

Swedish medicine in the Gustavian period (1772-1809)

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We in Sweden have always said, that there was "a glow of light on GUSTAF's reign". But there is no sun without shadows and if we consider the social and medical conditions of that time, we have unfortunately to note that in many respects, even where there was no deep shadow, it was (with a few exceptions which shone the more brightly) a rather pale morning sun which was beginning to warm up the land. Let us try to imagine the main features of a picture of the medical struggle which may reproduce the situation which we encounter in the middle and the second half of the 18th century and the beginning of the 19th in the field of medicine and medical care in Sweden. However, in order to understand this situation, we must briefly recall the background.

Modern historians often emphasize that the Middle Ages were by no means as dark a period ("the night of the Middle Ages") as they have previously been said to have been. However, in Sweden the Middle Ages were somewhat meagre in the medical field. Scandinavian medical literature is considered to have begun with the herbal written in 1244 by HENRIK HARPESTRENG, a canon of Roskilde Cathedral and physician-in-ordinary to King ERIK PLOGPENNING.

It was essentially based on the book entitled "*On the virtues of plants*", a very well-known work in the Middle Ages, which describes the curative effects of certain plants, animals and stones. It also gives a number of rules for bloodletting and cupping and provides some simple descriptions of diseases. HARPESTRENG's book was translated into Swedish and was of great importance. Practically right up to the end of the 15th century, it was the only native medical literature in Scandinavia. It was later followed by some famous medical books, such as that by Bishop PEDER MÄNSSON and at the end of the 16th century the important work by BENEDICTUS OLAI, "*Een Nyttigh Läkere Book*" (A useful book on medicine). These books had to satisfy the people's needs of information in time of sickness, in so far as the simple cures of popular medicine could not cover their needs. Medical treatment of a more serious kind was, of course, primarily provided by the monasteries and convents, with their "hospices of the Holy Spirit" and hospitals, which were at the same time and for the

most part both establishments for medical treatment and charitable institutions. However, archaeological findings have shown that simple surgery – which was for long called the science of external diseases – was also carried on in the monastic infirmaries. There were no doctors and the surgeons were few and poorly trained, even when they were available at all.

GUSTAV VASA had but little success in his efforts to change the conditions with regard to the practitioners of medicine in Scandinavia, which were so drastically described by the Dane HENDRIK SMID in his herbal of 1557, in which he said, that medical practitioners were generally

“renegade monks and nuns, ignorant priests, unsuccessful merchants, old women and indeed chimney sweeps and blacksmiths, wizards and witches and other such feeble people who are unwilling to work . . . They steal life, health, goods and money from many a man.”

We may simply state that until the end of the 18th century seven-eighths of the medical treatment given in Sweden was in the hands of barber-surgeons, who founded a guild in Stockholm as early as 1496, its privileges being confirmed by JOHAN III in 1571. GUSTAV VASA sought to attract to his court foreign doctors trained abroad, including such men as STEFFANUS SCHOEN, HEINRICH VAN DIEST, JACOB VON SOPHOIEN, CAROLUS PALUDANUS, DIONYSIUS BEURREUS and others. But they soon left Sweden and King GUSTAV himself, as is well known, had to end his days with no well-trained medical assistance at hand.

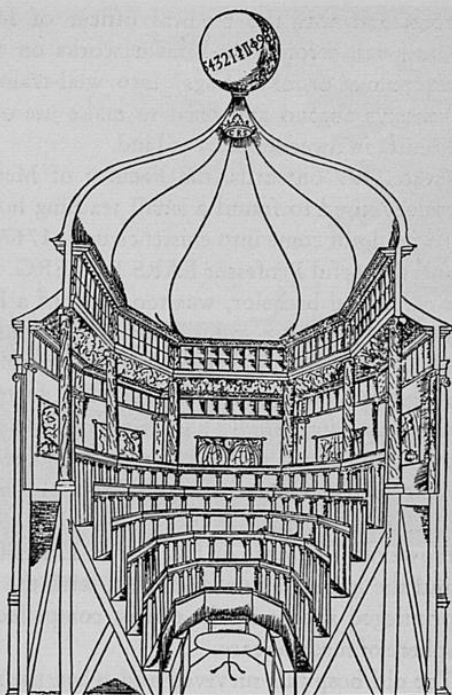
After the Reformation had been introduced into Sweden, the secular authorities had to take entire charge of the country's few charitable institutions and medical establishments. GUSTAV VASA proved to be far-seeing when he issued a charter (in 1528), guaranteeing their further survival by giving them the right to continue to draw the yields and revenues from donated estates.

At the beginning of the 17th century, well-intentioned attempts were made to bring some order into the medical and social services, both by KARL IX, in 1605, by GUSTAV II ADOLF with his *“Hospital Regulations”* of 1624 and, above all, by Queen KRISTINA with her *“Rules and regulations concerning the treatment of beggars and paupers who rightly need alms, likewise concerning the treatment of tramps and idlers”*. The latter regulations are moreover to be found in the Canon Law of 1686, according to which the provincial governor, the parish minister and a chief magistrate were to have charge of the hospitals. The cottage hospitals in the rural areas were to be in the custody of the nobility, together with the parish minister, churchwardens and beadles, i.e. the guardians of church discipline.

The *Collegium medicorum* (later Collegium medicum), which was founded on the initiative of four Stockholm doctors led by GRÉGOIRE FRANÇOIS DU RIETZ, physician-in-ordinary to Queen KRISTINA, was to be of great importance for the organization of the Swedish medical system. It was an early counterpart to the present National Board of Health and Welfare, the Swedish Society of Medical Sciences and the Swedish Medical Association, i.e. its duties were both administrative, educational and professional. It was to fight many a skirmish with the surgeons' old society, which in 1685 adopted the name of *Societas chirurgica*. The Collegium was the supreme authority for doctors, apothecaries, and all other practitioners of the art of medicine.



JOHANN COPP, the first known picture of a Swedish physician (wood-engraving)



Theatrum anatomicum in Uppsala (drawing by O. RUDBECK)

Yet we had had a university in Uppsala since 1477. It may be asked, what was the status of medicine there? We must remember that the university was closed from 1517 to 1593, was granted its first chair of medicine in 1595 (it was not occupied until 1613) and did not have a real faculty of medicine (with three professors) until the 1620s – 150 years after the university was founded. These professors might also have to lecture on botany or philology; one of them was PETRUS KIRSTENIUS, physician-in-ordinary to GUSTAV II ADOLF.

The instruction given was based on classical Greek and Arabic medicine and would not seem to have been particularly onerous. Once, when AXEL OXENSTIERNA, the Chancellor, visited the University of Uppsala, he complained that there were only two or three medical students. At that period, the profession of doctor was an uncertain source of livelihood in Sweden and the students preferred the more certain prospects of the parish minister.

However, during the first period of greatness in Swedish medicine, we had in Uppsala such excellent teachers of medicine as OLOF RUDBECK, the discoverer of the lymphatic system, whom I would call the father of Swedish medical science, and PETRUS HOFFVENIUS, who had lived in Holland and endeavoured to introduce clinical instruction into Sweden and has therefore, perhaps, somewhat improperly, been called "the father of Swedish medicine". URBAN HIARNE, the chemist and pharmacologist, was working in Stockholm; he is famous both as the creator of the Swedish Spa system and for his heroic struggle against the witch trials. JOHAN VON

HOORN was the medical officer of health in Stockholm. He founded Swedish obstetrics, wrote well-known works on this subject and succeeded in turning "unscrupulous drunken hags" into well-trained midwives. He also had made extensive journeys abroad and tried to make use of his experience, especially in Holland and France, in Sweden's barren land.

