

Professor Isidor [Israel] Zabludowski (1850-1925?): a forgotten pioneer of the modern scientific massage therapy

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ABSTRACT

The various massage therapies are in use all over the world. Although the origin of these methods were established in ancient cultures, the medical profession started to explore scientifically these methods only during the 19th century. Professor Isidor [Israel] Zabludowski (1850-1925?) was one of those pioneers who had established a special massage-clinic at the Charite' Hospital in Berlin. His clinical and scientific accomplishments, eventually introduced these methods into modern

physiotherapy, are almost totally ignored in the official history of medicine textbooks. Apparently, it should be asked, is the massage therapy a scientific modality at all? And should we always adopt or adhere to evidence-based, double-blind-randomly approved treatments ?

Key words: *Israel Zabludowski*, massage therapy, history medicine

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Definition

Massage therapy is the scientific manipulation of the superficial and deeper layers of muscle and connective -soft tissues of the body for the purpose of treating those injured tissues , promoting relaxation and well-being , and consists of manual techniques, by tension, motion, or vibration, that include applying static or dynamic pressure, holding, and/or causing movement of or to the body[1]. The origin of the word comes from the **French** *massage* "friction of kneading", from **Arabic** *massa*. meaning "to touch, feel or handle" or from **Latin** *massa* meaning "mass, dough", and the **Greek** verb μάσσω (*massō*) "to handle, touch, to work with the hands, to knead dough".

Origins of the massage therapy [2]

Massage therapy is one of the oldest treatment modality. It is mentioned and described in old-Egyptian, Chinese and Indian medical texts, by Herodotus and Hippocrates, the Greek Father of Western Medicine, who wrote: "The physician must be acquainted with many things and assuredly with rubbing" . The Spanish physician Cristobal Méndez (1500-53) published his book [3] which is considered as the first book about exercise and health. In 1569- Girolamo Mercuriale (1530- 1606) who wrote a sports medicine Book [4], was an **Italian philologist and physician**. His studies in Rome's libraries, focused on the ancients' beliefs toward **diet, exercise and hygiene** and the use of natural methods for the cure of diseases. Apparently, this book describes for the first time, the principles of physical therapy and sports medicine . Timothy Bright, (1511?-1615) was an English physician and clergyman, the inventor of modern **shorthand** from the Cambridge University. He wrote in 1584 his first medical [5-6]work in which he described therapeutic modalities as baths, exercise, and massage . In 1770 , the Jesuit Amiat, wrote on: "Chinese Pressure Point Massage". This became the basis for "Swedish Massage". The roots of modern, scientific massage therapy and therapeutic gymnastics, rests in the works of the Swedish Per Henrik Ling (1776–1839), who developed an integrated system consisting of massage and active and passive exercises. Ling established the Royal Central Gymnastic Institute in Sweden in 1813 to teach his methods. Friedrich Hoffman, (1660-1742) a German physician-chemist recommended rubbing and gymnastics for the royal court. In 1718 he published:"*Medicine rationalis systematica*" and a treatise on witchcraft [7-8]. He was appointed primary professor of medicine and natural philosophy at Halle and was elected a member of various scientific associations in London, Berlin, and St. Petersburg; and appointed physician to the King of Prussia. He devoted a one chapter: "on movement considered as the best medicine for the body" [8].The American

