The Medical finds from the Concentration Camp Sachsenhausen
An Attempt to Identify Treatment Methods and the Companies involved

Summary

Nazi camps were places where the maltreatment and slaughter of inmates took place. However there were also areas, the so-called sickbays, where patients were cared for and made able to work again. But even in these areas mistreatment including killings didn’t stop. During excavations in Nazi concentration camps finds have come to light which can be classified as medical equipment. An attempt to interpret these finds is made here, taking Sachsenhausen as an example. Which activities can they prove or not prove? In the light of methodical and theoretical approaches we aim to analyse the objects found and find out which medicines and other medical items were used. The companies involved and their relation to the Nazi camps will also be discussed. The archaeological finds provide important hints as they allow a more differentiated view of the supply network of the SS than written sources alone.

Zusammenfassung

Introduction

Unexpectedly, there were concentration camps with modern medical equipment for the period. The aim of these so-called sickbays was not to heal sick inmates, but to make them able to work again. These places were also used for propaganda and human experiments. It should also be remembered that the medical equipment was not available for each victim equally. Some ethnic groups had access to the sickbays, but others didn’t get that opportunity. Decisions were often made arbitrarily by the leading physicians. In comparison to the other concentration camps where the inmates had to perform forced labour, Sachsenhausen had a comparatively well-equipped sickbay.

Medical equipment could enter the concentration camp in different ways. Many of the objects arrived as part of deliveries to the sickbay, while others were brought in by detainees and were their personal property. At a later date, medical supplies might also reach the camp in Red Cross packages. It’s difficult to say which finds objects entered the concentration camp Sachsenhausen in which way.

The majority of the objects were discovered during rescue excavations from 2003 to 2006 by the Humboldt University of Berlin. In the north-western part of the former concentration camp a large rubbish pit of about 30 metres length, 5.6 metres width and about 3 meters depth was dug out by a mechanical digger. In several campaigns, finds were salvaged from the spoil, which was separated into shovel loads (MÜLLER 2010, 90–95). The steep slope of the cut and the homogeneous fill mean that the rubbish pit was probably filled quickly. The mingling of finds from the period of the concentration camp with the subsequent Soviet special camp led to the assumption that the pit was filled shortly after the Soviet camp was given up in 1950 (MÜLLER 2010, 167). This article, which examines the medical finds, is primarily based on the excavation of this rubbish pit and uses an image database which was created by Anne-Kathrin Müller in the course of her master’s thesis (MÜLLER 2010). The sickbay, its function, facilities and staff will be presented at the beginning of this paper in order to understand the medical situation at the camp. The second part then deals with the analysis of the archaeological finds. This will provide insight into prevalent diseases and their specific treatment. Companies will be named and their possible relations to the Nazi regime discussed.

The sickbay

The term sickbay should be viewed critically. It implies a place where sick people were cared for until recovery. In concentration camps, however, other aspects stood in the foreground. The patients were not treated as human beings, but as labour power. The various parts of the sickbay served different functions which changed with the structural development and adaptation of the buildings. In addition to everyday medical care, the sickbay was also the site of numerous medical experiments and pseudoscientific racial research (LEY/MORSCH 2007, 761).

In the first place, the sickbay of the concentration camp was to ensure a “minimal medical care” (LEY/MORSCH 2007, 9). For propaganda reasons the Nazi regime also showed selected Germans and foreigners certain parts of the camp, including relatively well-equipped sections of the sickbay. Reacting to negative international headlines, the regime invited foreign journalists and tried to convey the illusion of a “hard but fair” treatment of the captives (LEY/MORSCH 2007, 379–382). From the beginning of the Second World War onwards the prevention of epidemics increasingly came to the fore. Deteriorating living conditions led to rampant diseases which also threatened SS personnel. From 1942, as the regime increasingly exploited the inmates’ ability to work in order to boost the German war economy, the recovery of the labour force became more important in concentration camps like Sachsenhausen. Sick people whose labour was considered “unrecoverable” were killed. The
SS also used the sickbay to continue to interrogate opponents of the regime who had been injured during suicide attempts or torture (Hrdlicka 1992, 100; Ley/Morsch 2007, 9).

From January 1943 onwards, foreign inmates were allowed to receive packages through the Red Cross. For many of them the packages were lifesaving because they would have starved in the long term without extra food. Scandinavian detainees obtained periodical packages which contained tonics like codliver oil. In addition to groceries and cigarettes, the packages also included painkillers, such as that of the Norwegian Company Globoid. After the cans with the painkillers had been emptied, the prisoners often used them to store small belongings (Ley/Morsch 2007, 24, 110–113).

Less known is the blood donation service in Sachsenhausen which was organized by two imprisoned Norwegian physicians, Dr. Oftedal and Dr. Greakli. About 100 detainees participated in this system. Norwegians were the preferred recruits due to their usually better nutritional condition, but inmates from other nations like Poles and Germans also joined in. Among other things the blood was used for detainees who had been wounded in air attacks from the allies, while working in neighbouring armament industries. The donors received a portion of soup and one to two days off work (Ley/Morsch 2007, 24, 110).