From 1679 onwards, the Faculty of Medicine in Uppsala, headed by RUDBECK, endeavoured to found a small teaching hospital, but this modest little clinical institution did not come into existence until 1717, on the initiative of the aggressive, eccentric and colourful Professor LARS ROBERG. However, it soon fell into decay; ROBERG, a confirmed bachelor, was too much of a Bohemian. The *Nosocomium academicum* in Uppsala was not re-established until 1741.

The 18th century was for Sweden a time of war, of shortage of money and of social evils. The country gradually sobered down after the chauvinism of its period of greatness. It was gradually also that an increased understanding of human rights emerged; poverty and perhaps also the practice of hard drinking in all strata of society were long obstructions to the provision of social welfare to needy individuals from the mass of the people.

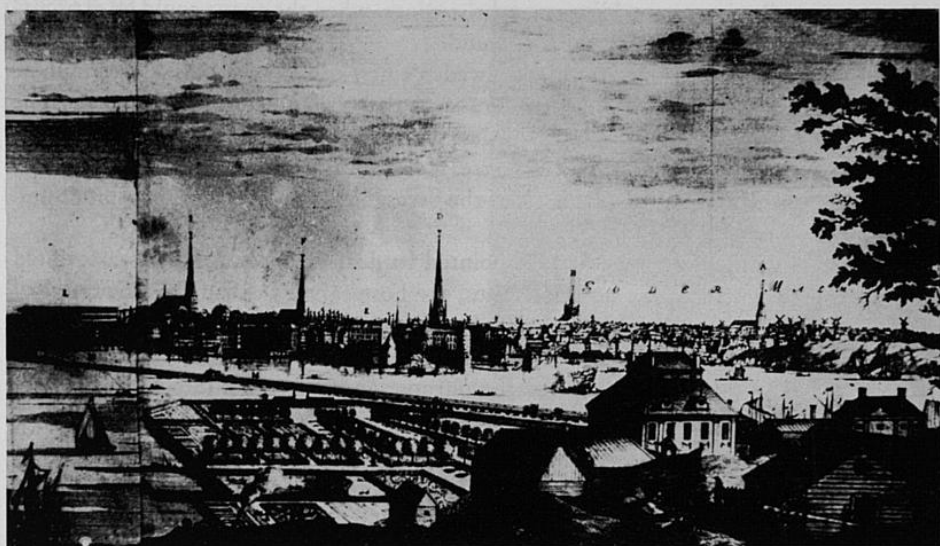
However, the ideas of the Age of Enlightenment gradually made their influences felt and the increasing urbanization, with the consequent concentration of socially underprivileged people in the towns, compelled the taking of certain measures also in the sphere of medical care.

The old hospitals survived and when the number of district medical officers increased (from 12 in 1738 to 32 in 1773 – in the whole country) they were also charged with the task of supervising medical care in the hospitals.

If we consider the hospital conditions in Sweden, we may perhaps think it strange that even in the middle of the 18th century there was no hospital for the acutely sick, even in Stockholm. But conditions were little better in other parts of the world. *Det Kgl. Frederiks Hospital* in Copenhagen was not established until 1757, the *Allgemeines Krankenhaus* in Vienna in 1784, the *Obukhovski Hospital* in St. Petersburg in 1784 and the *Pennsylvania Hospital* in Philadelphia – the first real hospital in America – in 1752.

It was the philanthropic ideals of the time which urged on these developments, but in Sweden a noteworthy initiative had been taken as early as 1561. In 1560, VILHELMUS LEMNIUS, a Dutchman, had arrived in Sweden, after studying medicine in Italy and practising it in England and Germany. He was commissioned by the King to draft proposals for the organization of the Swedish medical service. Realizing the importance of clinical instruction, he included in his proposals the establishment of a hospital for both the treatment of patients and the training of medical students. But no progress had yet been made in this field by the first few decades of the 18th century; Sweden still had no hospital for the acutely ill, except that founded at Falun for the workers at the Koppaberg mine. This hospital came into existence in the last decade of the 17th century (1695).

NILS BOY, a Swede of Scottish descent who was the medical officer of health for Stockholm, submitted memorials to the 1731 and 1734 sessions of the Riksdag (the Swedish Parliament) concerning the establishment of a hospital in the capital; at



The Gripenhielm palace, later Serafimerlasarettet (engraving by A. WIJKMAN)

the Riksdag of 1738–9 his plans were also supported by Lieutenant (later Field Marshal) SAMUEL STIERNELD, who had in mind the poor and sick soldiers of the garrison and their needs of medical care. Nowadays, when the question under discussion is how many hundred million crowns our large hospitals may cost, it is difficult to understand the intense pains with which Sweden's first national hospital was born.

The plans for the hospital, which were thrashed out in the various Estates of the Riksdag, were not actively forwarded until ABRAHAM BÄCK, the distinguished specialist in internal medicine, and OLOF ACREL, the even more famous surgeon, had written propaganda pamphlets in favour of the hospital. On retiring from the presidency of the Royal Academy of Science (founded in 1739) in 1746, BÄCK gave an *“Address on the usefulness to the art of medicine of a well-organized hospital in Stockholm”*. In the same year, at the request of the Academy, ACREL published a pamphlet entitled *“The quickest way of establishing and maintaining a hospital, so that it may attain a considerable size in a few years”*. From where had these men derived their knowledge in this field? Like most, if not all the Swedish doctors who wished to attain senior posts at this period, they had made long tours abroad extended over Germany, France, Holland, England and northern Italy. Thus both, BÄCK and ACREL were able to point to the conditions abroad, especially in France.

However, the main problem was the collection of money, for which purpose the future hospital was granted certain privileges. The most important source of income was a private lottery, strange as it may seem to us. In addition, there were private collections of many kinds, including fees for every Swedish comedy performed and

voluntary contributions at weddings and christenings, when the guests could be expected to be happy and in a generous frame of mind.

In 1748 King FREDERIK I established Sweden's first orders of chivalry – the *Order of the Seraphim*, the *Order of the Sword* and the *Order of the North Star*. The point of interest to us in this connection is that the statutes of the Order of the Seraphim included a provision – which was, of course, a tradition derived from the mediaeval orders of knighthood – that the Knights of the Seraphim should supervise hospitals and poor-houses.

Eight Knights of the Seraphim were appointed to deal with the problems associated with the establishment of the hospital. Thus, the hospital was called the "*Hospital of the Order of the Seraphim*" (in Swedish *Serafimerordenslasarettet*), which was later abbreviated, as we know, to *Serafimerlasarettet*, *Serafimern* or *Serafen*. It was opened, in a manor house specially bought for the purpose and converted into a hospital, on 30th October 1752 – a red-letter day in the history of Swedish medicine. Unfortunately, this hospital – the national hospital serving both Sweden and Finland and moreover until 1774 the only lying-in hospital in Stockholm – had only eight beds, four for men and four for women. It was considerably enlarged in several stages and eventually (in the 1940s) had a good 500 beds; it is still in use, although on a limited scale. The first patient – a case of malaria or ague – was admitted on 30th October and discharged as fit two months later; this was perhaps a good omen for the hospital, which could for a long time be called the stronghold of Swedish medicine, on account both of its high-class medical care and its instruction.

