



The “Champagne Cure” in Nauheim

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We all cherish the relaxing effect of a hot bath and deep in our hearts we entertain the hope that it may be good for us, for our health, for our mind and for a long life. The fountain of youth as depicted by Lucas Cranach the Elder is what many of us would like to enter and science is busy to unravel the genes conferring longevity. Taking hot baths was developed by the Romans as a lifestyle and it was perhaps a happy coincidence that the northern-most frontier of the Roman Empire, the limes, running through Nauheim, was also well equipped by nature with hot springs. The culture of communal bathing was interrupted in the middle ages when it was realized that it facilitated the spread of epidemics, but the belief in the curative powers of natural spring waters gained acceptance within the concept of holistic medicine and alternative life styles as advertised by Hufeland, a famous doctor, personal physician of the Prussian King Frederic William III, but also of Goethe in the 18th century, who treated the ills of civilization with diet, exercise and general purification, cleansing, detoxification a concept where drinking the waters from natural springs had its place. Hufeland wrote a book on how to prolong life that became an instant best-seller. Spas were also watering holes of the jet set of their time and provided wholesome summer retreats for the aristocracy and they were entertained by the likes of Goethe and Beethoven and Mozart. These spas, mainly those of Bohemia, were mainly intended for the prevention but not for curing diseases. Nauheim was primarily indicated for treatment of the sick and this made Nauheim unique and different from, say, Karlsbad.

The curative powers of the Nauheim sources were discovered by a physician from Marburg, Dr. Beneke, who sniffed the cool air emanating from the high stacks of blackthorn, Salinas, over which the salty brine trickled down for the purification and concentration necessary to produce salt. One of the natural springs that surfaced in our town contained sodium chloride but only in a concentration of 3% and it carried

many contaminants that had to be removed before edible salt could be produced. The high stacks of blackthorn of the Salinas were an ingenious way to achieve that: the brine was pumped up by wind- or water driven mills, and, being spread over a large surface, trickled down, evaporated especially on hot and sunny days, was collected and pumped up again for more concentration and purification. Evaporation of water takes up heat from its surroundings and so the air around the salinas was cool and salty like on the seashore and Dr. Beneke realized that this must be good for patients with respiratory ailments. This was the birth of Nauheim as a health spa. The salt business, the source of affluence in former times, had become less profitable. The salt concentration of natural sources in other regions like in Lüneburg was 10 times higher and thus less energy intensive. Salt mining was much cheaper and, as transportation became more and more affordable, the rich salt mines of Asia dumped the price of salt to one dollar per thousand kilos. It became very difficult for Nauheim to compete with that. Another factor also contributed: the pans and ovens for the ultimate concentration of the purified brine were stoked with wood and over time the entire region was deforested, and became an ecological disaster area. The new medical use of the process of salt purification omitting the energy wasting last step, was the salvation of the city's affluence.

A fortuitous and fortunate finding was the discovery of carbon dioxide in the salty brine and patients with heart ailments got better when they bathed in the bubbly waters, hence the name "Champagne Cure." This was a chance observation because heart failure patients do not tolerate immersion well: the hydrostatic pressure of the bathwater is higher than the pressure in the veins and blood is consequently moved towards the weak heart, which becomes overloaded and the patient may even die acutely. It was in fact not bathing what the physicians, well aware of the complications of bathing, advised, the bubbly was only poured over the legs, rump and arms which dilated the veins and unloaded the heart. When this was done daily for a number of weeks the enlarged hearts became smaller, the patient felt much better and could resume activities.

The beneficial effects of the "Champagne Cure," were the result of trial and error, purely pragmatic, and they were challenged by the authorities of academic medicine of their time. It was indeed strange that the enormous progress that was made in Germany during the course of the 19th century in fields like chemistry, physics, technology and medicine, was not used by the local physicians who performed their craft like in medieval times. The authorities, that is, the Duke of Hesse, became aware of that hiatus between the state of science on one hand and the state of

balneology as it was practiced in the spas on the other. Academic medicine had progressed in the refinement of diagnosis and in the causes of diseases but had yet no treatment alternatives. The spa doctors had found a cure but they did not really understand how it works and for what diseases and it appeared necessary to bring the two together, medical science and spa practice, by the foundation of an institute for the scientific study of the influence of natural mineral waters upon various diseases.

