tier surveillance, which involves only checking sporadically to see whether the target's car is in front of the door and only lingers there for a short time, hoping for chance discoveries.

4.1.2. ...to the desk of the surveillance team

MEK officers planning operations.

A surveillance team conducts team meetings every week. New cases are presented and the surveillance plan is developed. Who leads the surveillance squad on site, the squad leader or a subordinate official? How many people and cars are used for the case, which working hours and how many days are reserved, which technical means are used, who writes the sur-

5. Special Considerations

5.1. Radio

With the switch to the digital TETRA system from 2010 onwards, numerous considerations regarding radio communications will no longer apply. It will not be possible to intercept this digital encrypted radio in the foreseeable future.

5.1.1. Technology

TETRA antenna (very similar to cellphone antennas; three antennas are a characteristic feature).

Some facts about "Terrestrial Trunked Radio": TETRA is a digital radio process, created by an international consortium of companies based in Rome. With its takeover in Germany and other EU countries, TETRA will presumably establish itself as a Europe-wide digital standard.

TETRA radio itself is not yet secure against eavesdropping, but the Federal Office for Information Security (BSI) has developed an encryp-

In the case of a "tactical approach", which is to say, a contact that does not aim to recruit an informant, but is intended to manipulate the target, the surveillance can be limited to purely protective surveillance on the day of contact. The goal of such a contact can be to spread certain information, but also to provoke a reaction, which can be evaluated with other measures, such as TCS.

veillance report… etc. From now on, the person responsible for the case will be informed about the progress of the investigation but will not be on site himself. On the contrary, surveillance teams are reluctant to let their colleagues from the administrative department disturb them at work.

By the way, surveillance operators are predominantly men—there are usually only two or three women in a squad.

The entire surveillance team is not always active on site. Particularly in the preliminary investigation, but also in uncomplicated cases, no more staff is used than necessary. Often four vehicles with 6–7 people are enough to keep a target under control, but sometimes the target needs to be observed around the clock, in which case several teams work alternating shifts. Such elaborate surveillance is seldom maintained for more than a week, and for a maximum of two weeks. But there is also surveillance that is only carried out on a certain day because of an expected meeting of several targets, with great effort and several surveillance teams. It has also happened that in particularly sensitive cases or with sensitive targets—for example armed groups—surveillance was conducted with deliberately irregular timing, but this is the absolute exception.

If a case is very important, different departments and even authorities take turns. Surveillance can be carried out by the MEK for a week, by the BfV for a further week, and then the LKA 56 takes over. "Administrative assistance" between the police and the BfV is not that common, but it is tried and tested and generally not a problem.

It is not really possible to describe a typical rhythm for surveillance because each situation and its environmental variables are too diverse. The best description of the average situation is surveillance that lasts eight hours a day for almost a week.

The surveillance team is assigned its own radio channel for work; using the TETRA[6] digital radio technology a "group" is assigned where no other forces are transmitting. The team works largely independently; a communications base is hardly required. Of course, the radio systems of

[6] *N.T.P. note:* Terrestrial Trunked Radio, a European standard for a trunked radio system used by many police forces in Europe.

the surveillance vehicles are hidden and have a hands-free facility and concealed call buttons, e.g. foot switches.

The principle of success for surveillance is the constant collection of knowledge. One can hardly hope to observe exactly what one is looking for very quickly. Instead, more and more data is gradually obtained that allows further conclusions. Even if surveillance does not bring a breakthrough for weeks, even if the target may be lost again and again, a mosaic is still created that helps to further the investigation. This approach leads to a certain routine with professional surveillance teams: they know that the constant repetition of the same unspectacular processes often leads to long-term success.

4.2. On the target property: "A-position" and "box"

If there are no particular reasons to do otherwise, surveillance will initially take place during normal working hours, i.e. from around 8:30 a.m. to around 4:30 p.m. If it turns out that the target has a completely different rhythm of life, this will of course be taken into account.