Although the Serafimer Hospital, which received its first grant from the national exchequer in 1783 from the customs duty on tobacco (one seems to recognize the same state of affairs even today!), was fairly soon enlarged, the number of beds cannot have been sufficient to enable it to serve as the national hospital of Sweden and Finland, which at that time formed a single state. It was therefore only to be expected that the country people would regard the obligation (laid down in 1754) to contribute funds to the hospital in the capital as unduly burdensome.

In 1765, they succeeded in securing permission to use the money instead for the establishment and maintenance of hospitals in the provinces. Among the oldest hospitals in Sweden, after the Serafimer, are those at Kalmar (1754), Mariestad (1762), Gävle (1767) and Lund (1768).

In 1756 – when a medical fund of 15,000 silver riksdalers annually was also set up – the Riksdag tried to take the initiative in caring for those who could be called the unfortunates in society – the inmates of what were called the "*crown hospitals*" (*kronohospitalen*). The deliberations in the Estates resulted in the orphanages and lunatic asylums being placed under the administration of the Riksdag Asylum and Orphanage Committee. A Royal ordinance of 1763 stipulated which classes of persons could be admitted to the "*crown hospitals*". They included, in addition to those who could not earn their own livings,

"lunatics, cripples and wretches who suffer from contagious or incurable diseases, such as cancer, epilepsy, leprosy, etc."

However, at the Riksdag of 1765–6 this Committee was dissolved and a "Board" was established, the functions of which were taken over in 1773 by two Knights of



the Seraphim in conformity with a Royal edict. These Knights were advised by a Director-General, the first being OLOF AF ACREL. In a Royal edict of 1774, it was further emphasized that the "crown hospitals" were chiefly intended for those suffering from mental disorders or serious physical illnesses.

In 1787, King GUSTAF III instituted a sub-section of the Order of the Seraphim *"a guild which was to supervise and administer the orphanages, lunatic asylums and hospitals in the Kingdom on behalf of the Order"*.

This laid the foundations of a regular hospital system in Sweden, but it should be remembered that the connection between the guild and the Collegium medicum, the central authority for medical affairs, was a very loose one for a long period.

If we consider the conditions in Swedish hospitals in the transition between the 18th and 19th centuries, we find the following state of affairs in 1798.

There were 21 county hospitals in Sweden proper and five in Finland. The number of patients treated totalled 2,240, half of whom were suffering from venereal disease. Eighty-two patients died. The costs amounted to only 2,212 riksdalers. In addition to these county hospitals, there were certain medical establishments in Stockholm.

What did a hospital look like in those days? We may choose to pay a short visit to the Serafimer Hospital in 1771 by drawing on the description given by WALDEMAR ANTON KIRSTEIN, the Treasurer of the House of the Nobility, who was entrusted with the superintendence of the Hospital's finances and who lived in a nine-room apartment on the upper floor of the Hospital. As already been mentioned, the building was a re-built manor house which had once belonged to KARL XI's tutor,

EDMUND GRIPENHIELM, a Privy Councillor and Principal Assistant Secretary, and was therefore also called *Gripenhielm House*.

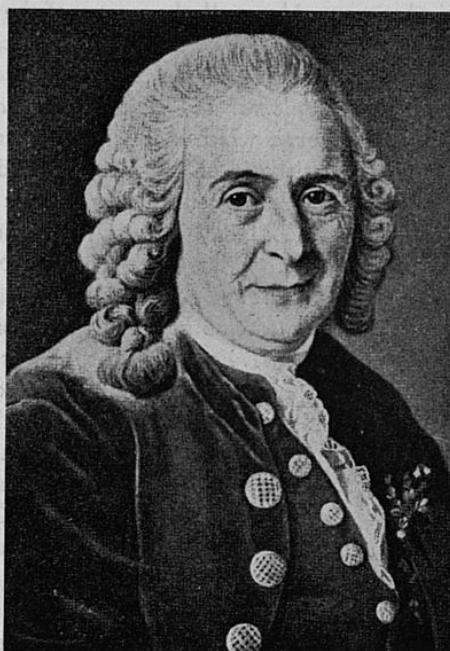
The buildings consisted primarily of the manor house and a stone building. In addition, there was a large coach-house, used as a wood-shed, and an equally large building, half of which was used for storing wooden boards and the other half as a morgue ("the doctors also used it when some body is to be examined"), which shows that autopsies took place at that time, though they were usually partial ones. There was also a wooden outhouse for the superintendent's two cows, space for a horse and two partitions for poultry.

It is evident that at this period there was a good deal about the hospital that gave it a rustic and idyllic character and, of course, it eventually had to be re-built afresh. This re-building took place in the years 1785–8 to the designs of ERIK PALMSTEDT, the city architect, which were approved by GUSTAF III on 30th December 1784. Thus, after the reconstruction the large hospital building was three storeys high and contained about 50 rooms, including a large consulting room, a ward for minor surgical operations, 13 large and 12 small wards for patients confined to bed and convalescent patients, a kitchen and staff rooms for various categories of staff, including two rooms for the assistant surgeon. The Hospital also had private rooms and its own pharmacy. The Hospital Garden, which both BÄCK and LINNÉ helped to create, was used both for the cultivation of medicinal herbs and for instruction in botany.

The regulations issued in 1788 give us a good idea of the appearance of the interior of the re-built hospital. As regards the wards, they indicate that a suitable number of beds was installed there, "each for one person". Thus, the talk about there being two patients to one bed at the Serafimer Hospital was groundless; it might have happened if ACREL's proposal, made on the basis of his experience in France, had been followed. The regulations give detailed instructions concerning the patients's clothing, which bear witness to the coldness of the hospital, amongst other things. The special wards included, apart from the wards for Roman Catholic patients and patients with fractures, wards for patients with venereal diseases, including those for whom the "salivation cure" had been prescribed (mercury treatment for syphilis). The hospital also had special isolation and convalescent wards, where "improved patients are given an opportunity to regain the strength they have lost during their illness in a healthier atmosphere".

With its modest finances, the hospital developed only slowly. In 1752 it had eight beds, in 1782 48 and in 1817 109. It was not substantially re-built and enlarged until the 19th century.

Medical items have their readers even in the daily news-papers of today. But in the Swedish news-papers of that period, there was perhaps a shortage of news. Anyhow, there was space for the publication "annually in the domestic papers" of the Hospital Board's list of the number of patients and the diseases treated at the Serafimer Hospital. If we look, as an example from the Gustavian period, at the list for 1775, we find that in that year 386 patients were treated, of whom no less than 101 had venereal diseases. Cases of ague came next (real ague or malaria occurred frequently in Sweden), but it may, of course, have been a question of other febrile diseases, although there was a special group for "Raging, Inflammatory and Malignant Fevers". Dropsy and



CARL VON LINNÉ (painting by A. ROS-
LIN 1775)

The title – page of ROSÉN VON ROSEN-
STEIN's famous book of pediatrics

scurvy also played an important part, but the number of surgical cases was only about 50.

Which doctors were carrying the standard of Swedish medicine at this period? It is often said that Swedish medicine went through its second period of greatness in the 18th century. There were four outstanding personalities who may be said to have guided the development of Swedish medicine at this time – NILS ROSÉN VON ROSENSTEIN, CARL VON LINNÉ, ABRAHAM BÄCK and OLOF AF ACREL. NILS ROSÉN VON ROSENSTEIN (1706–73) may be regarded as the father of Swedish paediatrics. He defended his doctoral thesis in 1730 during his long visit to Harderwijk, the small Dutch university town which at that period attracted many foreigners, especially poverty-stricken Swedes, as the cost of studying there was low. The subject of his thesis "*De historiis morborum conscribendis*" was a topical one. He returned to Uppsala in 1731 and in 1740 succeeded OLAUS RUDBECK the younger as professor.