Facilities

The sickbay at the Sachsenhausen concentration camp had about 800 beds in its end form where more than 2000 patients were treated at one time. The equipment of the individual sections varied. While the barracks R I and R II were provided with relatively modern therapy and diagnostic facilities, other sections were in a catastrophic condition (Ley/Morsch 2007, 69). After the Blitzkrieg had failed, the NS regime increasingly used concentration camps as a labour reservoir for the German arm industry. In addition to better trained staff, better medical equipment was also employed in the sickbay to increase the employment of labour as ordered by making sick inmates able to work again as quickly as possible (Hrdlicka 1992, 100–101; Ley/Morsch 2007, 100).

In the R I barrack of the sickbay there was an X-ray unit and an aseptic operating theatre, which was very modern. In addition to this, there were also two wards where the freshly-operated were housed. The operating theatre for septic, that is inflammatory diseases, was housed on the other side of the barrack. Numerous people were treated daily in the out-patients department, next to the septic sector. There was a camp pharmacy in the basement of the R I barrack. Primarily it was responsible for the supply of the SS. Only secondarily did the pharmacy act to distribute medicines to detainees. Behind R I a stone pathology building was built from 1940 to 1941. Alongside a room for autopsies, this included a laboratory and a room for the storage of pathological preparations. The biggest ward in the sickbay was the tuberculosis department. A very well-equipped laboratory for medical analysis was located in the basement. In addition to analytic instruments such as microscopes, with which blood, urine and faeces were examined, inmates, who worked in the medical sector, kept specialized literature there. In summer 1944 a camp brothel was built, which was supervised by the senior physician Dr. Baumkötter. It was meant to be a reward for hard work and an incentive to inmates. The women who had to work there were captives from the woman’s camp Ravensbrück. Before and after each visit the male detainees had to undergo a medical check (Hrdlicka 1992, 100–101; Ley/Morsch 2007, 145–189).

Staff

The head of the sickbay was the senior camp physician. Further SS-doctors, who supervised patient care, were subordinate to him. Detainees had to
work as carers in the practical treatment of the sick. Most of them had no medical education and some were absolute medical amateurs. After autumn 1939 and the invasion of Poland, the number of inmates increased dramatically and highly infectious diseases became more frequent, also threatening the SS. As a result the administration had to extend medical care and include new groups of detainees as carers. Only from 1942 onwards did the SS appoint medics and medical students from among the detainees. The main motive for the improved medical care was to cure sick inmates as quickly as possible and restore their working power. Inmates who were classified as “not restorable” were moved to rest blocks where they gradually died because of neglect and deliberate malnutrition. Some of them were killed by lethal injections or deported to other camps. Once detainees took over the main part of the medical care, SS doctors lost interest in such tasks. Instead, they supervised torture and executions, signed death certificates, planned and performed medical experiments and selected inmates for transport to the death camps and for forced castrations and vasectomies. Some of these actions were in accordance with orders, but SS doctors could also act on their own, based on their political convictions and personal or work-related utilitarian considerations (Hrdlicka 1992, 100–109; Ley/Morsch 2007, 69–181; Pukrop 2012, 87–88).

Maltreatment in the sickbay

As already mentioned sickbays were also places where maltreatment took place. Soon after the seizure of power, the National Socialists began to persecute Roma and Sinti. With the beginning of the Second World War they extended their persecution of these people, who were labelled Gypsies, to the occupied territories and committed systematic mass murder. From 1936 to 1945 racial researchers tried to prove the inferiority of this group in Sachsenhausen. More than one thousand Roma and Sinti people went through terror and mistreatment in the sickbay, leading to death in many cases. In examining the people concerned, measurements of the face and body were taken to demonstrate the alleged racist specifics of their anatomy. Finger and hand prints were also taken and blood sampled. With the help of anthropological determination plates, the employees of the Eugenic Research Institution determined the colour of the eyes, hair and skin. Afterwards, facial imprints were taken in some cases. In this process a liquid synthetic mixture called Negocoll was spread onto the face and removed after setting. Using these templates sculptures of the head were cast, which were then painted and used as exhibition objects. After these humiliations, most of the victims had to do hard labour, were sterilized and killed, or died as a result of mistreatment (Ley/Morsch 2007, 223–273).

