

## Cracow school of neuroradiology. Common achievement of Professors Stanisława Spett and Adam Kunicki

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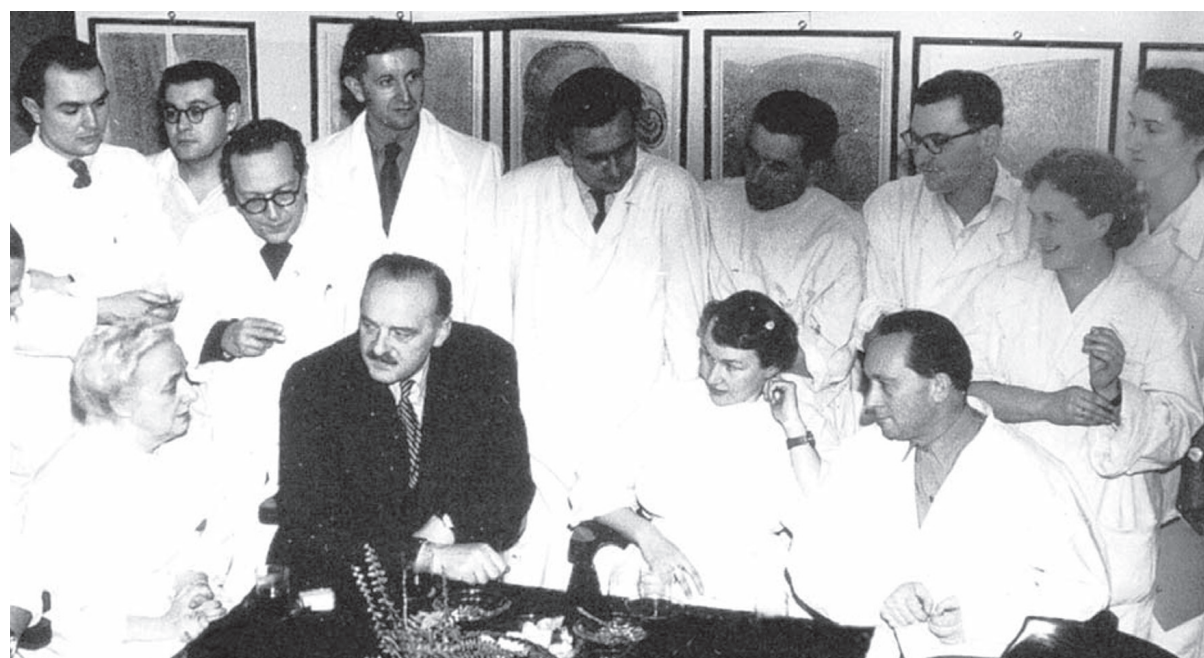


Fig. 1. First on the left Prof. S. Spett, first on the right Prof. A. Kunicki (photograph taken in the Clinic of Neurosurgery in Kraków, 4 Dec 1956)

The life cycle of the majority of new technologies in many fields – also applicable to the junction of clinical neurology and neurosurgery with radiology – tends to follow a similar pattern. A multitude of data were gathered and analyzed throughout the 20<sup>th</sup> century to determine the most common model, which was found to have a shape resembling the letter “S” in the time axis.

It begins with attempts to put a new idea into practice, confronting technical obstacles and psychological, social or economic barriers, then goes through a period of steady increase in popularity, followed by a gradual decline as a result of emergence of more efficient – or less risky – methods.

However above all, the process of introducing new methods calls for open-minded leaders, often referred to as “agents of change”.

Looking back at the development of neuroradiology in Poland, it is easily noticeable that these general laws expounded in detail by many scholars and philosophers [1,2] proved correct for a range of academic centres including Warsaw, Łódź and Cracow.

After the end of WWII, Cracow enjoyed particularly good conditions for the development of disciplines associated with treatment of disorders of the nervous system.

Much of Cracow’s infrastructure was preserved almost intact despite years of German occupation, and was large-

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ly unaffected by war activities, including the Neurology and Psychiatry Clinic headed by Prof. Jan Piltz [3], established in 1914 after Swiss and German models.