Surveillance always begins with the "A-position" on the target property. A-position is someone who sees the target immediately or will perceive them first when they appear. The target property can be their apartment and is usually called the "target address" (TA) but it could also be another location where the prospect of meeting the target is high. The "A-position" is usually, depending on local conditions, taken up from a vehicle, but also sometimes as an idle guest at a table in a café, a smoker on a park bench, or someone with binoculars through the window of a public building. Camouflaged vehicles are also used, in which someone is invisible from the outside, e.g. a minivan with tinted windows or curtains. The other operators first form a "box" around the target property. For this, all possible directions in which a target could leave or approach are covered as well as possible.

4.5. End of the work shift

When the surveillance team has completed its daily workload, which is often almost exactly eight hours, a surveillance report is written. It contains the names of those involved, the vehicles used and of course, the observations and their associated times. In addition to the detailed surveillance report, which is entered in the unit's "diary", there is an abridged report for the investigation files. Sometimes this is used only by the clerks in the form of their own "reports".

In general, surveillance and arrest are two separate processes. There is indeed police surveillance with the specific aim of catching the target in the act. However, this does not happen very often, mainly when the surveillance supports the use of a liaison officer or similar, for example when buying drugs. The rule is that the surveillance is first analyzed and the responsible clerks decide what the procedure will be moving forward—so the arrest takes place later and by other forces.

4.6. Special case: "protective surveillance"

If the Office for the Protection of the Constitution (BfV) carries out "informant approaches," that is, attempts to recruit "sources," the target is observed beforehand with varying degrees of thoroughness so that the clerk is optimally prepared and can decide on the best time to make contact. This can take place on the street or as a home visit. This preliminary groundwork is usually carried out in only a few days, but in complicated cases it can take weeks.

On the day of contact, in the vast majority of cases, a surveillance squad is present to help the officer if the target reacts aggressively and to check the target's behavior after the contact. Do they make phone calls? After that, who do they go to first? If the contact is successful and an informant is recruited, later meetings are occasionally surveilled. For example, they are interested in whether the target spends the money they receive for cooperating immediately and for what, and whether they involve other people in the process.

network of traffic rules has an effect in favor of the operators, because in practice a motorcycle is also severely restricted in its freedom of movement in city traffic by red traffic lights, other vehicles and the road layout.

4.4. When the target gets "out of control"

Normally, the squad is not hell-bent on trying to keep contact. If the impression arises that the surveillance was recognized by the target, if the target's movements are difficult to calculate, or if they move back and forth a lot in a very small area, the operators withdraw a little. If necessary, they give up the A-position, only to form a larger box around the area. They may even drop the target completely, "breaking off" in order to pick them up again at another location, such as at the home address.

If the target disappears, the area is searched. Other vehicles drive to known destination addresses and wait to see whether the target appears there.

If a target is judged to be particularly aware, they are sometimes left on a "long leash" and the team falls back a little, or the surveillance is carried out with breaks, only every two days or only every other week.

In only very few cases is a target lost because they consciously "shake off" the surveillance. It mostly happens through coincidence or inattention on the part of the operators. After all, they are the professionals and the target is an amateur, so they generally have a better understanding of how to shake off or avoid being shaken off.

If there is a possibility that the surveillance was recognized by the target, this does not necessarily mean that it will not be continued—depending on what information the operators want to obtain. Because the target also has an everyday life that they cannot easily change: work, social duties or other activities that they cannot easily end or postpone. Under certain circumstances, the operators will even accept that the target will remember a few cars and faces—and will probably soon forget them—in order to gain further knowledge.

In professional surveillance, there is always at least one surveillance operator in the A-position. If not, the target is "out of control". Other operators report as "B-position", who can replace the A-position if necessary.

Only when it is absolutely impossible to take an inconspicuous A-position do authorities limit themselves to the formation of a box around the target and hope to discover them when they start moving through it. For example, the anticipated direction of travel would be covered at the next two intersections in order to receive the target there.