Forced castrations

People who were discriminated against because of their “race” or because it was assumed that they were socially or biologically inferior were either killed or prevented from reproducing. These sterilizations were also performed on inmates of the concentration camps, normally however not in the camps themselves, but in public hospitals. Forced castrations, on the other hand, were carried out on people who were classified as habitual criminals or homosexuals and took place in the sickbays of concentration camps. One inmate of Sachsenhausen, who had to endure this procedure, described it afterwards. After he was admitted to the aseptic sector of the sickbay, he was bathed and shaved. Then he was given an injection of the narcotic Evipan and passed out. When he awoke, he was in a room together with eight other men who had suffered the same fate. In the following period he was massively mocked with reference to his castration. According to file notes, the popular anaesthetic Trobococain from the company Merck was also used for these kinds of op-
A complete anaesthesia of the lower extremities was achieved by injecting the solution into the backbone. After the castrations the affected people had to undergo humiliating examinations of the entire body. SS doctors noted an extensive reduction of sexual desire and concluded that the operations were successful sanctions to reintegrate the victims into the ethnic community. They also noted grave physical alterations such as fat accumulation around the hip and reduced beard growth. They cynically attributed these changes to the conditions in the camp (Ley/Morsch 2007, 275–306; Ley 2004; Pukrop 2012, 87–88).

Medical experiments

As in other concentration camps, human experiments took place in Sachsenhausen. Inmates from the camp were treated as "test objects" by doctors from the SS, the Wehrmacht and civilian research institutions. More than 20 experiments from Sachsenhausen are known today. The victims could not freely decide whether or not to participate and suffered physical damage sometimes including death. (Ley/Morsch 2007, 329; Wolters 2011; Pukrop 2012, 87).

In the First World War the warfare agent Lost (mustard gas) was used on a great scale. Afterwards the population was frightened of renewed chemical warfare. New medicaments for the treatment of Lost poisoning were tested in autumn 1939 in experiments on inmates at Sachsenhausen. At least two test series, which were ordered by Himmler, were performed up to December 1939. In the course of these, a preparation called Frekasan, which is a powder including tannin, which was used for extensive burns, was also tested. This preparation was invented by the physician Dr. Dinand from Frankfurt and marketed by the company Dr. E. Fresenius (Ley/Morsch 2007, 329–331), which still exists today as Fresenius SE & Co. KGaA. In the experiments the Frekasan-preparation had the codename F 1001. In the reports of the physician in charge, Dr. Sonntag, the pain of the victims was only casually mentioned (Ley/Morsch 2007, 331–337).

We also know the products and names of producers involved in other experiments. The preparations Pervitin from the Berlin Company Temmler and Merck's Cocainum hydrochloricum and Ophtalmo-Compretten which was marketed by the German companies Merck, Boehringer and Knoll were also used among others (Ley/Morsch 2007, 361–370).

Archaeological finds

The difficulties involved in exactly attributing medical objects to a specific phase of the camp have to be discussed at this point. Because the camp at Sachsenhausen was used as a Soviet special camp from liberation until 1950 (Theune 2015, 39), individual finds cannot generally be dated before 1945. Shortage meant that medical equipment and medicines were used until the inventory was exhausted (Müller 2010, 121).

The finds on which this article is primarily based come from a rubbish pit and are only a small part of the entire archaeological material from the concentration camp. They are mainly things which have been disposed of and can’t represent the entirety of the objects that were used in the medical sector. Most of the objects found were in everyday use in the sickbay for the treatment of the sick. These finds include vessels like cans, ampoules, vials, bottles and tubes. Objects like bedpans, bed bottles for urine, clysters, emesis basins, optical lenses, one mortar and pestle, syringes, cupping glasses, hot-water bottles and an object slide for a microscope were also found. Medical vessels in particular, but also tablet containers often have industrial labelling. In many cases the texts involved are indications of measure-

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1 See www.fresenius.de (last access April 2016). The complete citation of internet sources can be found in the bibliography.
ments or shortened inscriptions, but the medicine inside, its application or the producer can be deciphered on some objects.

Anaesthetics

One big category among the preparations identified are the anaesthetics. They serve to reduce or completely deactivate the experience of pain. They can be divided into local anaesthetics, which induce a regionalized anaesthesia, and general anaesthetics, which suppress the pain centrally through narcosis.

A broken brown bottle with the inscription AETHER PRO NARCOSI Schering belongs to the group of general anaesthetics. It indicates purified anaesthetic ether which is used on patients to perform painless operations. The colourless liquid has to kept out of the light and well-sealed (DEUTSCHES ARZNEIBUCH 1926, 3940). Bottles opened the day before shouldn’t be used for narcosis because the decomposition process has already begun. However, they can still be used to clean skin or microscope slides and devices for taking blood (VOLKMAN 1926, 69) (Fig. 1).

Another object, which doesn’t come from the rubbish pit, but was also found in the area of the camp, is an ampoule of the narcotic Evipan from the pharmaceutical company Bayer (LEY/MORSCH 2007, 295). The effect of this general anaesthetic begins immediately through an intravenous injection and lasts about 15 minutes if the liver works normally. When liver diseases are present—the liver acts to disperse Evipan—the narcosis can last an hour or more. Only brief surgeries such as “painful changes of bandages, incisions of abscesses, fixation of fractures, biopsies, etc.” (TRENDELENBURG 1952, 78) are usually performed because of the generally quick degradation of the preparation.² It is reported that the preparation was also used for castrations (LEY/MORSCH 2007, 295 and report Henry Meyer Archiv Sachsenhausen: LAG III/8, Bl. 8).