However, he soon changed subjects with his professorial colleague, LINNÉ, and then taught theoretical and practical medicine. ROSENSTEIN did valuable work as the author of a Swedish textbook on anatomy and by re-opening the small Nosocomium academicum in Uppsala, where he gave clinical instruction in the clas-

sical manner. Above all, the creator of the famous ROSÉN cough mixture became well known as the author of papers on child care in what was then the best mass medium – the almanacs. In 1764, he combined these papers into a book entitled "*Underrättelser om Barn-Sjukdomar och deras Bote-Medel*" (*Reports on the diseases of childhood and their cures*), which was translated into several languages. He was the greatest medical practitioner of his time in Sweden and was awarded the title of *arkiater*, an honorary title for outstanding doctors which no longer exists in Sweden (although it still does in Finland). He was also raised to the nobility.

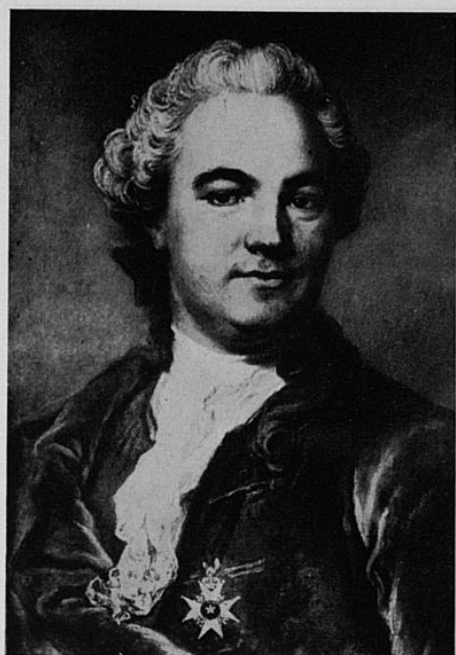
It is often forgotten that CARL VON LINNÉ (1707–78) or CAROLUS LINNAEUS, as he called himself and as he is still called in international connections, was also a doctor. He practised medicine in Stockholm from 1738 until his appointment as professor in Uppsala in 1741. For two years, he was also a naval doctor at Kastellholmen, where the sick bays attracted him on account of the relatively large numbers of patients, which gave him opportunities for study. LINNAEUS' great contributions to natural science will not be discussed here, but it may perhaps be worth-while pointing out that he also wrote medical works. The most famous are perhaps his "*Clavis medicinae*", which contains his pathological system, *Genera morborum*, which was written in an attempt to create a systematic classification in the same way as in botany (on French models), and the two works by which he became known as one of the forerunners of the science of bacteriology, "*Exanthemata viva*" and "*Mundus invisibilis*".

Curiously enough, LINNÉ never published his lectures on dietetics, i.e. what we now call hygiene, although they attracted large audiences. They were first published for the bicentenary of his birth in 1907 under the title of "*Lachesis naturalis*".

ABRAHAM BÄCK (1713–95) was one of ROSÉN VON ROSENSTEIN's pupils. He spent four years studying abroad – two of them in Paris – and became a professor of anatomy in 1749. However, he was soon appointed doctor to the Court and physician-in-ordinary to the Swedish kings FREDRIK I, ADOLF FREDERIK and GUSTAF III. During his presidency of the Collegium medicum, he proved himself a skilled administrator and was the principal initiator of the Swedish Pharmacopoeia of 1775. Of course, he also did capable service as the first specialist in internal medicine at the Serafimer Hospital, but he stayed there only a year.

OLOF AF ACREL (1717–1806) would seem to hold the still unbeaten record for long service as a senior surgeon. He served at the Serafimer Hospital for no less than 54 years – a nightmare perhaps for ambitious young colleagues!

ACREL spent five years studying abroad, after serving as apprentice to GERHARD BOLTENHAGEN, the Stockholm barber-surgeon. He returned to Sweden enriched also by his experiences on the battlefields of the War of the Austrian Succession and spent some time in captivity in the Austrian fortress of Lauterburg. On being paroled in 1744, he returned to Sweden, where he found that he was merely an unqualified apprentice surgeon. But he soon passed his examinations and in 1745 was able to publish the first scientific work on surgery in Swedish "*Utförlig Förklaring om Friska Sårs Egenskaper*" (*A detailed explanation of the characteristics of healthy wounds*), a fruit of his medical studies in the fortress of Lauterburg. In his time at the Serafimer Hospital, where he was a daring surgeon and famous for his operations in cases of hernia and cataract, he was able to collect a large and interesting material of cases –



ABRAHAM BÄCK (pastel by G. LUNDBERG) SPA



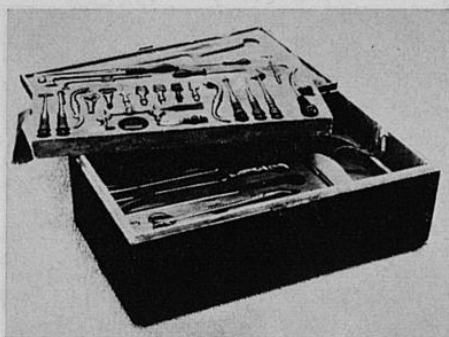
OLOF AF ACREL (pastel by G. LUNDBERG 1776) SPA

interesting even from the international point of view. He published this material for the first time in 1759, under the title of "*Chirurgiske Händelser*" (*Surgical Cases*). He issued a new and enlarged edition in 1775 with contributions from some of his assistants.

ACREL was also involved in an interesting controversy on the methods of performing operations for cataract, which led to trial operations being performed at the hospital, after the publication of JACQUES DAVIEL's new method in 1759 had attracted great attention to the operational technique and led to improvements in it. ACREL received the title of professor in 1755 and the degree of Doctor of Medicine at Uppsala in 1760. He was raised to the nobility in 1780 and moreover the cost of the letters patent was personally defrayed by GUSTAF III, who greatly admired him.

It is interesting to note, that, when ACREL arrived at the Serafimer Hospital, he had to use his own, privately procured surgical instruments. However, the Director of the Cutlery Works visited him in 1757 and offered to try and start the domestic manufacture of surgical instruments, if ACREL would only place his foreign ones at his disposal for use as models. The attempt was successful and the case of instruments which was delivered in 1759, containing all the equipment then regarded as essential for a department of surgery, is now in the Museum of Medical History in Stockholm. —

Now a few words about military medicine. This may be the more justified as solicitude



for the needs of the armed forces was one of the main motives for the organization of medical care in Sweden.

Two names are worthy of particular mention among the physicians in the Swedish armed forces in the 18th century; PEHR ZETZELL (1724–1802) in the army and ARVID FAXE (1733–93) in the navy.