Cracow also offered an excellent opportunity for creative activity to specialists of the middle generation, including Adam Kunicki and Stanisława Spett [3]. They were both medical practitioners who began their specialist practice in the inter-war period, survived the Nazi occupation and found themselves in Cracow. Once there, they found favourable circumstances for engaging in an activity that proved to be the *magnum opus* of their careers.

Their endeavours were not free from difficulties and obstacles, though. They had to be prepared for compromise and ready to embark on their activities in a modest venue with scarce technical resources.

In Professor Kunicki's case, the decisive aspect was his experience as a physician and surgeon who was able to perform his profession well even in tough circumstances (also under the Nazi occupation), working with great determination to establish a properly resourced hospital. The germ of the future robust institution was the Neurosurgery Department (operating from 1946 onwards) in the so-called "Piltz's House" located on the premises of his original clinic in Botaniczna Street.

The year 1950 saw the establishment of the Chair and Clinic of Neurosurgery incorporating a Radiology Laboratory relocated from the closed Neuropsychiatry Clinic.

The modest laboratory housed on the first floor in the middle one of the hospital's three blocks was run from 1 August 1945 onwards by Dr Stanisława Spett nee Janczyszyn, who had been displaced from Lvov together with her husband (a future professor and head of the Psychiatry Clinic in Cracow).

When she assumed the position, she had already worked as a radiologist for 16 years, including six years (1935-1941) at the Neurology Clinic of the King Jan Kazimierz University in Lvov (E. Artwinski, A. Domaszewicz).

In the initial period, Prof. Spett had to face difficult working conditions:

- The laboratory was located on the first floor (with no lift), while patient wards were on the ground floor.
- Neurosurgery patients had to be transported for examinations from a separate "house".
- Only basic diagnostic x-ray unit was available.

Prospects for the development of sciences and specializations relating to the nervous system were nevertheless promising.

A group of broad-minded and diplomatic specialists (Professors: Kuligowski, Konorski, Choróbski, Kunicki and others) successfully convinced the authorities that neurosurgery could be an excellent clinical base for verifying hypotheses and concepts proposed by Russian scholars, from Pavlov to Bykov and Ivanov-Smolenskij. Funds were then allocated for purchasing equipment for the clinic and for staff training.

Towards the end of winter 1954, the Neurosurgery Clinic and laboratory began their operation in a specially adapted front wing of the former Piltz's hospital. After eight years of limited collaboration of neurosurgery and radiology, there came a time for forging a closer link.

Heads of institutions and partners were all in their prime. They had live through two World Wars.

Professor Adam Kunicki (appointed in 1951) was 51 years old and resembled Winston Churchill in some ways. He had a strong will power and a realist approach to problem resolution. With his inseparable pipe, he was known for the skill to maintain a balance between professional duties and lighter more artistic aspects of life.

Assistant Professor Stanisława Spett, who received her *habilitation* from the Faculty of Medicine at the Warsaw Medical Academy in 1950 and was appointed professor in 1954, was 52 years old at the time. Her refined facial features, framed with greyish but always carefully styled hair, reflected the virtues of her heart and mind: integrity, dutifulness, industriousness, kindness to people and a sense of mission associated with her chosen profession.

Both of them were dedicated to the concept of neurosurgery, neurology and specialist radiology operating under one roof and involving daily working contacts. A similar model could be found in few European countries at the time (France, Sweden).

Kunicki and Spett were of the same mind when it came to the expansion of the clinic and laboratory (gradually transformed into a department):

- good personal example of overcoming problems and shortcomings,
- high expectations from themselves and from others,
- rigorous approach to patient care – great consideration for patients which also extended on staff members in the case of personal problems,
- continuous mutual exchange information between the clinic, radiology, neurophysiology and pathology departments concerning daily, training and research activities.

High concentration and incidence of difficult cases, resulting from the fact that the clinic provided services

to a population of ca. 6-7 million people, dictated the principles of work and determined the progress of gradually developing neuroradiology:

- understanding the clinical problem and the purpose of examination,
- efforts to ensure the highest possible technical quality of tests (taking into account the equipment available between 1950 and 1975),
- immediate communication of results, daily morning reports,
- training on the job, with routine feedback,
- systematic filing of photographs and medical reports including patient follow-up history – the only programme of this kind in Poland at the time!

