

# Rudolf Nissen (1896-1981): His Contributions to Surgery and his Role in Turkey

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**ABSTRACT:** Eminent surgeon Rudolf Nissen performed innovative studies in surgery during his time in Turkey, to which he fled from Germany before the Second World War. This paper discusses Nissen's invaluable contribution not only to İstanbul University's surgical department but also to the universal field of surgery.

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In the Weimar Republic of Germany in the 1930s, the dominant National Socialist party dismissed and denationalized thousands of academics due to political dissidence. They began to emigrate to England, the United States and other countries that would welcome them, including Turkey. Some of them, led by Philippe Schwartz (1894-1977), a professor of medicine, founded the "Charity Association for German Scientists in Exile" in Zurich together with Swiss philanthropists [1] to support the exiled German scientists.

When the Turkish Republic was founded in 1923, the situation of İstanbul University (then known as Darülfünun (Place of Science), was far from satisfactory; it had an antiquated system, the academic staff were not up to date and could not follow the current progress of science, and the curriculum lagged behind that of the West. The faculty's conservative attitude was an obstacle to the ruling elite, which was eager to modernize higher education. Prof. Malche, a professor of education at Geneva University, was requested by the government in 1931 to evaluate the educational system of İstanbul University as compared to the West and to submit his findings and suggestions. When addressing Parliament at its 1933 opening, President Atatürk reiterated Malche's findings that the University needed profound structural and functional reform. The escape of scientists from Germany at the same time as the University Reforms instituted by Atatürk in the young Republic of Turkey created a conducive environment. Turkey, situated as a bridge between Asia and Europe, was one of the first countries to accept academic refugees escaping from Hitler's Germany [1,2] and offered them good positions [2,3].

Schwartz heard of the reform at İstanbul University and

the possible employment of foreign lecturers and promptly wrote to the university. In 1933 he came to İstanbul, following a decision reached with his colleagues to collaborate with Turkish scientists to raise the quality of higher education. The expatriate professors arrived in İstanbul on the tenth anniversary of the establishment of the Republic. Nearly all of them were refugees who had come with the help of Schwartz's Society, including a number of French, British, Swiss and Italian professors. Most of the scientists who came to Turkey brought their experience and expertise. One of them was the eminent German surgeon Rudolf Nissen. In this paper we discuss his innovative studies and surgical techniques. In addition to the literature of the time, we resourced the personal files of Rudolf Nissen and other German scientists at İstanbul University, which contained official correspondence and contracts during his stay in Turkey [3-5].

## GERMAN REFUGEE SCIENTISTS IN TURKEY DURING THE REFORM PROCESS

This migratory movement ended in 1945 with the end of the war. Only a small number of the immigrant scientists remained in Turkey after 1956, a time when many were solicited by American universities. Some returned to Germany between 1949 and 1956 [1,6,7].

Representing the interests of the exiled scientists, Schwartz signed a contract with the Ministry of Education. Every refugee scientist was required to sign a contract with the Turkish government, often represented by presidents of universities on behalf of the Government. Some were signed directly by the Minister of Education [5]. This contract stipulated the conditions of employment and the employee's rights. The employees were expected to know Turkish well enough to read within 3-5 years and to publish scientific books in Turkish. In their first year of scientific service, the expatriates were allowed to bring their assistants and technicians from abroad [5].

With the arrival of the displaced scientists, İstanbul University had the largest number of immigrant professors among the universities of that period. More than 100 immigrant professors served in academia in Turkey between 1933 and 1955. Foremost among them were Fritz Arndt (1885-1969), Hugo Braun (1881-1963), Max Clara (1899-1966), Friedrich Dessauer (1881-1963), Hans Reichenbach (1891-1953), Erich

Frank (1894–1957), Alfred Kantorowicz (1880–1962), Siegfried Oberndorfer (1876–1944), Erich Auerbach (1892–1957), Philippe Schwartz (1894–1977), Gerhard Kessler (1883–1963), Leo Spitzer (1887–1960) and Rudolf Nissen (1896–1981) [1].

The arrival of scientists in Turkey was perfectly fitting to the reform program of Atatürk for an improved education system. In accordance with the contracts, they published numerous scientific papers and books, performed innovative studies, created a free, open and positive learning atmosphere where students could have an interactive communication with the professors, and motivated other professors to do the same. Their contribution to science in Turkey was vast and its influence is still felt today [1,2].

### PROF. NISSEN [FIGURE 1]

Prof. Rudolf Nissen, a Jewish physician, was one of the scientists who came to Turkey during the reform period and significantly influenced the field of surgery in this country. When Nissen arrived in Turkey in 1933 at the age of 37 he was already a world-renowned surgeon [Figure 1]. He was appointed as Distinguished Professor and head of surgery at Istanbul University Medical School. He performed surgery throughout the country, and military planes at his disposal allowed him to consult in Greece, the Soviet Union, and Egypt, with the permission of Istanbul University.