ZETZELL was born in Söderköping, became Doctor of Medicine in Uppsala in 1754 and then studied anatomy in Berlin and the organization of field hospitals in France. He did great work in the Pommeranian War of 1757–62 and, as a member of the Royal Academy of Science, wrote two books of importance for Swedish military medicine. On his resignation of the Presidency of the Academy in 1764, he gave an "Address on a Swedish Soldier's Diet in the Field". In this he laid down four essential requirements for the soldier's diet:

- 1 *Nourishing, avoiding sharpness and not relaxing but rather strengthening the stomach. Good and sufficiently nourishing ...*
- 2 *Food to which the body is accustomed.*
- 3 *Food which does not require too lengthy preparation.*
- 4 *The materials which are to provide food for an army should be easy to obtain and difficult to spoil.*

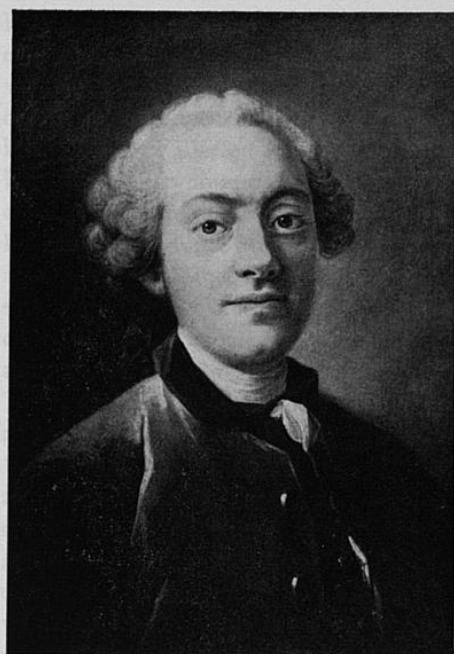
He states laconically that

"when salty food, guard duty and physical labour act together on an army, the enemy needs no weapons to defeat them, for these three things are more devastating than anything that the art of war has discovered and makes use of".

ZETZELL also had a pithy description of what he regarded as the ideal soldier:

"By no means fat but well fleshed, with firm and hairy thighs and legs, having a healthy appetite and good digestion, solid motions and little propensity to sweat".

The navy also had of old serious difficulties in obtaining surgeons for service on board ship, which was for long very arduous – cramped quarters and no heating because of the danger of fire; the crew was quartered on the lower deck, where they slept fully dressed on the floor. For a long time, the crews had no uniforms and the seamen often had no other clothes than those they stood up in. The fare was relatively ample during the rather short voyages which the men-of-war made, usually in the spring



PEHR ZETZELL (painting by unknown artist)

AFHANDLING,
OM
HUSHÅLNINGEN
TIL SIÖS,
I AFSEENDE
PÅ
HÅLSANS BEVARANDE,
TIL KONGL. ÖRLOGS-FLOT-
TANS TIENST.

FÖRFATTAD

AF
ARVID FAXE.

*M. D. Kongl. Amiralitets Medicus.
Medlem af Kongl. Collegio Medico.*

Med Kongelig Majestæts nådigste Privilegio.

CAPLSCRONA,

TRYCKET I KONGELIG AMIRALITETS BOKTRYCKERIET,
ÅR 1782.

The title-page of FAXE's paper on naval medicine

and autumn. But the morbidity rate was high and the mortality of Swedish men-of-war was terribly high far into the 18th century; it was normally calculated that between a third and a half of the crew might die on long voyages. The most common diseases were colds, pneumonia, influenza, scurvy, dysentery and certain eye diseases. The medical corps entered the Swedish navy in 1650 in the person of Dr. PETER SCHALLERUS, who was raised to nobility under the name of GRIPENFLYCHT. The morbidity rate compelled the authorities to set up sick bays, such as those in the Stockholm navy yard (in 1668) and Karlskrona (in 1680), where a special naval hospital was also founded in the 1690s. The naval regulations of 1785 prescribed that the master surgeon was to hold a roll-call for the sick every morning at 7 o'clock, assisted by the junior surgeon, the surgeon apprentices and the medical orderlies. The physicians, who were also represented in the Stockholm squadron from 1737 onwards and in the Gothenburg squadron from 1781, had chiefly administrative duties and, in addition, were enjoined to examine surgeons, to supervise their work and to see that the instrument cases and the feeding arrangements were in order. The most important of the Swedish naval physicians in the 18th century was ARVID FAXE, who, after graduating as licentiate of medicine, took part in a campaign in

Germany but was recalled by the authorities to become first associate professor of anatomy at Lund and then (from 1757) naval physician. FAXE defended his doctoral thesis in Lund and worked for a time as medical officer of health at Västervik. He then served first as assistant and later as chief physician to the Navy Department at Karlskrona until his death in 1793.

Two of FAXE's books are classical works in the Swedish literature on naval medicine. The best known is his thesis, published in 1782 and entitled "*Om hushållningen til siös i afseende på hälsans bevarande*" (*On house-keeping at sea with regard to the maintenance of health*), but he also published "*En Minnes-Bok för skeppsläkare*" (*A vademecum for ship's doctors*) in 1785. The thesis on house-keeping at sea reflects modern ideas in many respects. It deals with matters of general hygiene, common diseases and their treatment, feeding arrangements on hospital ships and in other countries, and pay conditions. FAXE emphasizes the importance of personal hygiene, including (for that period) such measures as showers and cold baths, temperance and athletic exercise (especially swimming), and points out the necessity of constant training in athletics. He takes up questions concerning sleeping habits, clothing, ventilation and the composition and storage of victuals on board ship. Naturally, he has something to say about spirits – which were thought to be more plentiful in the Swedish navy than in foreign navies – and about tobacco, his opinion of both spirits and tobacco was, of course, that "*neither of the two things can be reckoned to be really good for one's health*", but he also declares resignedly, of brandy, that

"seeing that this habit has produced a marked craving for this irritating spirit, it would arouse the sailors' displeasure and cause them real suffering if they were not provided with it".

Among the naval physicians of the late Gustavian period, I may perhaps also mention HENRIC GAHN, who was a pupil of LINNÉ and who in 1770 began a study tour abroad which took him to England and Scotland, amongst other countries. He was invited to accompany Captain COOK on his new expedition but turned the offer down. Instead, he studied the medical problems in the British Navy and then returned to Sweden to take up what was then regarded as one of the best posts in the medical establishment – that of naval physician in the Stockholm naval base, a task for which he was undeniably very well qualified. He was also to become a very popular general practitioner in Stockholm and eventually – in 1807 – one of the seven founders of the Swedish Society of Medical Sciences.

After this digression into the sphere of military medicine, let us now return to the conditions in civilian life. In the history of medicine, the 18th century is usually described as the century of the great systematizers. In the age of the *Encyclopédie*, attempts were made to explain medical phenomena with the aid of studied systems, such as those put forward by men like HERMAN BOERHAAVE, of Leyden, FRIEDRICH HOFFMANN and GEORG ERNST STAHL, both of Halle, and WILLIAM CULLEN and JOHN BROWN, of Edinburgh.

But it was also the century of ALBRECHT VON HALLER and the new experimental physiology, MORGAGNI and pathological anatomy, and AUENBRUGGER and the beginning of physical diagnosis. It was a period which gradually led to serious specialization in medicine and which resulted in many important discoveries in natural science.

However, this did not prevent systematic medicine from blossoming out, even at the end of the century, in the theory of Vitalism emanating from the Montpellier school, which revived the classical ways of thinking in medicine. According to this theory, disease was a destruction of the vital principle, and its cure was to be sought in the increase and regulation of nature's own healing power.

Naturally, the young Swedish doctors on their study tours made their ways to the above-mentioned celebrities and to the famous medical centres – to Germany, Holland, France and England. But even go-ahead young men who had chosen careers in surgery and consequently acquired a mechanical sort of training under some master barber-surgeon instead of studying at a university – although in the latter half of the 18th century it was not uncommon to combine these two kinds of study – had to study abroad.