Cornelius E. De Puy, MD, published in 1817 the first journal on the therapeutic massage .The new Swedish methods were introduced to the United States, in the 1850s, by two New York physicians, the brothers George- Henry, and Charles –Fayette Taylor (1826-99)[9-10]. They were taught the principles of the massage therapy (in 1856) by an Hungarian orthopedic surgeon and a **homeopath**, a refugee in England, Dr. Mathias Roth. Roth, (1818 - 1891), **practiced** in London and Brighton. In 1850, Roth wrote on the **Swedish Movement**, and translated an essay by **Per Henrik Ling** on the techniques and their effects. Roth practiced and used the Russian Bath, "movement therapy cure". John Grosvenor,(1742-1823) an English surgeon, practiced healing with hands(for stiff joints, gouty arthritis, and "rheumatism".) after reading Ling's and others' books. Daniel David Palmer,1845-1913, practiced as a "magnetic healer and a self-educated manipulative-chiropractic therapist ". His son, Bartlett Joshua Palmer, 1881-1961, gave the chiropractic profession its modern shape, although it was his father who is given credit for the origin of. In Holland, Johann Mezger (1839-1909) had introduced the medical massage to scientific community. This Dutch physician, was a key individual in the history of massage. He is generally given credit for making massage a fundamental component of physical rehabilitation and the introduction of the still-used French terminology into the massage profession (e.g. effleurage, petrissage, and tapotement). Just Lucas-Championniere, 1843-1913 , advocated the use of massage and passive motion exercises after injuries, especially fractures. His writings were familiar to Sir Robert Jones, Mary McMillan, James B. Mennell and Edgar Cyriax. The Swedish officer Thure Brandt (1819-1895)introduced in 1861 his massage treatment in gynecology[11-12]. Alfred Schanz (1868-1931) was a German orthopaedist, who advocated massage therapy in his book [13]. Schanz introduced the term functional insufficiency. The first clinics for massage therapy in the United States were opened in the 1860s by the Swedish military physical educator, the Baron Nils Posse ((1862–1895) in Boston) the Norwegian Hartwig Nissen(1855–1924) [14] in Washington D.C. and the Swedish William Skarstrom MD (1896–1951). In 1894 the Society of Trained Masseuses was formed in Britain. Their goal was to study the effects of the massage along with prerequisites for education and criteria for school recognition. For decades on, these methods were not regarded as a "medical therapeutic modality". It was rather a relaxation/fun or alternative mean of "healing". No regulations or special professional license were needed. The British surgeon Sir William Henry Bennett FRCS (1852 - 1931), introduced London doctors to massage as a treatment modality for new fractures in 1898 and

he established a department of massage at **St George's Hospital**. [15]. In 1873, Abraham Jacobi (1830 - 1919) [who was a pioneer of **pediatrics**, opening the first **children's** clinic in the **United States** and to date, he is the only foreign born president of the **American Medical Association**] married Mary Putnam. She was the first woman student at **L'École de Médecine in Paris, France**. In 1880, Mary Putnam- Jacobi (and Victoria A. White in New York City) researched the benefits of massage and ice packs in the management of anemia. The German Orthopedic surgeon Albert Hoffa (1859-1907) wrote in 1893 a very popular book, on: "*Technique der Massage*" after working under Metzger[16] and von Mosengeil [17].

In 1902 Douglas Graham, published *A Treatise on Massage, Its History, Mode of Application and Effects*: "*Perfectly massaged, one feels completely regenerated, a feeling of extreme comfort pervades the whole system, the chest expands, and we breathe with pleasure; the blood circulates with ease, and we have a sensation as if freed from an enormous load; we experience a suppleness and lightness 'til then unknown. It seems as if we truly lived for the first time. There is a lively feeling of existence which radiates to the extremities of the body, whilst the whole is given over to the most delightful sensations; the mind takes cognizance of these, and enjoys the most agreeable thoughts; the imagination wanders over the universe which it adorns, sees everywhere smiling pictures, every-where the image of happiness. If life were only a succession of ideas, the rapidity with which memory retraces, them, the vigor with which the mind runs over the extended chain of them, would make one believe that in the two hours of delicious calm which follow a great many years have passed.*"

The benefits

Generally speaking, massage is known to affect the circulation and the flow of blood and lymph, reduce muscular tension or flaccidity, affect the nervous system through stimulation or **sedation**, and enhance tissue healing. These effects provide a number of benefits [18-19]:

- reduction of muscle tension and stiffness
- relief of muscle spasms
- greater flexibility and range of motion
- increase of the ease and efficiency of movement
- relief of **stress** and aide of relaxation
- promotion of deeper and easier breathing
- improvement of the circulation of blood and movement of lymph
- relief of tension-related conditions, such as headaches and eyestrain

promotion of faster healing of soft tissue injuries, such as pulled muscles and sprained

ligaments, and reduction in **pain** and swelling related to such injuries

- reduction in the formation of excessive scar tissue following soft tissue injuries
- enhancement in the health and nourishment of skin
- improvement in posture through changing tension patterns that affect posture
- reduction in stress and an excellent stress management tool
- creation of a feeling of well-being
- reduction in levels of **anxiety**
- increase in awareness of the mind-body connection
- promotion of a relaxed state of mental awareness [18]

Biographical sketch of the forgotten pioneer

Isidor [Israel] Zabłudowski was born at Białystok, in the government of Grodno, July 30, 1850. In the first part of the 19th century, Isaac Zabłudowski was one of the richest merchants in Białystok. In 1834 he founded a synagogue, known as Chorshul (Choral), which was situated on the present-day Białówny street. In 1864 the Zabłudowski family owned nine of the best houses in the city, including Under the Moose and the Courtly Mansion. Before the Second World war, The Jewish Hospital (now Maternity Hospital, Warszawska 15) was established in 1872 by Isaac Zabłudowski and named after him. Before the end of the 19th century it already had separate and well-equipped rooms for surgery and internal medicine. It was one of the best equipped medical centers in pre-war Poland. It closely cooperated with Jewish charity organizations, which ran a night ambulance service here. He died in 1865.[20] Following the failure of the Uprising of 1863, the Polish nation was divided between the Russian and Prussian empires. The Russian and German languages were respectively in use in Poland. The **Galicja** region in western Ukraine and southern Poland, under the **Austro-Hungarian Monarchy** rule, was allowed a limited autonomy. Poland became independent only after the First World War. Before and after WWI, the *numerus clausus* policy in Poland and Russia against Jews, forced Jewish medical students to seek higher university education in other European countries. The Jewish Encyclopedia [21] described Israel Isidor as a talented writer and a successful physician. At the age of twelve he wrote an Hebrew novel: "Childhood and adulthood" (Wilno, 1863), an elaborated-adapted German story, about a poor child who eventually succeeded to flourish in spite of his poverty. In 1869 he was admitted to the military academy of medicine at St. Petersburg, graduated in 1874, and "seven years later was appointed physician in one of the military hospitals of southern Russia. During the Russo-Turkish war he served as chief physician of a Cossack regiment near Plevna, and so distinguished himself by his

work that Alexander II awarded him the second rank of the Order of Saint Stanislas [21]. During his military service, he noted the benefits of the massage treatment practiced by a Bulgarian monk named Makari [22]. Enthusiastically he adopted this method, and was sent abroad by the Russian government to study the theory and practice of this treatment. His tour included Vienna, Munich, Paris, Amsterdam, and Berlin. He returned to St. Petersburg in 1881, and was appointed chief physician in the hospital of the Preobrazhenski regiment of the imperial guards. He studied the effects of the massage on healthy persons, and published a voluminous treatise on this subject in the "Voyenno-Meditzinski Zhurnal" (a military medical journal) (St. Petersburg, 1882). He treated a few members of the royal family. Later that year, Zabłudowski settled in Berlin. He published several essays on massage, and in 1884 he presented the subject during the medical congress of Copenhagen. He is also the author of a long series of articles on his specialty, including a description of a machine invented by him for the cure of writers' cramp ("Berliner Klinische Wochenschrift," 1886, Nos. 26 *et seq.*). In 1896 he was appointed *titular professor of massage* in the University of Berlin.