Nissen was born in 1896 in Neisse, Germany and completed his medical education at the University of Breslau. During World War I he worked as a military physician on



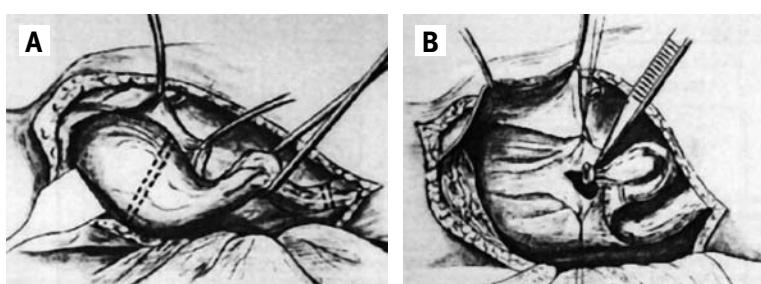
**Figure 1.** Prof. Nissen

several fronts. He had also worked as an assistant doctor at Breslau University's Clinic of Internal Medicine and later at Freiburg University Hospital's Institute of Surgery. In 1921 he took a position in Munich as assistant to Prof. Ferdinand Sauerbruch (1875–1951), a world-renowned surgeon of that time. Nissen became Prof. Sauerbruch's chief assistant and acquired the degree of assistant professor. In 1927 he was called to the Berlin University Surgery Clinic together with Dr. Sauerbuch to work as a fellow and in 1930 was appointed assistant professor at the Charité (the hospital affiliated to the Humboldt University and the Free University of Berlin). Nissen came to Turkey in 1933; in the same year he became a professor and head of the sur-

gery department of the Istanbul University Medical School. In 1939 Prof. Nissen had to leave for the United States to receive treatment for a lung abscess, the result of a retained bullet from World War I. Dr. Nissen worked in Boston and New York between 1940 and 1951. In 1941 he decided to work in the private sector and took up the position of director of two private hospitals. From 1948 he was employed at Long Island College of Medicine, and in 1951 he became director of the Surgery Clinic at Basel University's Faculty of Medicine. Prof. Rudolf Nissen retired in 1967. He died in Basel in 1981 [6]. An honorary doctoral degree from Hacettepe University, Ankara was awarded to him posthumously in 1983.

The numerous developments and techniques that Dr. Nissen introduced in surgery and the students who he trained revolutionized the field in Turkey. Already famous when he came to Turkey, his success came from his innovations in thoracic surgery. In 1931, he performed the first-ever pulmonary lobectomy (pneumonectomy), which was a benchmark in surgery. Initial interventions for pneumonectomy were performed successfully in dogs and rabbits but Nissen was the first to apply this procedure in a human. His patient was a 12 year old girl with severe bronchiectasis living in Berlin.

One of his major innovations was developed during his time at Istanbul University in 1937 – transthoracic resection of cardia with plication of gastric remnant. The patient, a 28 year old man with chronic bleeding ulcer of the distal esophagus, was treated with transpleural resection of the cardia with esophagogastrostomy and gastroplication [Figure 2]. In 1946, he performed transabdominal repair of para-esophageal hernia with gastropexy along with minor curvature and fundus ventriculi in a 66 year old physician with severe dyspnea and chest pain who refused thoracotomy. The hernial sac



**Figure 2.** Chronic bleeding ulcer of distal esophagus treated with transpleural resection of the cardia with esophagogastrostomy and gastroplication. To reinforce the sutures connecting the esophageal stump and the stomach, the stomach was mobilized **[A]** and the distal segment of the esophagus implanted into the anterior wall of the gastric body **[B]**. (From ref. 9)

remained in the thoracic cavity and underwent spontaneous obliteration [Figure 3].

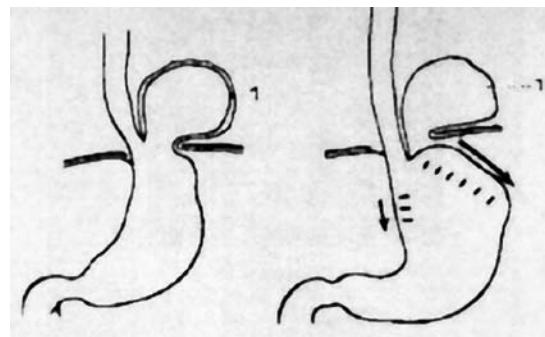
The Nissen fundoplication that was performed for the first time in Istanbul in 1937 is still practiced widely. It was applied later in 1955 in Basel, Switzerland [8,9] in a 49 year old woman with a 3 year history of reflux esophagitis without hiatal hernia. The technique consisted of a transabdominal approach to mobilize the distal esophagus and 6 cm of esophagus was wrapped with gastric fundus. Retrospective analysis (20 years) indicates that the Nissen fundoplication ameliorated reflux symptoms in 85–95% of patients. It is the only method for permanent relief of gastroesophageal reflux disease [8,9].