The struggle between the Collegium medicum and the Surgical Society was often hard and ruthless and was not always waged on a high level. Irritation grew and finally 1797, a Royal edict was issued, dissolving the Society with a view to bringing about an amalgamation of the physicians and the surgeons or perhaps rather a national medical and surgical association.

But it would be wrong to think that this change had really taken place. The only essential change resulting from the dissolution of the Society was that the Collegium was now in sole control. Another important fact may be gathered from the 1797 regulations for training in surgery, in which the King-in-Council "*guarantees to the magistri et studiosi chirurgiae all the personal rights and freedoms which the university constitutions generally confer on those who study science*". This emphasizes that the surgeons were no longer regarded as artisans.

The bath attendants, the old rivals of the barber-surgeons, survived as a guild and 1807 were granted the right to practise some minor surgery. In 1861, they also inherited the title of barber-surgeons. As it is well known, Sweden no longer has any barber-surgeons.

An amiable and certainly important form of practical medical treatment was given at the Spas. The custom of drinking the waters of mineral springs is very ancient; healing springs are mentioned in the Bible, in early India and in classical Greece. URBAN HIÄRNE, a very versatile man, had discovered Sweden's first mineral spring (*Medevi*) in 1678 and had thoroughly analysed its water. His advocacy of the drinking of the waters and bathing derived from the observations which he had made during his study tours abroad; however, AXEL OXENSTIERNA had, as early as 1636, searched for mineral springs in Sweden which could be regarded as important natural resources.

The actual virtue of the Spa water was believed to derive from the "*acidum occultum*" or "*universale*" (the universal acidity, i.e. carbonic acid). This was said to have derived its powers from fire, water, air and earth. On this account, it possessed qualities which endowed it with influence on disturbances of the four cardinal fluids.

If we confine ourselves to the conditions in the capital, it may be pointed out that Stockholm could reasonably be regarded as a Spa in earlier centuries. The oldest mineral spring in Stockholm was Djurgårdsbrunn, which dated from the 16th century but was chiefly popularised by HIÄRNE in 1690.

Mineral waters also began to be imported from abroad and by and by attempts were

made to manufacture native artificial mineral waters in Stockholm, as at the factory run by L. G. WERNER, the surgeon, and JÖNS JAKOB BERZELIUS, the chemist. BERZELIUS himself made up and mixed the mineral waters which the visitors were given to drink, for example, carbonated or aerated waters, Seltzer water, salt and ordinary Pyrmont water, Spa, Fachinger or Diezer waters, Epsom salts and hepatic water. However, WERNER's factory soon went to rack and ruin – which also worried BERZELIUS – in spite of the fact that the highclass visitors from Stockholm society underwent five-week cures and in fine weather could walk in WERNER's garden and in “a long and spacious hall” when it was raining.

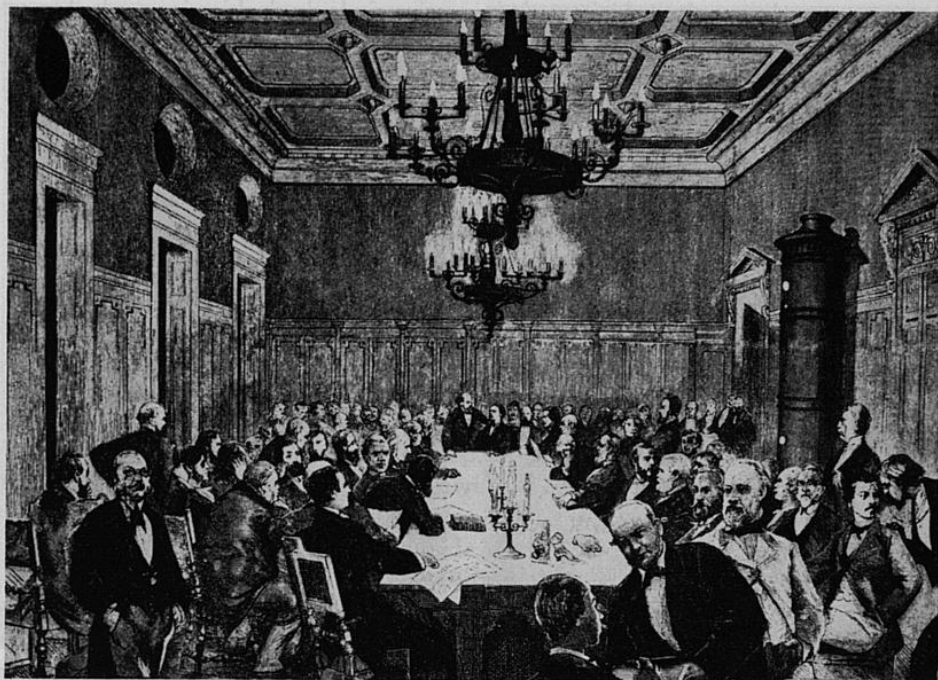
The drinking of the waters and the regimen at the Spas were certainly of medical importance. Some of the Spas – such as that at *Loka* in the Swedish province of Närke – became fashionable in the middle and the second half of the 18th century and at the beginning of the 19th. The place where formerly invalids had sought cures for all kinds of disease now became the scene of amorous amusements or noisy popular festivals.

However, the members of the aristocracy naturally made their way to the famous foreign Spas and there we also find the most eminent representative of the Gustavian epoch, GUSTAF III himself, seeking rest and recreation in the summer of 1780 at Aachen, Liège and Spa, and vigorously participating in the life of the cosmopolitan society at these Spas, with intervals for reckless rides and walks in the forest, drinking the waters and bathing.

GUSTAF III worked very hard during the last few years of his life and in 1790 his health is stated to have been “*poor, with blood pressure in the head, high temperature and pains in the chest*”. These symptoms were regarded as the sequelae of the hardships which he had undergone during the war in Finland and which in June 1783 had also resulted in a fracture (successfully healed) of the upper part of the left arm. In 1790 he therefore again visited the Spa at Aachen. During these years, the King must certainly also have been deeply depressed by his awareness of the increasing opposition to, not to say hatred of him personally. He feared the month of March, not without reason – and the 16th of March 1792 has gone down in Swedish history as a fateful day.

The medical treatment of the King after he had been shot at the masquerade at the Opera may perhaps illustrate the situation as regarded practical medical care at this period. The shot had hit the King above the left hip. The wound was bandaged and after the medical examination the King was taken to the Palace in his carriage and carried into the ceremonial bedchamber, put to bed in the presence of those assembled there and bled on the first evening.

A group of eight doctors and surgeons examined him the next day; The Surgeon Théel felt the wound with his finger and enlarged it with a probe. It was only possible to remove two tacks from the shot, which had consisted of six bent tacks, five or six buckshot and “two grooved bullets”. The King, who liked his bedroom to be icy cold, was able to receive visitors and hold audiences during the next few days. Infection accompanied by a high temperature naturally developed, but the doctors hailed this with satisfaction, as it was a good sign according to contemporary medical thinking. At the end of March, symptoms of general blood poisoning set in and stitches (a “pleuresie”)



The Swedish Society of Medical Sciences (wood-engraving after drawing by C. LARSSON)

developed on the right-hand side of the chest. On 25th March the patient became worse and had stitches and a cough. Nevertheless he ate dinner with a couple of guests, but his temperature rose in the evening and pneumonia was now manifest. Spanish fly was applied to his chest and he was bled. The infection of the wound became increasingly intense and the pus was evil-smelling – the patient himself and the other persons present in the room had to be sprinkled with eau de cologne.