Massage for habitual constipation and sexual neurasthenia

The BMJ reported on December 25th, 1908, p. 1867, that *"in a brief monograph on the physical treatment of habitual constipation and sexual neurasthenia [3]. Professor Zabłudowski , the director of the massage department of the Charite' at Berlin, gives directions concerning the practice of his system of abdominal massage in the various forms of primary constipation of the bowel ,by hand and by the special "Vibrations apparat" of ihlmaier of Brunswick. Professor Zabłudowski's description of his manual procedure is throughout clear, minute in detail , and entirely practical. In the later part of his essay, which treats of sexual neurasthenia, he confines almost entirely to an account of a special "universal massage apparatus" of his own invention , which he appears to employ largely in the treatment of male impotence. The apparatus consists of a pyriform glass vessel open at the narrow end to receive and of sufficient size to enclose, the penis. When fitted in place the air is extracted from the chamber by means of an electric pump, producing thus a rapid hyperemia which, the author states has a markedly beneficial influence in the cases mentioned"*.

Sexual neurasthenia is the term often employed to designate a condition of great nervous and constitutional debility associated with or growing out of sexual weaknesses. It is apparent, that today's modern vacuum device for the treatment of impotence, is directly derived from the old Zabłudowski's patent. Impotence vacuum

pumps create an erection by using a plastic cylinder which is placed around the penis. A manual or electronic pump gradually withdraws the air from the cylinder, creating a vacuum and drawing blood into the penis."Between the twentieth-century's world wars, some physicians recommended sex aids. "The penile splint, devised by Dr. Thad. W. Williams, is really practicable and enables the introducing of the non-erected penis into the vagina under all circumstances," wrote Victor Veckí. "Dr. Joseph Loewenstein provided the fullest account of such "mechanotherapy." He noted that suction pumps such as those of Dr. Zabłudowski provided only an illusionary erection that disappeared as soon as the

penis was removed from pump. Equally flawed were the Erector-Sleigh, Gassensche Spirale, Gerson's Constriction Bandage, and Virility, a double cylinder connected to a bellows to produce a vacuum that, Loewenstein reported, "gives great bulk to the penis and makes it look grotesque" [23]. Except from his experiments with instru-mental treatment for sexual male impotence, [24], it is not clear if there were any differences between Zabłudowski's massage therapy and treatments of other "physiotherapists" at that time. Particularly Gustaf Zander's machines were very much in use in different countries during the first half of the 20th century. The theory and practice of Zabłudowski's methods attracted many authors [25-29]. Dr. Kellogg wrote as follows: [10]. "The names of Metzger and Zabłudowski stand prominent above all other living authorities in all that pertains to scientific massage. Though first in the field as a remarkably successful practitioner of massage, Metzger has done little or nothing for the advancement of our knowledge of the physiologic effects of manual manipulations of the body; but Zabłudowski, the professor of massotherapy in the medical department of the university of Berlin, has contributed largely to the establishment of massotherapy upon a sound scientific basis. The writer having been afforded an opportunity to study and observe the methods of applying and teaching massage in the clinic devoted to this special department, which is presided over by the amiable Professor Zabłudowski, he is able to speak from personal knowledge of the great efficiency of the methods employed, and it is the purpose of this chapter to add a brief description of some of the special features which have been found useful in connection with the methods which have been elsewhere described in this work."...[29]. The American Dr. John Harvey Kellogg (1852 - 1943) worked at **Battle Creek, Michigan**. He owned a **sanitarium** using **holistic** methods, and included special **nutritional** attention, **enemas** and **exercise**. Kellogg and his brother invented the **corn flakes breakfast cereal**. At the Battle Creek Sanitarium, Kellogg was in favor of vegetarian food , breathing