Before Dr. Nissen joined the staff at Istanbul University's surgery department the annual number of surgical interventions was 190; it increased to 1500 in his first year at the University. Dr. Nissen successfully directed the surgery department for six years and he wrote a comprehensive report, dated 9 April 1935, about plans for the construction of a new surgical clinic. The new building, designed according to his recommendations regarding equipment and architectural modifications so that it would be appropriate for a surgical environment, was opened in 1943, four years after he left for the United States [8–10].

Anecdotally, when Prof. Nissen was in the U.S. he was called for consultation, in 1948, to Brooklyn Jewish Hospital. The patient was Albert Einstein for whom surgery due to a very large aortic aneurysm was planned. Einstein refused the surgery, claiming that he had lived long enough and did not want to bear the consequences of such a major and risky operation. Later, in 1955, Nissen was called for a second consultation, this time to Einstein's home, but the worthy physicist, now aged 76, again refused surgery saying he did not want to prolong life artificially [9].

Prior to his appointment in the surgery department at the Istanbul medical school Nissen had signed a personal contract with the Minister of Education. Among the most important points in that original agreement are the following: his position carried scientific, administrative and managerial responsibilities and he had full authority to appoint staff; he pledged to secure the well-being of newborns and their mothers recovering from childbirth, to participate in the battle against tuberculosis, conduct public health courses and to include colleagues, assistants and chiefs in these efforts; he also agreed to assist civil and charity organizations working towards public health.

In keeping with his contract, Nissen published four books on surgery which were written in Turkish and German, and 62 scientific papers written in Turkish. Among the scientists who emigrated from Germany to Turkey, he was the first to publish memoirs. In his memoirs, he described his studies at the Istanbul University surgery department, his social life and his travels in Turkey and abroad. Prof. Dervis Manizade, also a surgeon, wrote the following: "At that time, Prof. Nissen was one of the world's most famous surgeons. He regularly gave lectures



**Figure 3.** Gastropexy and "fundoplication" in surgical treatment of hiatal hernia. (From ref. 9)

and held seminars in his clinic. He also presented interesting cases in his lectures and at Medical Society meetings. In fact, Nissen, Schwartz, Lippman, Frank and other German professors have created a new kind of environment" [8].

## CONCLUSION

Rudolf Nissen found a safe haven in Turkey, a place where he could continue his academic studies and was much respected. As one of the scientists who migrated to our country during the period of Atatürk's University reform program, Rudolf Nissen's contributions to Turkish medicine and to the field of surgery in general were invaluable.

As a result of the presence of the refugee scientists, the Turkish University Reform had achieved its goal – to reach the scientific level of Europe. Although the foreign scientists barely knew Turkish, their input was enormous – the knowledge they transmitted, the research they conducted and the scientific atmosphere they instilled. These refugee professors successfully trained thousands of Turkish students.

Prof. Nissen served the country that had given him not only refuge but also the opportunity to continue his research. He conducted many innovative studies and devised surgical techniques, e.g., the first lobectomy and the first pneumonectomy. His most well-known innovation, fundoplication, beginning with the cases in Istanbul, continuing in the U.S. and then in Basel, is still performed today. In 1996 a meeting in his honor was organized by the Department of Surgery of Cerrahpaşa Medical School in Istanbul, attesting to his ongoing influence and the respect in which he was held.

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## References

1. Widmann H. University Reform of Atatürk. Istanbul, 1981.
2. Grothusen KD. The immigration of German Scientists to Turkey after 1933. *Belleoten* 1981; 45: 537-50.
3. Terzioğlu A. The University Reform realized by Atatürk in 1933 and its contributions to Turkish medicine. *Acta Turc Historiae Med* 1997; 4: 26-30.
4. Şehsuvaroğlu B. German physicians who worked for modernization and Westernization of Turkish medicine. Medical relations between Turkey and Germany. Discussions in the Symposium that was organized in Istanbul on 18-19 October 1976. Published by Heinz George and Arslan Terzioğlu.
5. Original Archives of Istanbul University in the presidency building of the University.
6. Terzioğlu A. Presentations in the Symposium of Turkish-German Medical Relations, 18-19 October 1976, Publications of Istanbul Medical School, Istanbul University, Istanbul, 1981: 131-216.
7. Goerke H. Relations between Turkey and Germany in medicine. Medical relations between Turkey and Germany. Discussions in the Symposium that was organized in Istanbul on 18-19 October 1976. Published by Heinz George and Arslan Terzioğlu.
8. Göksoy E. German Prof. of Surgery, Rudolf Nissen: His contributions to the Department of Surgery of Cerrahpasa Medical School and Turkish surgery. Proceedings of the 38th International Congress on the History of Medicine, Ankara, 2005; III: 1573-5.
9. Turk RP. Nissen in Istanbul. The evolution of an operation. Proceedings of the 38th International Congress on the History of Medicine, Ankara, 2005; III: 1561-71.
10. Namal A. German surgeon Distinguished Prof. Dr.Rudolf Nissen after the Turkish University Reform in 1933. A model of behavior in scientific and professional ethics. *J Turk German Gynecol Assoc* 2005; 6(3); 6(3): 183-90.