Most vehicles are on standby in the immediate vicinity and wait for reports from the A-position. In doing so, they position themselves in just the right location so that they can quickly cover the distance if the target moves. Usually, they are just around the corner or one or two blocks away, if possible without a traffic light or a main road between them and the target property. The leader has a notebook so that they can enter interesting insights immediately. In addition to the squad leader, who controls the entire operation, the respective A-position has the right to give tactical instructions to the other operators: is the target clearly identified? If not, who can carry out an identification ("clarification")? If so, in which direction are they moving, how should the other operators behave, should they pause, follow, disperse?

In order not to miss anything even when things are hectic, radio communication is recorded centrally or, if necessary, recorded in individual cars with dictaphones.

After taking the first positions, there is often a long and uneventful waiting time. They doze off in the car, comfortable with the seat cranked back, listen to the radio and fall asleep. Every now and then they might get excited because someone thinks they have seen the target, but then realize it was just a false alarm. Once in a while, operators log out to get something to eat or to go to the toilet. The A-position is relieved at longer intervals, which is not only for inconspicuousness, but is also necessary because their concentration decreases considerably after a while. If the target is at home, they are usually replaced every hour, often every full or half hour. If the target is absent and the operation is waiting for them to

arrive, the A-position sometimes stays on for several hours without being relieved[7].

In order not to attract too much attention, the other vehicles also move from time to time. However, parking somewhere is inevitable—you cannot drive around in circles all day. Vigilant residents and pedestrians may notice what is going on after a while. However, this rarely results in disturbances to the surveillance. People see the operators and forget them, as they generally do not know what they're looking for. Experience has shown that almost no one remembers cars and their license plates or conspicuous people for more than a few minutes—not even the people who know that they are the target!

If the surveillance is likely to last days or even weeks, the squad will look for a quiet place a little further away to meet in peace without chance observers being able to establish a connection to the actual target property. Well-suited locations for this are, for example, supermarket parking spaces, remote street sections or dead ends with many free parking spaces. "Mission meetings", mostly at the beginning or after the end of the day's shift, are also often held at such locations.

4.3. Mobile Surveillance

At some point the target shows up and there is "movement". At least one surveillance operator, usually several, have a digital camera and/or a camcorder with them and will try to make recordings of the target and of people with whom the target comes into contact ("contact persons", CP).

When the target shows up, it is important to start by describing them clearly to all operators so that they can be recognized from then on. This

[7] *N.T.P. note:* Other sources disagree, stating that the A-position remains in place for long periods of time, usually changing only in the middle of the night to avoid detection by the target and third parties. If the A-Position is in a vehicle, the vehicle can be brought into position by a driver who then leaves while the surveillance operator remains in the back out of sight. Alternatively, the surveillance operator can drive themselves and then climb into the back. If they find a good spot, they'll stay there, have food prepared in advance, and shit in a bag.

there. In addition, the staff are primarily occupied with finding out which line(s) it is, when the departure times are, which transfer stations have to be covered and so on. There are also blind spots and the cameras have limited image quality. Even if the conditions are optimal, e.g. if the surveillance is for dealers who regularly act at certain train stations, the video monitoring via the control center will only take place in support of direct surveillance, as there are too many unanticipated movements for the target group to make that cannot be adequately controlled by the cameras.

4.3.4. Movement on two wheels

Surveilling a target on a bicycle or motorcycle can be very exhausting, as they do not move at the usual pace of road users. The bicycle is too slow for cars and too fast for "feet", and the motorcycle is usually too fast for all other means of transport. The surveillance forces must be prepared for this, which is to say, also use bicycles or motorcycles. This requires particular physical fitness and operational readiness, or a motorcycle license. In the case of special units, there are one or two motorcycles and/or scooters and a few bicycles per fleet; occasionally private bicycles are used.