exercises, mealtime marches **phototherapy, hydro-therapy** and sexual continence. Most probably he adopted Zabłudowski's methods, excluding the treatment for "sexual neurasthenia". *"The special characteristics of Zabłudowski's work are great thoroughness and the speedy accomplishment of results. Zabłudowski, although a most enthusiastic specialist, nevertheless does not claim massage to be a panacea. While he makes use of no other measures whatever in the treatment of his patients, he does not undertake to cure every malady by this means alone, but occasionally refuses to take patients whom he deems unsuited to manual treatment."* (Dr. Kellogg) [29]. On E. Kleen's book, 1847-1923, it is written: *"Massage and Physical Exercises have formed a branch of medical and surgical treatment from time immemorial and in all countries, a fact demonstrated by Dr. Kleen in his historical introduction; and Dr. Kleen's work is a classic upon the subject which deserves the widest possible circulation throughout the world. Its translation into English may therefore be welcomed as a very real step in the diffusion of scientific knowledge upon these methods of treatment. Naturally the author's views will receive criticism when they come to be read by English-speaking people. Swedish methods of massage and gymnastics are not universally accepted as gospel. Sound and considered criticism is healthy, and Dr. Kleen would himself be the last to raise objection to it. But the great scientific work that has been done by the Swedish schools during the last hundred years has undoubtedly done more to place this branch of treatment upon an acknowledged footing than has that of any other group of workers"* [30]. The list of Zabłudowski's publications is long, and only the most important are cited herewith [31-41]. His brief biography appeared in a few old lexicons [42-44]. The biographical details of Zabłudowski remain rather brief and I could not find more facts about his last years. Zabłudowski's name is not mentioned in the site: whonam-edit.com, nor in the major textbooks on History of Medicine. **Parallel to Zabłudowski**-There were other doctors, who developed or used the massage techniques, parallel or before Zabłudowski: the father of the modern massage techniques was Dutch practitioner, Johan George Mezger (1838-1909) who published "The Treatment of Foot Sprain by Friction" in 1868. Mezger adapted the Swedish Ling's movement exercises [45]; Dr. George Taylor, published 4 books about active movements; the Russian M.Y. Mudrov tried to separate medical massages from those provided by barbers, common rubbers and gymnastics. In 1894, "The Society of Trained Masseuses", that eventually became "the Chartered Society of Physiotherapy", was established. They investigated, taught and used many physical methods, including the massage. The Scottish gynecologist William Smoult Playfair (1836-1903)

(*"Nerve Prostration and Hysteria"*); The American physician-poet-writer, Silas Weir Mitchell (1829 – 1914); Herman C. Bucholz, an orthopedic surgeon from Halle; Ernst von Bergmann (1836-1907), Just-Marie-Marcellin Lucas-Championnière French surgeon and anatomist, 1843- 1913, whose clinical principle is: "In fracture treatment, omission of fixating the fracture and early start of the functional treatment, e.g. massage and exercises". Jonas Gustaf Wilhelm Zander, Alfred Philip Levertin (1843-1919), and more. "Massage is said to be potent to restore the qualities of the gastric juice; and cases of ectasis are said thus, and by improvement of general nutrition, to gain much by massage, which is calculated not only to promote nutrition, but also to dispel any toxic matters which would otherwise lie in the body. I have no doubt that massage is of service in cases of dilatation of the stomach of atonic kind; though I have yet to be assured that it can have any direct or considerable influence in pulling the organ together, or in evacuating its contents as is alleged by Zabłudowski. Still its indirect advantages are no doubt substantial, and its influence upon the constipation is favourable. I have seen "rectal feeding and massage" proclaimed as a cure for simple dilatation. I must warn the reader that a patient on rectal feeding only will bear little massage or none." [46]. Zabłudowski, Cseri, and others claim that the gastric contents may be squeezed through the pylorus by the adoption of certain mechanical movements, the method of the last-named being briefly as follows: the ulnar border of the operator's left hand is firmly pressed into the abdomen along the lower border of the stomach, so that the pyloric end of the organ lies in the palm of the hand. The fingers and thumb of the right hand are then pressed deeply into the fundus of the stomach, and by a series of pushing movements the contents are forced toward the pylorus" [47].