The Duke of Hesse appointed Dr. Arthur Weber, a young associate Professor at the University of Giessen, to lead the new Institute of Balneology, associated with the University. The Institute was comfortably financed and equipped with the latest X-ray machines but it had one disadvantage that proved to be difficult to overcome: the physicians of Nauheim had opposed the plans from the outset and Professor Weber was not allowed to diagnose and to treat patients. The local medicos simply feared to lose in the competition with a highly qualified and thoroughly scientifically minded Academic. Weber was indeed highly qualified having studied with Germany's most famous Physiologist, Professor Otto Frank and with several of the most respected academic clinicians of his time. One wonders in retrospect why he had accepted such an unattractive calling. However when he looked back at his long career of almost 60 years in Bad Nauheim, he said that the immense work that he had accomplished would not have been possible in a university milieu with its perennial teaching, student load, patient load, administration, faculty intrigues, science politics etc. He was able to concentrate on his scientific work without being bothered by all this. He was also able to win over the suspicious local physicians by sharing his knowledge with them and his courses on heart diseases, the electrocardiogram and other new methods of diagnosis became so popular that physicians from all over Germany wanted to participate. This was proving too much for the man who preferred not to be disturbed in his work and so he founded the German Cardiac Society and put his teaching duty in the hands of the officers of the new society which organized annual meetings for the next 50 years in Bad Nauheim. Professor Weber was eventually allowed to treat patients who then arrived from all corners of the world and significantly improved the reputation of Bad Nauheim as a scientifically sound place for the treatment of heart diseases.

Weber was not the only one to put Bad Nauheim on the science map. Professor Franz Grödel, the first chair holder of Radiology at the University of Frankfurt/Main, was also the chief physician and owner of a small private clinic for heart diseases

here in Bad Nauheim. One of his patients was an American railway tycoon by the name of William Kerckhoff who came for several years to Bad Nauheim to be treated for his heart condition. During long talks with Grödel who explained to him the paradox of the schism between successful practice and lacking scientific basis they planned to found another scientifically oriented Institute dedicated to research about the healing powers of the “Champagne Cure.” These plans were temporarily halted because Kerckhoff died suddenly here in Bad Nauheim but his widow, Louise Kerckhoff proceeded with the plan, donated one million Gold-Dollars, persuaded the State of Hesse to come up with a collateral in terms of donating the building plot, and provide heat and electricity. The Kerckhoff-Institute, the place we are now in, is the result of the Kerckhoffs will. State and city still share in the cost of energy, now for over 75 years. Construction of the institute was terminated in 1931 and it consisted of an experimental unit, a clinical department and a unit for medical statistics for the rigorous analysis of clinical studies to be performed, a radically new approach for that time.

As with Professor Weber’s initial difficulties, the local medicos were set against the new Institute and succeeded to prevent the opening of the clinical wing. Consequently Grödel concentrated on establishing the other departments and was highly successful in finding excellent leaders. Medicinal statistics was born here in Bad Nauheim. Grödel was unimpressed by the ban of the institute on patient care because of his lucrative private practice and so he concentrated on the advancement of science in the Kerckhoff-Institute. He also belonged to the board of directors of the newly founded German Cardiac Society where he with the help of others drafted the constitution for said Society.

Franz Grödel was a much more cosmopolitan Character compared to Arthur Weber. When the patient season ended in early fall each year he departed for the USA where many physicians asked his advice and presented their heart patients to him and so he traveled a lot within the US and relaxed in between on the estate of the Kerckhoffs. He did so also in late 1932 when it became clear that something was going terribly wrong with Germany. He decided not to go back to Nauheim. He established a private practice on 5th Avenue in New York City and helped in subsequent years to obtain visa for many other colleagues who fled Germany during the Nazi years. It may have helped that he could rely on the friendship of Franklin Delano Roosevelt with whom he went to school when the Roosevelt family spent months in Bad Nauheim for health and societal reasons.

Life in the USA was not easy for the many other immigrant doctors. Even if they succeeded to receive board certification and the right to practice, they were denied entrance in the professional societies. Grödel countered that by creating the American College of Cardiology, which has become an enormously successful organization that is still ruled in part by the constitution that Grödel had translated from the German.

Grödel, although the Nauheimers had treated him badly, was always emotionally connected to the region of his youth, his career and his institute of which he remained the director even during the Nazi years because the board of trustees refused to fire him despite heavy pressures from the Nazi-authorities. The deputy director, Professor Koch, prepared a monthly report that was mailed to Bremen from where it was shipped to New York and Grödel sent his decisions and remarks back with the ship's return to Bremen. Only the war years interrupted that traffic. After the war Franz Grödel sent entire containers with food and clothing to support his former scientific collaborators and he used his connections with the American authorities to reestablish heating and electricity to the Institute.

Grödel died 1951 in an accident in New York but according to his will he had been buried here in Bad Nauheim in the family tomb. Before his death Grödel resigned from his position of Director of the Kerckhoff Institute, which had lost most its capital because of the war and the Kerckhoff Foundation agreed that the Institute was henceforth operated by the Max Planck Society. His wish, that the clinical department should finally be established became true and the Kerckhoff Clinic, established in 1953, is now one of the leading Heart Centers of Germany and the largest and most important employer of the City and its surroundings. Good plans take time to become reality.

The champagne cure is no longer a treatment option, except perhaps as an erotic stimulant as the picture show, because potent drugs relieve the symptoms of heart failure. But the basic concept of unloading the heart was developed here. The concept of Weber and Grödel to employ modern technology for the diagnosis of heart diseases lives to this day and should be supported because for most heart failure patients only relief of symptoms and a deferment of death was achieved but not a cure.