The operation to remove the shot, which ACREL alone among the doctors suggested, was never performed and must have seemed very hazardous at a time when there were no effective methods of preventing haemorrhage, no aseptic operating technique, no anaesthesia, no fluid therapy and no antibiotics, but there was perhaps a chance of success.

The autopsy showed that there were signs of “gangrene” in the wound and that the transverse process of the third lumbar vertebra was smashed, the left lung was full of adhesions and covered with mucus, the heart was very fat, the peritoneum was intact and the shot was lodged between the presumably damaged left kidney and the musculature. Three buckshots, the top of an iron tack and the charge were found in the deep musculature of the back.

The Gustavian epoch ended in a dramatic way. Wars and disasters followed in its wake. Diseases devastated Sweden’s armies and fleets and cries went up for help which for a long time was not available. At the same time, a depressing political timorousness

began to spread through the highest administrative circles in the kingdom and a heavy hand was laid on intellectual life. It must therefore seem natural that the Swedish Society of Medical Sciences should have originally come into existence as a medical-literature society.

It was originally founded in December 1807 as a medical-literature society but which soon developed into a forum for science and professional friendship. Its fine motto was "The perfection of science through the mutual exchange of knowledge and experience and amicable trust between doctors". The Society's primus motor was ERIC CARL TRAFVENFELT, who was also to play a great part in another connection in Swedish medicine at this period.

In the middle of the 18th century, there were two universities in Sweden – at Uppsala and Lund – each with a faculty of medicine, which was at times headed by eminent scholars and teachers. Clinical instruction in Stockholm, indeed, practically in Sweden as a whole, was still only available at the Danvik Asylum and the Orphanage at this period. Medical students had to acquire clinical experience by accompanying older doctors on their rounds and by studying abroad. This state of affairs was not changed until the foundation of the Serafimer Hospital in 1752.

The instruction of the surgeons, the medical students, the pharmacy apprentices and the midwifery students seemed to call for the establishment of teaching posts in anatomy, obstetrics and natural history (including pharmacy). As early as 1716, KARL XII had indeed established an unpaid professorship of anatomy for MAGNUS BROMELIUS "*for the instruction of young people in anatomy and those subjects which form part of the knowledge of the human body*". But BROMELIUS soon tired of his unpaid post. The professorship of anatomy then remained vacant until 1749, when ABRAHAM BÄCK held it for a short period. However, it was not until ROLAND MARTIN was appointed professor of anatomy and surgery in 1756 that the instruction became more important, especially for the training of the field surgeons. It is true that JOHAN VON HOORN had begun to give lectures in obstetrics and anatomy as early as 1691, but a professorship of obstetrics did not come into existence until 1761, when DAVID SCHULZ VON SCHULZENHEIM, "tutor and superintendent of midwifery", was appointed to it. Both physicians and surgeons were trained in obstetrics and were obliged to be present at deliveries at the Serafimer Hospital.

The chair of natural history and pharmacy was also set up in 1761. Its first occupant was P. J. BERGIUS, who later donated funds to the Bergian Foundation and Garden. He taught students of medicine and surgery and pharmacy apprentices.

The disaster during the war of 1808–9 shed a sudden light on the wretched state of affairs, which even gave rise to criticism and comments as regarded the navy – from the English. Dr. JAMIESSON, an English naval doctor who worked on board the hospital ship "*Gordon*", had studied the conditions under which Swedish naval medicine was practised during a visit to Gothenburg. In the spring of 1809, he sent a sharp letter to the Collegium medicum. In accordance with the recognized practice, a commission was appointed, with A. J. HAGSTRÖMER as chairman. This commission was able to demonstrate that the authorities themselves were to blame for the deplorable conditions, since they had disregarded many protests from the doctors.



ERIC CARL TRAFVENFELT (painting by F. WESTIN 1811)



CARL JOHAN EKSTRÖMER (painting by J. P. SÖDERMARK 1851) SPA

During this period, the doctors had also observed with horror the large number of cases of infectious diseases, which had reduced both the Swedish armed forces and the civilian population. People began to realize in all seriousness that the medical services must be improved, perhaps especially by the increased training of doctors.

However, no essential improvement was made until ERIC CARL TRAFVENFELT – who had previously proposed in the Riksdag that the clergy should be given medical training (this was also a manifestation of the shortage of doctors in Sweden) – moved a resolution in the Riksdag of 1809–10 concerning the establishment of an institute for assistant physicians and a military hospital for the instruction of students. The foundation of *Karolinska Institute* in 1810 as a result of this resolution – it also derived its origin from the three professorships previously mentioned – really marked the end of the handicraft training of Swedish surgeons. The Serafimer Hospital was used for practical instruction, as was also the *Garrison Hospital*, founded in 1811 (in 1834 it was to move into the building which is still preserved and which was in its time regarded as the most beautiful hospital building in Europe). The Institute, which was at first a school for surgeons, had to ride out many a storm during the first half of the 19th century, with BERZELIUS carrying its banner into the struggle with the Uppsala Faculty of Medicine, headed by ISRAEL HWASSER. The struggle was concerned with the Institute's equality of status with the university faculties.



Karolinska Institute 1817-65 (wood-engraving)

In 1809 the Collegium medicum found a forceful leader in DAVID SCHULZ VON SCHULZENHEIM, although he was already 77 years of age.

The name was changed and from 1813 the 150-year-old Collegium medicum was called the *Sundhets-kollegium* (*Health Collegium*). According to the instructions issued in 1815, the Collegium's tasks were to be distributed between a division for civilian matters and a division for military matters.

What was the situation in the hospital sphere in 1813, when the Health Collegium came into being? Sweden then had 33 hospitals (and an asylum at Danviken in Stockholm) with just over 700 beds. The number of inhabitants per bed was 3.437 and the number of patients admitted was about 4.000. Thus, despite the considerable progress, the figures involved were still very small. The next change was to come about, at a more rapid rate, only after the county councils came into existence in 1862 and began to take an interest in medical care.

It was at a late stage that the training of doctors in Sweden began to get under way and the regulations laid down in the constitutions of Uppsala University in 1625 and 1626 (revised in 1655) were in fact still in force up to 1852.

Sweden had several colourful medical personalities during the 19th century. CARL JOHAN EKSTRÖMER, who was born in 1793, has always seemed to me to be one of the most fascinating. In the same year (1851) as he was painted by P. SÖDERMARK, he dated an autobiography, which unfortunately stops at his 28th year (1821), when



Serafimerlasarettet about 1840 (lithography)

he was appointed senior surgeon at the Serafimer Hospital. While still a schoolboy, he had served as an assistant physician at field hospitals during the war with Norway. He eventually resumed his studies and, after taking the university-entrance examination, he began his medical studies at Lund. As the first university-trained student at Karolinska Institute, he made his appearance on the Stockholm scene under the cold star of financial stringency. In 1813 he managed to get himself appointed temporary battalion physician with the Uppland Regiment and was transferred to a battalion which was sent to Germany, where EKSTRÖMER, who was a great admirer of KARL XIV JOHAN (then the Commander-in-Chief), took part in the struggle against NAPOLEON.

He was present as a military physician in the 1813–4 campaign in northern Germany and has given us some extraordinarily interesting glimpses of these years of campaigning and studying. At Dennewitz, the doctors hastily organized several provisional hospitals, on the day after the battle:

"My quarters were the church, where I had the pews removed, with the aid of some Uppland men, and the floor spread with straw and was thus able to receive a considerable number".