Bicycles are more difficult to clearly identify, which can be an advantage for surveillance: the target will probably not recognize whether they have encountered any particular bicycle more than once a day. Usually, only one surveillance bike is used with a target who rides a bicycle, the driver of which changes their jacket from time to time or swaps it with a colleague. The cars try to keep in contact with the target as much as possible, while the operator surveilling by bike keeps a bit of a distance and approaches immediately if there are problems. The cars try to overtake the target as little as possible—this results in a noticeable jerky movement, because they have to keep pulling up to the right, then catch up again, then pulling up to the right again. This stop-and-go is a sure sign that a slow target is being pursued.

A motorcycle can outrun its pursuers by snaking forward at one or two traffic lights. But even during a motorcycle ride, only one, rarely two, surveillance motorcycles are used, the rest of the team tries to keep their cars in position as best they can. As with car pursuits, the relatively restricted

4.3.3. Public transportation

If the target uses public transport, at least one operator will ride in the same vehicle. Often, in order to not attract attention, he will only get on at the next stop or, if the waiting time allows it and the direction of travel is clear, one stop earlier. An A-position is sought as far back as possible in the car in order to maintain view of all entrances and exits. The vehicles follow as best they can. It is difficult to use a vehicle to keep up with the subway during rush hour traffic, so the vehicles try to drive ahead in the relevant directions while the target is still waiting on the platform. The target getting off is reported, whereby the surveillance operator stays on for one station further if possible and is picked up there by a vehicle. It is very rare that a target is really lost in this process.

The possibilities of shaking off operators in the subway and suburban train are overestimated in the specialist literature. targets tend to get lost due to communication problems of the surveillance operator, including confusion of platforms, and lack of information about the different lines and their directions of travel, which the concerned operators are not happy to admit.

And in the worst case scenario, the vast majority of targets now have cell-phones with them, which can be located during phone calls or by "silent SMS"[8], which the surveillance teams make ample use of.

The video surveillance of platforms and vehicles cannot be effectively used for surveillance. When a target enters a subway station, it must be assumed that they will leave a minute later—during this time it is impossible to send an operator to the control center to check the screens

[8] *N.T.P. note:* "Receiving a silent SMS is no longer a good indicator of being targeted by your cell carrier, police or government because anyone on the cell network can send them including yourself. Cellular triangulation is possible regardless of whether or not SMS texts are being sent or received by the phone. Even if an SMS did serve a useful purpose for tracking, a silent SMS would be little different than receiving unsolicited spam. In fact, sending spam would be stealthier since it wouldn't trigger alerts for silent SMS but rather would be ignored with the rest of the spam. Regardless, sending texts or other data is not required or particularly useful to track devices connected to a network for an adversary with the appropriate access." From GrapheneOS FAQ[9].

[9] https://grapheneos.org/faq

is done by the A-position, who then usually holds back a little because the target could have noticed them.

4.3.1. Movement by car

MEK officers on surveillance duty.

In every crime film we see a suspicious person driving away in a car and the policeman who is following them immediately pulling their car out ten meters behind to initiate the pursuit. In reality, this is, of course, completely impractical because the target could notice it. When the "target vehicle" (TV) starts to move, the vehicle in the A-position stops and waits while another vehicle from a greater distance follows. There is almost always enough time between the target getting into the car and driving off to bring another surveillance vehicle into position. Sometimes the vehicle even sits in front of the TV and allows the TV to overtake it once.

Tracking a car is a fairly safe and convenient form of surveillance. Radio communication is best and most inconspicuously conducted in cars. Cars are severely restricted in their movement by traffic regulations and they can be clearly identified by their model, color and license plate, which makes tracking easier. Surveillance vehicles have a lot of horsepower and are driven by experienced people, so it is hard to shake them off by speeding. If necessary, they violate traffic rules, drive through red lights, on the sidewalk or against one-way streets in order to maintain contact. The authorities are allowed such rule violations under traffic regulations. In city

traffic it is difficult to make up for a lost traffic light—not only because the TV can cover a kilometer in the passing minute and go beyond the field of view, but also because numerous cars push themselves in between, which then obstructs a pursuit. Therefore, at least a few surveillance vehicles will always try to maintain visual contact.