Fig. 1. A bottle of the company Schering which contained the anaesthetic PRO NARCOSI (Photo Anne-Kathrin Müller).

Abb. 1. Eine Flasche der Firma „Schering“, die das Anästhetikum PRO NARCOSI enthielt (Foto Anne-Kathrin Müller).

² The original reads “schmerzhaften Verbandwechsel, Spaltung von Abscessen, Stellung von Frakturen, Probeexcisionen usw.”
The biggest group among the medical preparations identified is the group of disinfectants. Several tablet containers of the brand Chlorina were salvaged from the rubbish pit. The chloramine, which these contained, is a white powder that smells slightly of chlorine. To be used, it has to be mixed in a solution with water (Deutsches Arzneibuch 1926, 153–154) (Fig. 2).

A bottle from the rubbish pit bears the name of a famous chemical company which produced disinfectants from the end of the 19th century onwards Schülke & Mayr Hamburg A-G. Even though the bottle did not have a label mentioning the product, it may be assumed that the bottle contained one of the disinfectants needed in a large amount and produced by Schülke & Mayr.

Another brown bottle with the mark on the base Resisto 250 can be identified through a comparison with a bottle with the same characteristic bottle shape, base impression and preserved label, which was offered in an internet auction, as ethyl alcohol from a pharmacy called Kronen-Apotheke. It is used as a solvent for medicaments and for disinfection (Deutsches Arzneibuch 1926, 654–665).

A heavily corroded can, on which the word Jodtinktur is readable, points, according to the Deutsches Arzneibuch of 1926, to a solution of seven parts iodine, three parts potassium iodide and 90 parts ethyl alcohol (Deutsches Arzneibuch 1926, 705). This tincture was used as an antiseptic for wounds and for the treatment of small skin lesions (Fig. 3).

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3 The original reads: “besitzt erhebliche baktericide Kraft, bleibt in offen stehenden Ampullen tagelang steril und büßt auch nach wochenlangem Stehen seine baktericide Kraft nicht ein”; see Bergin 1930, 707.
4 The original reads “bekannte Selectocaine-Lösungen […], denen in Kürze eine sehr schnell-wirkende Lösung hinzugefügt wird”; see Dental Echo 1956, 66–72.
5 The original reads “bekannte Selectocaine-Lösungen […], denen in Kürze eine sehr schnell-wirkende Lösung hinzugefügt wird”; see Dental Echo 1956, 66–72.
6 See www.ebay.com (last access December 2015).
7 See www.universal_lexikon.deacademic.com (last access December 2015).

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Fig. 2. Tablet containers from the company Heyden A.G. RADEBEUL-DRESDEN which contained the disinfectant Chlorina (Photo Anne-Kathrin Müller).
iodine tinctures lead to iodine-dermatitis and iodine-eczemas. The pharmaceutical industry therefore sought a substitute for iodine. In 1926 a new preparation was brought onto the market by the Linger-Werke which also had a disinfecting impact but with less irritation to the skin than iodine tinctures. In 1937 the product was renamed Sepsotinktur. A medical researcher tested Sepsotinktur in 1938 and compared it with the iodine tinctures which were mainly used until then. He concluded that Sepsotinktur is as effective in disinfection as iodine tinctures. Sepsotinktur should be preferred to more traditional products, because of the reduced irritation involved. He saw the reason for the only rare use of Sepsotinktur at that time in doctors’ scepticism towards new products (Müller 1937, 318). Both an iodine tincture and Sepsotinktur were salvaged from the rubbish pit, thus confirming the statement of the researcher from 1938, telling us that the new preparation had not yet prevailed.

A tube with the inscription Desitin contained an ointment with the same name as the company. This is still produced by the Desitin Arzneimittel GmbH.8 The cod liver oil which is included leads to a quick regeneration of the tissue. It is used especially for “heavily contaminated, badly granulating and necrotic coated wounds, postoperative care of wound cavities, fistula”.

Vitamin preparations

Among the finds from the pit is also an ampoule with the imprint Betabion from the pharmaceutical company Merck. This preparation came onto the market in 1936 and contained thiamine, better known as vitamin B1. Merck was worldwide the first company to market this active agent which had first been produced synthetically recently. The imprint 0.002 g indicates the concentration of the thiamine. In this case it was 0.002 gram per cubic centimetre corresponding to a medium strong dose. A deficit of this vitamin can be caused by malnutrition, daily routine in the concentration camp. The deficiency leads to metabolic acidosis, i.e. an overacidification of the blood which makes itself felt in neurological deficits, degeneration of skeletal muscles, myocardial insufficiency and enemas. Infants, who are suckled by women with a deficit of thiamine, develop sucking weakness, vomiting, apathy and unrest which can lead in acute cases to a life-threatening cardiac degeneration. Old, weakened people and babies are especially hit by heart failure (Fig. 4).10

8 See www.desitin.de (last access December 2015).
9 The original reads “stark verschmutzte, schlecht granulierende und nekrotisch belegte Wunden, postoperative Behandlungen von großen Wundhöhlen, Fisteln”; see Günther 1937, 8.
10 See www.roempp.thieme.de (last access December 2015).

