

Prof. Dr. Dr. h.c. mult. Friedrich Stelzner

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On 4 November 2006, Friedrich Stelzner celebrated his 85th birthday. In best health, mentally and physically active, he does not look his age at all, as one can see in the picture. He still is enthusiastic for research and investigation, and that is not the only reason why he is an exceptional scientist. The aspiration to acquire new knowledge in science has determined and still determines his life. His investigations and studies have always been related to clinical practice, even if this was occasionally only acknowledged later. Stelzner was a brilliant surgeon, who operated extremely rationally with respect to blood con-

sumption and tissue care. As a teacher, he was characterised by strong discipline, and he disliked verbosity. Displaying an “ambitious” example, he had a great influence on his trainees. He is a genial master of the German language, who is still greatly admired as a speaker and author even until now. There is no doubt that he can be proud of his creative and original lifework.

However, no one could have foreseen that career. He was born and grew up in the little village of Oberlohma in the Sudeten and came from a modest background (“lower middle class”, as he himself emphasised). The fourth decade of the last century was unstable and tense. In spite of all these imponderables, his parents enabled him to attend the grammar school at Eger. Already at that time, he decided to study medicine. However, he was not able to finance his study privately. Stelzner, unmilitary through and through, therefore obliged himself as Medical Officer before the outbreak of the Second World War. Shortly thereafter, Stelzner received his school leaving examination and was conscripted.

In the following year (September 1940), he obtained the desired permission to study. He began to study at the military academy for medicine in Berlin. The young student coming from the provinces was very impressed by the yet undistorted metropolis Berlin with its world-famous *Charité*. Although his studies had to be completed in a very short time, Stelzner attended not only the compulsory lectures but also further lectures dealing with themes other than medicine such as philosophy. Observing the famous Ferdinand Sauerbruch at operations was a crucial experience for him. Moreover, the apparently effortless operations impressed him so much that he decided to become surgeon at a university hospital.

After the first trimester, he continued his medical education in Würzburg. Here, he became fascinated about

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anatomy. This fundamental part of medical sciences has influenced his later investigations decisively. Even at this time in Würzburg, he contacted anatomical technicians, as he recognised that he could learn a lot from these people who often had gathered great experience from more than one generation of professors and scientists. It was a stroke of luck that Stelzner came in contact with Professor Curt Elze who supported his scientific ambitions in anatomy. He also benefited greatly from the encounter with the later professor of anatomy and embryology of the University of Göttingen, Erich Blechschmidt, and the later professor of anatomy of the University of Vienna, Heinrich von Hayek. Stelzner stayed in contact with them for life. At that time, he made his first studies about the pressure on the feet during movement as compared to standing. The results were both part of his M.D. thesis and were submitted in manuscript form to the “*Zeitschrift für Anatomie und Embryologie*” (nowadays “*Anatomy and Embryology*”) 65 years ago in July 1942 and were published in 1943. In addition, Stelzner finished the preclinical term of the medical education by the preliminary state examination (so-called *Physicum*).

At the end of 1942, he was posted as Medical Officer to the Eastern front for a 3-month period. He did not make much fuss about this time, although he saved soldiers' lives, for which he was honoured by the second-class Iron Cross. After a short convalescent leave, he continued his medical studies in Würzburg and Gießen. Again, he attended not only the medical lectures but also a course concerning speaking in public, leading to a further improvement of his talent in the art of rhetoric. The last trimester in 1943/1944 took place in Munich. At the end of his education, Stelzner had to return to Berlin to take state examination in February 1945, while the former great metropole was permanently bombarded. For his M.D. thesis, he was honoured by the top category “*summa cum laude*” in Würzburg.

After the end of the Second World War, he received a position as junior resident at the surgical department of the University Hospital in Erlangen, which was headed by Otto Goetze. This desired position was favoured by the anatomical studies of Stelzner, which were known to Goetze, as he ordered a reprint of Stelzner's publication. Between Goetze and Stelzner, there was a clear affinity based on a common enthusiasm for anatomy and comparative morphology, as well as the aspiration to originality. The Erlangen period had a formative influence on his further career. On the one hand, Goetze was an excellent surgeon who demonstrated the perfect art of surgery. On the other hand, Goetze recognized that, after 1933, Germany was isolated with regard to novel insights in surgery and medical sciences. Therefore, he advised Stelzner to take courses of studies in the United States and in Great Britain. The surgical department in Erlangen was characterised by a

relatively broad spectrum. But Stelzner was sure that progress was only ascertained by specialisation. Thus, he mainly dealt with abdominal surgery, especially with the colorectal and proctologic part.

In 1949, Stelzner became a specialist for surgery. In 1952, he qualified as a professor for surgery with a thesis on the cancer of rectum. He corresponded with C.F. Dixon, who was nearly unknown in Germany, about his extraordinary results of radical resection on continence in rectum cancer. In Germany, this resection technique was hitherto rejected. Stelzner although believed this operation method to be the most effective. However, it took many years until this opinion succeeded in Germany.

In 1954, shortly before Goetze was given the emeritus status, he proposed to Stelzner that he should not wait for Goetze's successor but become chief consultant surgeon with L. Zukschwerdt, who had just been appointed to the head of the surgical department of the University Hospital Hamburg-Eppendorf. Together with Zukschwerdt, Stelzner began working at the Department of Surgery in Hamburg. Their relationship had not been as cordial as Stelzner's relationship with Goetze. Nevertheless, Zukschwerdt did not hinder Stelzner's scientific ambitions, but he supported him. According to his and further German surgical professors' recommendation, Stelzner obtained a 4-month scholarship to London from the British Council in 1957.