He did not discriminate on grounds of nationality:

"The Cossack lay between the Frenchman and the Italian, the Prussian between the Italian and the Spaniard, and so on. The most seriously wounded were at the front and those with minor wounds at the back of the church; the officers were in the sacristy. An operating table was set up in front of the altar and here I performed my first amputation, viz. an amputatio femoris on an Italian officer whose knee had been smashed by grape-shot. This was a solemn moment, which I shall never forget!"

With this picture of the young EKSTRÖMER operating in front of the altar of

Dennewitz church – perhaps to the accompaniment of the distant booming of guns – we may conclude this survey of Swedish medicine and medical care in peace and war during the Gustavian period and the epochs preceding and following it. There are great names to be remembered, the names of men who were skilled, perhaps brilliant, and great as personalities. However, the financial resources were small and the practical needs had to be satisfied in the simplest possible way, even in the piping times of peace. Large resources were not to become available until much later, when industrialization had wiped out poverty in Sweden, while at the same time systematic medicine was abandoned in favour of scientific thinking and medical developments had for the last 100 years proceeded at full speed, indeed, at an almost explosive rate. But there is also the risk that, with all our technology, we may have abandoned what is nevertheless the focus of all medical care – man himself. Perhaps in many respects man was after all, in just this capacity, provided for as well or better in the idyllic conditions of medical care and nursing during the Gustavian period as he is now in the giant medical complexes of our technology – worshipping era, which have taken over the inheritance of the small medical establishments of previous centuries, in which there was perhaps still something left of the classical idea of the patient-doctor relationship?

Bibliography:

- AF ACREL, OLOF: *Chirurgiske Händelser.*, Stockholm 1759, 1775.
 AF ACREL, OLOF: *Genaste sättet at inrätta och underhålla et Lazaret eller Sjukhus, så at det innom få år måtte ärnå en ansenlig tilväxt*, Stockholm 1746.
 ANDERSSON, INGVAR: *Sveriges historia*, Stockholm 1953.
 BENEDICTUS OLAI: *Een Nyttigh Läkere Book*, Stockholm 1578.
 BERGIUS, PETER JONAS: *Inträdes – Tal om Stockholm för 200 år sen, och Stockholm nu för tiden*, I *Anseende Til Handel och Vetenskaper*, Särdeles den Medicinska, Stockholm 1758.
 BÄCK, ABRAHAM: *Tal om Nyttan som tilflyter Läkarekonsten, af et väl inrättadt Lazaret eller Sjukhus i Stockholm*, Stockholm 1746.
 FRIES, TH. M.: *Linné II*, Stockholm 1903.
 FAHRÆUS, ROBIN: *Läkekonstens historia III*, Stockholm 1950.
 GOTFREDSEN, EDVARD: *Medicinens historie*, III uppl., Köpenham 1973.
 HENNINGS, BETH: *Gustav III*, Stockholm 1957.
 HIÄRNE, URBAN: *Den lilla wattuprofwaren 1683* (Facsimileedition with preface by WOLFRAM KOCK, Stockholm 1973).
 HJELT, O. E. A.: *Svenska och finska medicinalverkets historia 1663–1812*, I–III, Helsingfors 1891–1893.
 HULT, O. T.: *Vilhelmus Lemnius och Benedictus Olai. Ett bidrag till svensk läkarhistoria under Vasatiden*, Stockholm 1918.
 KOCK, WOLFRAM: *Kirurgminnen från Karl Johanstiden. Carl Johan Ekströmers självbiografi* (Edition with commentaries), Stockholm 1964.
 KOCK, WOLFRAM: *Kungl. Serafimerlasarettet 1752–1952* (Thesis), Jönköping 1952.
 KOCK, WOLFRAM: *Läkare – och kirurgyrkets förening i Sverige*, Sv. Läk. tidn. 1942: 39: 2681–2708.
 KOCK, WOLFRAM (ed.): *Medicinalväsendet i Sverige 1813–1962*, Stockholm 1963.
 KOCK, WOLFRAM: *Medicinshistoriens grunddrag*, Halmstad 1955.
 KOCK, WOLFRAM: *Olof af Acrel*, Stockholm 1967.
 KOCK, WOLFRAM: *Stockholm som brunnsort, Ord och Bild*, Stockholm 1955: 521–536.

- KOCK, WOLFRAM: Svenska konungars sjukdomar, Stockholm 1963.
KOCKUM AXEL: Läkare och apotekare vid Gustav Vasas och hans söners hov. Bidrag till medicinens och farmaciens historia i Sverige under 1500-talet, Stockholm 1949.
LENNMÅLM, FRITHIOF, Karolinska mediko-kirurgiska institutets historia, I-II, Stockholm 1910.
LENNMÅLM, FRITHIOF: Svenska Läkaresällskapets historia 1808-1908, Stockholm 1908.
MESTERTON, C. B.: Om Nosocomium academicum och kliniska undervisningen i Uppsala, Uppsala univ. årsskr. 1870.
NILSON, GUNNAR: Berömda svenska läkare, Stockholm 1945.
PETTERSSON, A.: Abraham Bäck. Levnadsteckningar över K. Svenska vetenskapsakademiens ledamöter 103, Stockholm 1932.
SACKLÉN, J. F.: Sveriges Läkare - Historia, ifrån konung Gustaf I: s till närvarande tid, Nyköping 1822.
SCHULZ VON SCHULZENHEIM, DAVID: Tal, om den offentliga vården ... Stockholm 1801.

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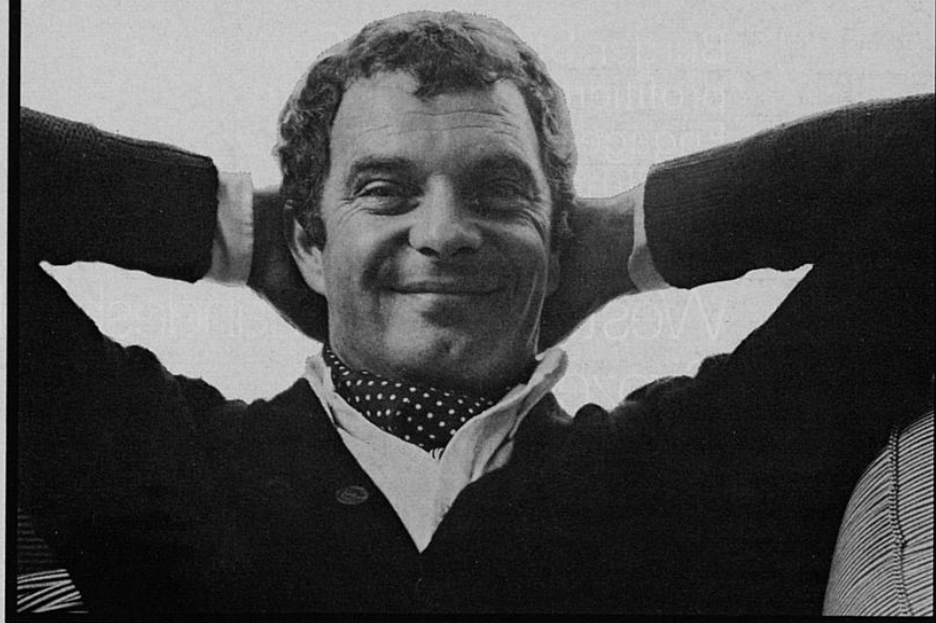


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