Fig. 3. A can which contained an iodine tincture (Photo Anne-Kathrin Müller).
Abb. 3. Eine Dose, die eine Jodtinktur enthielt (Foto Anne-Kathrin Müller).
Household remedies

Another big category of finds are the household remedies to which French brandy belongs. Originally French brandy was a by-product in the production of brandy. By mixing diluted alcohol with essential oils or aromatic tinctures, the product was soon made synthetically. Because of its alcohol concentration, French brandy belongs to the remedial spirits. It supports the blood circulation of the skin, acts to slight skin-irritation and as a disinfectant, cools inflammations and is used as protection against decubitus, the so-called bedsores. When rubbed on the forehead, temples or the neck it refreshes on hot days (HÄNSEL/STEINEGGER 1988, 355–356). One bottle with the stamp DIANA FRANZBRANNTWEIN SÓSBORSZESZ comes from the rubbish pit. The inventor, a Hungarian pharmacist, named the product in 1897 Diana after the roman goddess of the hunt (MATOŠIĆ 1996, 141). The name below, Sósborszesz, is the Hungarian name for French brandy.

Liver products can be counted among the household remedies. Cod liver oil was considered a tonic and used for disease prevention because of its high iodine content and high rates of the vitamins A, D₂ and D₃. To make the intake of this strange smelling substance easier for children, an emulsion, i.e. a mixture was developed (FINK/FUNK 1941, 249–251). One bottle of a cod liver oil emulsion called Asellan of the STADA Arzneimittel AG can be identified amongst the finds from the rubbish pit. Advertising posters of the corporation show the popularity of this emulsion in the post-war years as well (Fig. 5).

An aluminium can with a barely legible inscription probably also contained a fish liver product as a fortifier. The word FISKELEVER points to a Norwegian origin and could be related to packages from the Red Cross.

Painkillers

A small brown bottle, with only an impression on its base, Roche 110, refers to the pharmaceutical concern F. Hoffmann-La Roche AG, founded in Basel in 1896.¹¹ The small bottle contained the painkiller Pantopon. An identical bottle with a surviving label is shown in the Spanish image databank Pharmakoteka of old pharmaceuticals and can be used for identification purposes.¹² This drug is a purified “injectable opium-preparation which is free of fibre” which was produced by F. Hoffmann-La Roche from 1909 onwards.¹³ In particular the morphine, which is contained in opium, exerts a paralyzing effect on the person to whom the preparation is applied and reduces the experience of pain. Pantopon is given as a subcutaneous injection or, as in this case, in the form of tablets. The bottle contained 20 tablets. The dose for adults amounts to one to six tablets and for children a quarter to a half of that dose according to their age and condition.¹⁴

¹¹ See www.roche.de (last access December 2015).
¹² See www.ub.edu (last access December 2015).
¹³ The original reads “von Ballaststoffen befreites, injizierbares Opiumpräparat”; see MÖLLER 1953, 294.
¹⁴ See www.ub.edu (last access December 2015).
Other medicines

From the 1920s onwards emulsions of bismuth were used for the treatment of syphilis, alongside quicksilver and the arsenic preparation Salvarsan (Müller 1927, 315). One of them Bismogenol was salvaged from the rubbish pit in Sachsenhausen. In the Lehrbuch für Haut- und Geschlechtskrankheiten of 1948 Bismogenol is mentioned as a preferred medicament (Rost 1948, 136-138). It can “be safely administered simultaneously with Salvarsan injections”. Thereby the bismuth-preparation has to be injected in the “äußerer Quadranten der Nates” (Rost 1948, 138 meaning outer quadrants of the nates) with a sufficiently long cannula. Bismogenol was applied not only for the treatment of syphilis, but also for lupus erythematosus, so-called butterfly rash and angina.

An ampoule with a label, which is still readable in parts, can be identified as the medicament Amphotropin from the company Curta & Co. GmbH, Berlin-Britz. According to the manual of Moderne Therapie in innerer und äußerer Allgemeinpraxis from 1943, the urinary antiseptic should be administered in cases of cystitides and pyelitides, i.e. of inflammations of the urinary bladder and renal pelvis, either in the form of tablets or, as in this case, of one to three ampoules once a day. The price of one ampoule with a content of 20 cm³, the same size as the object from Sachsenhausen, is also mentioned in the manual: 1,66 RM (Franck 1943, 298) (Fig. 6).

Fig. 6. An ampoule of the company Curta & Co. GmbH, Berlin-Britz which contained the urinary antiseptic Amphotropin (Photo Anne-Kathrin Müller).