A modern echo from Zabłudowski's days: not a humbug..."Classical massage seems to be an effective adjuvant treatment for reducing physical discomfort and fatigue, and improving mood disturbances in women with early stage breast cancer". This quote comes from an article written in 2009, by physicians from the Charité-Universitätsmedizin, in Berlin [48]. Today, we may find many advertisements like this one: "angina pectoris - all massage will be light and soothing - avoiding endangerment areas and abdominal massage (may cause increased pressure on the heart); you'll be positioned supine with a cushion under your right hip to avoid pressure on the inferior vena cava; because massage can overwork the heart, check with your doctor before receiving any bodywork." a whole chapter is devoted to massage and vibration therapy for angina pectoris [46]. A modern version of the old - doctor -from -Berlin, advice: "Vibration of the

Precordium. Besides these more general forms of massage, Zabłudowski, Selig, and Rimbach state that considerable benefit may be obtained for precordial pains, mild angina pectoris, and other sensory disturbances about the heart, by gentle vibratory massage or mechanical vibration over the precordium. The vibrations should be carried out either with the balls of all four fingers of the right hand or with the soft pad of the mechanical vibrator, and should be begun under gentle pressure well out in the lower left axilla, gradually passing upward and inward over the precordium until the entire cardio-aortic area has been covered "[49].

POSTSCRIPT

The massage techniques are alive and kicking, and are practiced by physiotherapists, chiropractors, osteopaths, physical educators and more [50]. Along history, there were journals which were devoted to the research on these techniques, as "Zeitschrift für orthopädische Chirurgie, einschliesslich der Heilgymnastik und Massage" (1891- 1935), continued as-" Z Orthop Chir Einschliessl Heilgym Massage" and then , and changed its title to - "Zeitschrift für Orthopädie und ihre Grenzgebiete; Massage Therapy Journal; International Journal of Therapeutic Massage & Bodywork: Research, Education, & Practice ; the Journal of bodywork and movement therapies and Journal of Massage Science. Searching the PubMed reveals 10004 articles on the "massage therapy". The massage approach is a very popular tool for relaxation, communication, and alternative healing. These techniques affect the muscular, skeletal, circulatory, lymphatic, nervous, and other biological systems. The basic philosophy of massage therapy embraces the concept of *vis Medicatrix naturae*, ["healing powers of nature"]. The one who applies these methods assists the ability of the body to heal itself. Is the beneficial effects stem from the touch itself? From the mechanistic way in massage therapy? The sensitive/empathic touch? a form of direct communication? Just mean to ascertain each person's needs? Before 1939, more than 600 studies (in English literature) on massage were published, but "formal-academic" medicine's disinterest in massage therapy, reduced temporarily, the amount of research projects on massage. More and more clinicians are convinced that not all the medical/physical/surgical or psychological treatments, are evidenced-based on double-blind/ randomly controlled trials. Especially in Rehabilitation Medicine, we use various methods (massage, physical therapy, occupational therapy, hydrotherapy etc.) which are safe, and empirically beneficial, used by the multidisciplinary team [51]. Concerning Zabłudowski and the The Charité - Universitätsmedizin Berlin. The hospital today is the medical school for both the Humboldt University and the Free University of Berlin. After

the merger with their fourth campus in 2003, the Charité is one of the largest **university hospitals** in Europe. The hospital was opened in 1710.

The list of leading scientists and physicians who worked there along history, is astonishing [52]; among them, we can find: **Theodor Billroth** – surgeon, **Hans Gerhard Creutzfeldt** - neurologist and neuropathologist, **Johann Friedrich Dieffenbach** – surgeon, **Paul Ehrlich** - immunologist (Nobel Prize in Physiology or Medicine in 1908), **Hermann Emil Fischer** - chemist (Nobel Prize in Chemistry in 1902), **Werner Forssmann** - physician (Nobel Prize in Physiology or Medicine in 1956), **Friedrich Theodor von Frerichs** – pathologist, **Robert Koch** - physician (Nobel Prize in Physiology or Medicine in 1905), **Albrecht Kossel** - physician (Nobel Prize in Physiology or Medicine in 1910), **Fritz Albert Lipmann** - biochemist (Nobel Prize in Physiology or Medicine in 1953) , **Rudolf Virchow** - physician and pathologist, **Carl Friedrich Otto Westphal** - neurologist and psychiatrist, **Carl Wernicke** – neurologist, **Otto Heinrich Warburg** - physiologist (Nobel Prize in Physiology or Medicine in 1931), **August von Wassermann** – bacteriologist, and many more.