Reliable work in the clinical setting for the benefit of patients was a paramount task. Professor Spett carefully selected and educated her team. As the time progressed, she ceased performing invasive neuroradiological tests (e.g. angiography), however she consistently did her best to:

- create the best possible technical conditions for her younger associates,
- offer advice based on extensive experience, whenever needed,
- systematically train members of her team and the Clinics' doctors,
- initiate the process of scientific analysis of results of neuroradiological examinations.

During the following 10 years, Professor Spett trained four of her associates who specialized in neuroradiology and completed PhD theses in this field (R. Chrzanowski, M. Jedlińska, J. Kuśmiderski, B. Sikorska). Two of them later successfully completed their *habilitation*: R. Chrzanowski and J. Kuśmiderski were consecutively heads of the department after Professor Spett's retirement in 1972. Two of their colleagues (H. Uhl and B. Kamieniecka) completed their specializations at the same time [4].

On the basis of resources of the Neuroradiology Department in Cracow and excellent teaching materials, Professor Spett developed a successful programme of systematic training within the framework of the national scheme of post-graduate education and as a national specialist invited by Chairs of Medical Academies.

As a "walking apostle of neuroradiology", Professor Spett was a regular visitor of medical centres in Gdańsk, Lublin, Łódź, Poznań, Warsaw and Wrocław, carrying suitcases full of teaching materials.

She supervised many PhD dissertations and *habilitation* theses, also outside the Medical Academy in Cra-

cow. She initiated formal efforts to define regulations governing the specialization in neuroradiology.

Even though her closest associates were neurosurgeons, a group of prominent heads of neurology clinics and members of the presidium of the Polish Neurological Society (e.g. Professors: A. Dowżenko, E. Herman, W. Jakimowicz) recognized the significance of the development of neuroradiology and initiated the establishment of a Neuroradiology Section during its General Meeting held in Łódź. The initiative was all the more justified because in addition to academic centres major provincial and municipal hospitals also established their own teams of neuroradiology specialists and created positions for independent academic staff specializing in this area of medicine.

The best proof of the explosive growth of neuroradiology in its "golden age" (1954-1972) stimulated by Professor Spett and Professor Kunicki is the document, modest in form though rich in content, published on the occasion of the 4<sup>th</sup> Scientific Conference for Neuroradiologists in Rzeszów, entitled "Angiography of the Vertebral Artery" (6-7 June 1969) [5]. The conference hosted representatives of all Polish centres performing neuroradiological examinations. Overall, there were 130 participants, including 20 members of independent scientific staff and seven specialists from Berlin, Budapest, Paris, Moscow, Sofia and Strasbourg. A total of 25 papers, as well as expert panel discussions, were devoted to all aspects – from the procedure itself to potential complications – of the method which was a new and slightly controversial technique at the time.

The event marked a truly outstanding progress, especially in comparison with previous Polish reports on neuroradiology, published before 1950, and the first Polish experiences in cerebral angiography between 1955 and 1960. Neuroradiology, together with neurosurgery, gradually went outside academic centres.

An important product of the successful concept of the "Cracow Neuroradiology School" was a handbook on "Basics of Neuroradiology" [6]. Professor Kunicki emphasized the close link between the two disciplines, dictating the author in 1969 a foreword containing the following sentence: "Ever since their origins, neuroradiology and neurosurgery have been closely linked by the need to provide help to patients, developing in parallel and determining their mutual progress. Consequently, a bond has emerged between them which, if relaxed, would result in a downfall".

Events occurring in the subsequent two decades, i.e. dynamic growth of innovative methods which repre-

sented changes in morphology and function more accurately and safely also in disorders of the nervous system, corresponded to the technology life cycle discussed above.

“Classic” neuroradiology had to give way to computed tomography and magnetic resonance imaging. Furthermore, minimally invasive methods were introduced as an alternative to more traumatic surgical techniques.

What remained from the old days – and should not be forgotten despite the fascination with new technologies – is thorough and rational clinical reasoning aimed at finding an answer to the question which Professors Adam Kunicki and Stanisława Spett asked their students so often: “What is the best solution to health problems of patients who seek help from us?”

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