Being used to bombed cities, Stelzner was very much impressed by the capital London, still reflecting the splendour of the empire. There is no doubt that in Stelzner's view the venerable St. Marks Hospital was absolutely outstanding by far. This institution was already at that time specialised for colorectal diseases. There, he has spent the longest time and came in contact with the large majority of the leading colleagues at St Marks. He was grateful for all he learned from this remarkable team—the surgeons W.B. Gabriel, C. Naunton Morgan, O.V. Lloyd Davies, H.R. Thompson, H.E. Lockhart-Mummery and J.P. Todd, as well as the famous pathologists C.E. Dukes and B.C. Morson. Moreover, an active exchange of ideas occurred with John Goligher and Sir Alan Parks, both St. Marks men as well. The spirit and the organisation of St Marks demonstrated the clear superiority of an institution concentrated on a very limited area of surgery. This is the source of success—today, the progress in surgery is characterised by concentration of such specialised areas.

After his time as resident in London, Stelzner wrote a monograph about anorectal fistula. The book received good reviews. Moreover, Stelzner's book was awarded with the von Langenbeck-price in 1960, which is the highest honour given by of the German Society of Surgery. Back in Germany, he continued his anatomical studies together with J. Staubesand and K. Fleischhauer, both anatomists. These investigations were focussed on the morphological structure

of the anorectal organ of continence. This term, introduced by Stelzner himself, was intended to reflect the functional properties of anorectal continence, which are due to the intervening structures of the rectum and anal canal. In particular, it has been shown that haemorrhoids are erectile tissues (*Corpus cavernosum recti*), thereby disproving the traditional view of varicosity as the underlying pathogenetic mechanism of that disease. The inner anal sphincter was recognised as a central part of continence due to its physiological aganglionosis. The erectile tissue and the inner anal sphincter are joined by the *Musculus canalis ani* to a functional unit leading to an angiomuscular continence mechanism at the distal end of the bowel. He was the first to stress the crucial influence of the central nervous system on a harmonic interaction of the various elements of the organ of continence. He also found that the organ of continence was variably formed depending on sex. Thus, both neural and muscular structures are weaker in women as compared to men. That is why women do more often suffer from a spontaneous incontinence and, additionally, are more frequently endangered in operations in the pelvic area.

Further investigations followed dealing with portal hypertension and surgery of the oesophagus. Together with the anatomist W. Lierse, he demonstrated that the muscles of the oesophagus were formed in a concertina barrier pattern. This structure explained the basis of several oesophageal diseases such as achalasia and gastro-oesophageal reflux disease. Even therapeutic consequences were drawn from these morphological findings. In the case of portal hypertension, the dangerous risk of bleeding exclusively occurs in the terminal part of the oesophagus and is due to the histologically demonstrated subepithelial position of varicose veins. In the rest of the whole gastrointestinal tract, varicosities are lined by the *Lamina muscularis mucosae* and, therefore, are never the cause of a severe haemorrhage.

In 1968, Zukschwerdt decided to retire because of the student revolt. Stelzner, who already had been offered a chair at Tübingen, succeeded Zukschwerdt as professor in Hamburg. Very soon, in 1970, he changed to the chair of surgery of the University of Frankfurt/Main. Here, he developed an intensive cooperation with the famous anatomist Starck and continued the studies on the covering fascia of the rectum. Together with Lierse, he described the morphological causes of appendicitis and diverticulosis coli. In 1976, Stelzner had been offered a chair at Vienna and Bonn at the same time. Although the chair in Vienna would have been very attractive, the renovation of the surgical department in Vienna was in difficulties. Pragmatically, he therefore decided to accept the offer for the chair

in Bonn in 1977. Numerous further morphological studies significant for surgical practice were performed in the following years, such as the morphological cause of sinus pilonidalis and pyoderma fistulans sinifica as well as the function and embryology of the pelvic fascia. In 1985, Stelzner was president of the German Society of Surgery. His opening lecture on the 102nd congress of the German Society of Surgery in Munich was impressive and gripping for the audience. It was a thoughtful and critical analysis of our surgical practice. Stelzner castigated unnecessary thirst for action and frequent senseless rituals of surgery. These activities were summarised by him in the term “symbolic surgery”. Later, he came back to that theme in several lectures and articles.

Twenty years ago, in 1987, Stelzner was officially given an emeritus status. He continued to hold office for 2 more years until his successor took up upon his duties. In 1989, he retired from civil service. Until then, Stelzner had performed all general and abdominal operations. After retiring, he treated proctologic diseases in a hospital in Bonn for 6 more years as a guest physician. He has continued to do his research work and has maintained his deep interest in anatomy. Based on clinical and morphological findings, he showed that chronic constipation occurred mainly as a result of anorectal lesions. Therefore, he suggested deep continence resection of the rectum for treatment of severe chronic constipation. Until now, this had been performed successfully on a great number of patients.

Together with a colleague of the Department of Nuclear Medicine D. von Mallek of the University of Bonn, Stelzner investigated spontaneous activity of visceral sphincteric systems by positron emission tomography–computed tomography (PET–CT). Two different lymphatic vessel systems could be detected, one in subepithelial localisation and one in deep mesenchymal part.

Stelzner has been a member of numerous national and international surgical societies, being an honorary member in many of them today. He has been honoured on numerous occasions for his originality and his creativity. Stelzner has furthermore been given an honorary doctorate by the universities of Seoul/Korea and Munich. Several years ago, he was elected as a member of the Leopoldina in Halle/Saale, which is the oldest existing scientific academy in the world.

One could be tempted to sum up Stelzner’s enormous scientific work in numbers: He contributed 84 books and book chapters as well as 452 publications and lectures. But for him, quality always counted more than quantity, as can be read in his autobiography “*Lebenswellen, Lebenswogen eines Chirurgen*”.