In order to decontaminate the skin from the warfare agent Lost, which is a designation for mustard gas, not only chlorinated lime but also the preparation Losantin were used. If it was applied immediately after contamination the impact of Lost was considerably mitigated. If applied later no cure was possible. A metal container of the medication which was produced by the IG Farben factory was found in the area of the concentration camp (Ley/Morsch 2007, 330).

Alongside vessels like cans, ampoules, vials, bottles and tubes, medical devices were also found in the area of the concentration camp at Sachsenhausen. These include all finds which could be used in the treatment of sick persons. Objects like bedpans, bed bottles for urine, emesis basins, clysters, a hot-water bottle, part of a sphygmomanometer, a cupping glass, dispo-

15 The original reads “unbedenklich gleichzeitig mit den Slavarsanjektionen verabfolgt werden”; see Rost 1948, 138.
able gloves, an optical lens and an object slide for a microscope can be mentioned. Furthermore, pipettes, test tubes, syringe bodies and one mortar and pestle were found. It should be noted that the objects referred to are those finds, which can be confidently identified as medical equipment. Further objects could turn out to be parts of medical appliances, but have not yet been recognized as such. An example of an object that could have easily not been allocated to the medical sector if it had been a find, is the hourglass of the detainee doctor Michel Goffart. He treated the tuberculosis diseases in the sickbay and measured the pulse of sick people with the hourglass, which is the classic method. The hourglass is preserved without ever having being underneath the earth and is located today in the memorial at the concentration camp Sachsenhausen (LEY/MORSCH 2007, 158).

Manufacturers

Besides information from the products themselves, objects also give important hints about the manufacturer. In some cases the medication itself couldn’t be identified, but it was possible to determine the producer.

As might be expected big German pharmaceutical companies are under the ascertained manufacturers’ names. The anaesthetic PRO NARCOSI was produced by the company Schering founded in 1871. The logo shown on the bottle, was created in 1937 at the merger with Kokswerke und Chemische Fabriken AG. In 1939 it was assigned a kriegswichtiges Unternehmen, a company essential to the war effort. In November 1943 a bomb attack destroyed the headquarters in Berlin and dealt a major blow against the company. In 1945 all Schering plants were expropriated, dismantled and nationalized.

An ampoule, the active substance of which can’t be identified, bears the name of another big German pharmaceutical company: Bayer. The find confirms written sources which say that Bayer products existed in the stock of the camp pharmacy and were used in the treatment of diseases. For example, the sulfathiazole Eleudron which is an antibiotic agent that inhibits the growth and metabolism of bacteria (BINGOLD 1952, 1143–1148) was used according to inmates from Sachsenhausen as miracle cure against diseases like dysentery, pneumonia and meningitis (Gert Wagner [P-Akte Oftedal], Archiv Sachsenhausen; Bericht Wackernagel, Archiv Sachsenhausen; Aussage Weidl Archiv Sachsenhausen, JD 8/2, T. 1, Bl. 13). As already mentioned the narcotic Evipan from Bayer was also used on forced castrations. After the merger as I.G. Farben Bayer had a close relationship with the SS. The company was engaged in medical experiments on humans in Buchenwald (SCHNEIDER/STEIN 1986, 77) and bought inmates from Auschwitz to perform its own medical experiments ending in the death of the victims (Piper 1980, 139–140).

The pharmaceutical company B. Braun Melsungen which still operates on a global level today is also in the finds from the rubbish pit present with a fragment of a syringe body.

Aside from written sources which say that products of the pharmaceutical company Merck were used in medical experiments (LEY/MORSCH 2007, 361–370) and forced castrations (LEY/MORSCH 2007, 275–306), the concern is also archeologically verifiable with the vitamin preparation Betabion.

Another concern, the chemical company SCHULKE & MAYR HAMBURG AG., had produced disinfectants since the end of the 19th century. In 1941 the Hamburg Company was awarded with the Goldenen Fahne as an NS-model plant (HAMBURGER TAGBLATT 1941). A bottle from the company which probably contained a disinfectant could be identified amongst the finds of the rubbish pit. The company which existed from 1911 as a corporation was converted in 1952 into a GmbH (WELTGEN 2009, 60–61).

The concern STADA is represented in Sachsenhausen by a bottle of a cod liver oil emulsion. The company was founded in 1895 through a merger of pharmacies to produce products together in one organisation. The logo with the abbreviation St.d.A. which means Standardarzneimittel deutscher Apothe-

16 See www.pharma.bayer.com (last access December 2015).
17 See www.pharma.bayer.com (last access December 2015).
18 See www.bbraun.de (last access December 2015).
19 See www.schuelke.com (last access December 2015).
ker was developed in 1935.  

Not only big German pharmaceutical concerns, but also smaller companies occur. A small bottle with the inscription Johannes Burger Ysatfabrik Wernigerode a.h. GmbH points to a shop which was founded as a pharmacy and converted in 1920 to a GmbH that became a middle-sized company for the development of pharmaceutical preparations.