For some years now, the use of GPS tracking systems has been very widespread, the monitoring of which has switched from the control center to the surveillance vehicles, so that the position of the TV is visible at all times within an accuracy of several meters.

If the target drives a rental car, the operators will probably contact the rental company immediately or later in order to obtain further information: which name was the rental placed under, with which account number, how many kilometers were driven, etc. Many rental cars now have permanently installed tracking devices for theft protection or for fleet management.

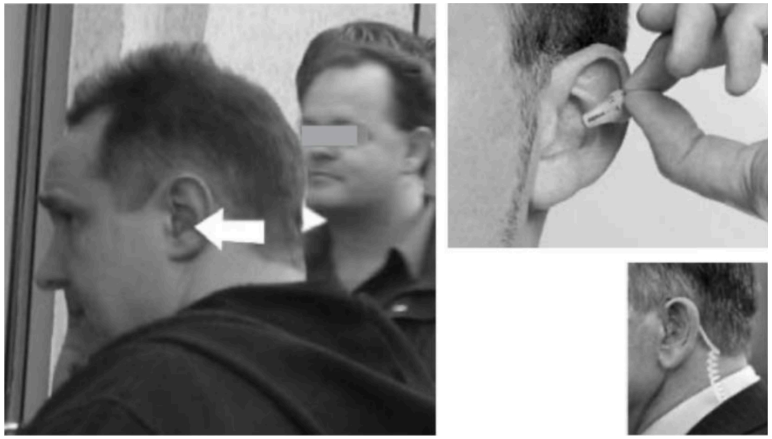
If the target is known to regularly use rental cars or car sharing, the operators may try to monitor frequently used vehicles.

4.3.2. Movement on foot

Surveilling a person on foot is a bit more strenuous. The pursuing operators, called "feet", have to be careful to send their radio messages inconspicuously—they mostly use larynx microphones in the collar of their jacket, sometimes on the wrist, sometimes hidden in a purse or in a backpack, which can be passed on to the colleagues who are relieving them. To receive radio, you have to have something in your ear—be it a Walkman headphone or a "Phonak", which is a wireless earpiece. Incidentally, such a "Phonak" is practical in itself, but it also has disadvantages: it is inconspicuous, but not invisible, and anyone seen with it is "burned". In addition, it is prone to interference, relatively quiet, quickly clogged with wax and can fall out of the ear at the wrong moment. In addition, a flat, elongated radio transmitter has to be hidden at a short distance (e.g. in the shoulder pad of the jacket or in the strap of a backpack). For all of these reasons, many operators prefer classic headphones.

All of this can be noticed by other pedestrians. That is why operators like to work on foot with cellphones. Reports can then only be heard by one colleague in order to then "translate" them over the radio for the other participants. By the way, cellphones have also allowed conference calls for years, allowing all other operators to listen when someone is speaking. However, these are expensive and cumbersome compared to radio and have therefore only been used sporadically for a long time. They are now more practical, but are no longer needed so urgently due to the introduction of digital TETRA radio.

If you are on foot, you can suddenly change direction, disappear into a house or change the means of transport, i.e. get on a bus, take a bike… Therefore, the "box" must be placed very tightly around the target, ideally with several "feet", who are on both sides of the street, so that when the target crosses the street, the A-position does not have to cross as well, which could be noticed. The target is also very slow on foot, which is why in the vast majority of cases it is possible to keep them under control, even if they make unforeseen movements.



Left: Policeman on duty with a "Phonak".

Top right: Inserting a "Phonak" into the ear.

Bottom right: This type of earphone with a transparent spiral cable is used by bodyguards but not during surveillance (too conspicuous).