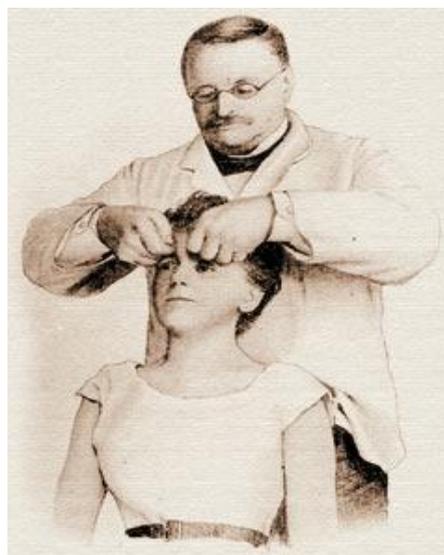


Fig.1 Zabłudowski bei der Massage einer Kopfschmerzpatientin (150).

Zabłudowski was invited to Berlin by the Riga (Latvia) born, Professor of surgery, Ernst von Bergmann [53], and became his clinical assistant. Later-on, he was nominated the director of the massage department of the Charite' and in 1896 he was appointed titular professor of massage in the University of Berlin. Did von Bergmann heard or even met Zabłudowski in Russia or elsewhere ? [54]; was Zabłudowski's work known to the academic community in Berlin? Von Bergmann had finished his medical studies in Dorpat in 1860, while Zabłudowski had finished his studies in 1874.

Both careers included vast military experience. Both appreciated the advantages of the massage therapy for the war-related wounded soldiers. It was the Berlin's academic establishment who opened the door for the Jewish - Russian doctor who introduced his methods clinically and scientifically. I could not find any details about his staff or his followers.

The drawing shows Zabłudowski with a patient; the picture was copied from: **Hans-Dieter Hentschel**, Die erste Massageschule-ein fast unbekanntes Kapitel, Meldung vom 26. September 2006, on: <http://www.vpt-online.de/detailseite.cfm?MeldungsID=448>

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18. <http://altmedicine.about.com/od/treatments/mtoq/a/massage.htm> http://www.medicinenet.com/massage_therapy/article.htm [cited: 1 june 2011]
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- the Troyan one also hosted frequently the famous Bulgarian Apostle of Freedom, Vassil Levski. The latter formed revolutionary committees not only in the town of Troyan, but also at the monastery itself. The monastery's secret committee numbered about 80 monks and was headed by archimandrite Makari. During that time (mid-19th century), the production of books at the monastery declined, but this was only at the expense of the monks' preoccupation with the procurement of arms. During the Liberation Russian-Turkish war, Makari transformed the monastery into a field hospital for Russian soldiers and provided the Russians with all possible assistance. "The stauropegial Troyan monastery, "Assumption of Virgin Mary", lies 10 km to the southeast of the old Balkan town of Troyan, in the skirts of the Balkan mountain range. Built at about 400 meters above sea level, the biggest monastery in the Balkan mountains is surrounded by beautiful forests and the Cherni Osam river, which gives a particular charm to the place. The monastery's complex is quite developed as a tourist site with plenty of shopping outlets, restaurants and entertainment facilities in the neighbourhood." [[http://www. Bulgarianmonastery.com/troyan_monastery.html](http://www.Bulgarianmonastery.com/troyan_monastery.html)] [cited: 1 june 2011]
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