Another pharmaceutical company with the name Curta & Co GmbH, Berlin-Britz can be clearly identified by the characteristic black triangle that acted as a logo. The urinary antiseptic Amphotropin, which came from the rubbish pit, was produced by this company.

The preparation Bosmogenol originates from the Hamburg pharmaceutical company E. Tosse & Co. GmbH, whereas the local anaesthetic Novatox was produced by the pharmacist Erich Schulze from Hannover (Bergin 1930, 707). The Kronen-Apotheke from Mühlheim sold the disinfectant Resisto. After a bomb attack in 1944 the shop was destroyed. Nearly 20 years later the pharmacy was re-established under the name Windmühlen-Apotheke and still exists today. The Chemische Fabrik Desitin AG, which was founded in Berlin in 1919, is represented in Sachsenhausen by the eponymous ointment, as is the Chemische Fabrik v. Heyden with the disinfectant Chlorina.

An ampoule bears the lettering Staatl. Institut f. experimentelle Therapie Frankfurt a. M. Staatlich geprüft. This institute was concerned with the Wertbestimmung und Kontrolle der Heilsera, the valuation and control of antisera (Hager 1949, 702). It tested sera and vaccines in particular for their innocuousness and effectiveness. According to a Prussian ministerial order from 16 June 1922, controlled medications had to bear the designation staatlich geprüft, meaning certified (Hager 1949, 702–703).

Not only the products of German companies but also those of companies from other countries can be identified in Sachsenhausen. An ampoule which probably contained a local anaesthetic bears the inscription of the Dutch company Keur & Sneltjes Haarlem-Holland. The company, with a history of more than hundred years, still produces dental equipment.

A small brown bottle with the stamp Astra on the top refers to the Swedish pharmaceutical company ASTRA AB which was founded in 1913. The company exploited the scarcity of raw materials, which prevailed in Europe during the Second World War, to their own advantage and expanded with subsidiaries into several countries, including Denmark, Finland and Latvia, generating high revenues. The most important product was the local anaesthetic Xylocain. Whether the bottle contained this medication or another one, such as penicillin, which was also distributed successfully by the company in the 1940s, can no longer be clarified. The concern still exists today under the name AstraZeneca following its merger with the British company Zeneca PLC in 1999.

The Swiss pharmaceutical company F. Hoffmann-La Roche AG, which was founded in 1896, is represented by a painkiller. The Belgian company Union Chimique Belge also occurs among the finds. The company produced pharmaceutical products for the war effort according to its own website. It was not possible to determine what the jar, which was found in the rubbish pit, contained. Similarly, the substance in an ampoule with the inscription Istituto Sieroterapico Milanese can also not be identified. The institute, which was founded in 1896 in Milan and closed in 1933, carried out research into, among other things, vaccines against diphtheria and other diseases. A further bottle bears the words LAB. CHEM. FARM. EKSTRALIT L. PAJERSKIEGO. This a shortened version of Laboratorium Chimico Farmaceutyczne Ekstralit and points to a company from Warsaw with the name Ekstralit. The owner L. Pajerski is also given. An advertisement from the company was printed in the Polish journal Farmacja Współczesna in 1934. The advert promotes products which can be used by rubbing them on lesions, for medical baths and in compression bandages. The application field includes arthritis, joint and muscle rheumatism, sciatic and back pain, neuralgia and other diseases of the joints as well as inflammation of the reproductive organs (Farmacja Współczesna 1934, 5). Whether the product was used in this or in other ways could not...
be determined. An aluminium can which contained a fish liver product originates from Norway, whereas the Diana French brandy is a Hungarian brand (MATOŠIĆ 1996, 141).

The role of the enterprises

The earlier part of this paper mentions companies which could be identified through the finds. What do these names tell us? Does their presence serve as evidence of collaboration with the Nazis? No. As already described, there were many ways for such objects to get into the concentration camp. They could enter both officially or as the private items of victims or culprits. The official way also included different possibilities. Firstly, objects and medicines could be ordered directly from the producer, pointing to complicity with the crimes of the regime. There can be no doubt that these companies knew where the objects were being delivered and how they were applied. From written sources we know, that companies like the I. G. Farbenindustrie AG to which also Bayer belonged, worked closely with the Nazis. The cooperation went so far that the company was engaged in medical experiments on humans in Buchenwald (SCHNEIDER/STEIN 1986, 77; PIPER 1980, 139–140). Written sources also tell us that the products of the pharmaceutical company Merck were used in medical experiments (LEY/MORSCH 2007, 361–370) and forced castrations (LEY/MORSCH 2007, 275–306). Finds from these companies inside the concentration camps seem to confirm close cooperation with the regime. It can be reasonably assumed that the camp management engaged these companies to equip the sickbay. For others, like the at that time medium-sized company B. Braun Melsungen, no direct cooperation with the Nazis can be proven. To drive their steep rise in the 1930s and 40s the company made its peace with the regime and made big profits during the Second World War by selling suture materials, fine mechanics, sterile solutions and glass products (VIEHÖVER 2007, 140–168). Objects also entered the camp through wholesalers. Particularly in the case of smaller enterprises such as the Kronen-Apotheke from Mühlheim, orders from the camp are unlikely to have gone to them directly, but instead through intermediaries. Unfortunately documents which could tell us more about this kind of delivery have not yet appeared. The finds which could at least name a few producers are therefore all the more valuable. They don’t prove the cooperation of the companies with the concentration camp, but they help us to understand how the camp administration equipped the sickbay and which companies and products it preferred.

Interpretation of the finds

A large part of the finds, which came from the rubbish pit, can be assigned to the sickbay. The majority of the objects can’t be allocated to a special department, but some can be localised with a high degree of certainly. Disinfectants were required on a big scale in most wards, as were objects like syringes, disposable gloves and sphygmomanometers. The local anaesthetic Selectocaine could hint at the room in the barrack R 1 where dental surgery was performed. Vitamin preparations and the cod liver oil, which is also rich in vitamins, were given in support of the treatment for tuberculosis (WISSE 1949, 269–272). Both remedies were also used to strengthen and to prevent other diseases and were not confined to the tuberculosis department. Objects like bedpans, bed bottles for urine and emesis basins confirm the presence of bedridden people in the barracks of the sickbay. Ointments and the remedy against inflammations of the urinary tract and also the medication Bismogenol indicate common diseases. The latter, which was also used for healing of syphilis, could hint at the camp brothel and potentially prevalent sexually transmitted diseases. Reports confirm that such infections were present. This led to the temporary closure of the brothel after the conscripted
women had been infected by gonorrhoea (LEY/MORSCH 2007, 181). An optical lens, the microscope slide, pipettes and test tubes can be assigned to the laboratory, which was located in the basement of the barrack R II. Thus, the reports, which tell us that medical analysis were performed in the concentration camp, can be confirmed. The mortar and pestle were possibly used in the camp pharmacy in the basement of R I. Single finds of foreign origin like the fish liver product could be evidence of packages from the Red Cross, but there are also documents which say that cod liver oil was imported from Norway by the administration of the camp when they started to intensify the use of detainees as labour power (ARCHIV SACHSENHAUSEN).

The objects from the rubbish pit demonstrate the everyday use of the sickbay to fight disease. As might be expected it is difficult to find evidence of the crimes which took place there. Objects like syringes, anaesthetics and surgical instruments could be used to heal patients, but also to carry out pseudoscientific surgeries, forced castrations, humiliations, abuses and homicides. Other sources such as written reports or testimonies in court have to be consulted to connect medical finds with crimes in the sickbay. One archaeological find, a preparation of the skin detoxification Losantin, can prove medical experiments on humans. It is known that this preparation was tested in an experiment to cure burns caused by the warfare agent Lost (LEY/MORSCH 2007, 330). Testimonies also report the use of the narcotic Evipan for forced castrations (LEY/MORSCH 2007, 295 and report Henry Meyer, Archiv Sachsenhausen: LAG III/8, Bl. 8). Most devices, such as the X-ray apparatus and other objects used in the sickbay, were dismounted and taken away after the camp was abandoned. In the majority of cases the whereabouts of the objects is unclear. The destination of only a few objects is known. The anthropological determination plates, for example, were stored in the osteological collection of the University of Tübingen for many years (LEY/MORSCH 2007, 231). It should be pointed out that the finds from the rubbish pit only allow us to examine a very small part of the entire medical facility.

Conclusion

The finds circumstances, in which the finds were thoroughly mixed and translocated several times before and up to the demolition of the Soviet special camp, mean that the most cases it is impossible to definitely assign an individual object to one period of use, a special sector in the camp or its exact range of medical application. It’s also difficult to determine how the medical objects entered the concentration camp. While one can assume that big German pharmaceutical companies supplied their products directly to concentration camps and knew about the whereabouts of their goods, smaller companies probably sold their merchandise to wholesalers who delivered to the camps. Foreign, but also local products could enter the camp as the property of detainees or were sent in Red Cross packages. Written sources also show that products from abroad were bought by the camp administration.

A detailed analysis of archaeological finds from the area of the former concentration camp is undoubtedly of high scientific value. Written and oral sources tell us that there was a sickbay in the concentration camp that operated like a hospital at that time. Additionally, specific treatments can be identified based on medications and appliances found. It is also possible to identify different producers of the objects. In this way, the known data from manufacturers like Bayer and Merck is confirmed, and other small and big companies from Germany and abroad which had to do with the medical equipment of the concentration camp can be detected. A lot of the salvaged objects contain valuable information but are already heavily corroded. In many cases the finds were tarnished so heavily that their identification was no longer possible. The number of objects which could be identified with the help of labels or other inscriptions was, however, surprisingly high. In a few decades, finds such as these will reveal much less information.
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