

Obituary

Walther Birkmayer – The man behind the name

Walther Birkmayer was born on May 15, 1910. He studied medicine, and, in addition passed to official Department of Education examination in Gymnastics. He also took lessons in ballet! We mention this because the Birkmayer family contributed two internationally famous ballet dancers to the Vienna State Opera. Until relatively recently Walther Birkmayer continued to dance the light fantastic on ice at the Vienna Skating Club. In his extraordinary energetic youth, his hobbies had included mountain climbing and canoeing.

It was a long winding road which led him to Parkinson's disease. Between 1936 and 1939 he studied Neurology and Psychiatry at the famous Vienna University Clinic under Professor Pötzl. In 1938 a lapse of judgement which he profoundly regretted for the rest of his life, caused Walther Birkmayer to enter the Nazi-party; in 1939 he was expelled because he had a Jewish grandmother and he was sent as a medical officer to the carnage of the Russian front. During the dark period of the Nazi-regime Walther Birkmayer at considerable personal risk actively protected Jewish and other colleagues from Nazi-persecution. Later he became an active member of the "League for Friends of Judaism". During the war he was appointed Head Physician at a special hospital for the brain-injured in Vienna (1943–1945). Here he studied and reported vegetative functional disturbances. Finally at the age of 44 he became Head of the Neurological Division of the Vienna Municipal Home for the Aged at Lainz.

L-dopa-replacement therapy was based on the discovery of dopamine deficiency in the striatum by Ehringer and Hornykiewicz in 1960 and was first demonstrated in parkinsonian patients in Vienna in the spring of 1961. The results (accompanied by a film illustrating the dopa-effect) were presented, jointly by the scientist Hornykiewicz and the clinician Birkmayer at the proceedings of the Viennese Association of Physicians in November 1961. This seminal discovery was the "open sesame", these two Viennese opened the worlds' gates to a new era of brain research and effective treatment.

The approach adopted by Birkmayer, the clinician, was to dissolve levodopa in boiling-hot physiological saline and then after cooling, 50–150 mg was slowly administered intravenously to disabled patients. This method might nowadays be regarded as somewhat unusual but well illustrates Birkmayer's approach. His personality showed three main characteristics: willingness to take calculated risks, astute clinical observation and rapid appreciation of critical details and exceptional warmth and charisma when advising his patients.

Fortune smiled on him – not in everything – but in many of the decisive periods of his life and above all in his clinical scientific work. He also had the good fortune to work with distinguished basic research colleagues of the highest calibre for long periods of his successful clinical career. This co-operation was mutually stimulating and facilitated their combined efforts to achieve present standards of therapy for Parkinson's disease.

Birkmayer's "brain-storming sessions" were illuminating. His team – including the late Erwin Neumayer, Demeter Seemann, Walter Danielczyk and Peter Riederer plus the remaining staff – would discuss in detail the predicament of over 300 patients under Walther's care. The team was compressed into a small library while Walther constantly smoked his pipe. The consequent asphyxia became increasingly lethal. Meanwhile everyone was invited to openly and critically contribute to the discussion. After four hours the team's combined genius was as exhausted as their physical reserves – but not Walther's!

The courage and intuitive flair to pluck potential ideas from the contribution of basic scientists and to exploit these therapeutically led him to the discovery of the therapeutic potential of the decarboxylase inhibitor, benserazide. In 1966/67 Walther Birkmayer surprised scientists led by Alfred Pletscher at Hoffmann La Roche, with his clinical results of treatment (Birkmayer and Mentasti, 1967). The manner in which benserazide potentiated the action of L-dopa by acting only in the periphery was published by basic scientists (Bartholini et al., 1967) only after therapeutic benefit was demonstrated by clinicians. Nowadays treatment with L-dopa and a peripheral decarboxylase inhibitor is rightly regarded as the "gold standard" of Parkinson therapy. The development of this form of treatment was, in our view, the most spectacular achievement of his career and the one that must have provided the greatest personal satisfaction to Walther Birkmayer.

With regard to the development of other therapeutic approaches in which he was involved, Walther continued to share the glory with basic scientists. All who were privileged to work with him clearly recognised that he was the one who charismatically transformed theory into practice, after full and sensitive appreciation of risks balanced with his concern and responsibility to his patients, to his staff, and to society at large.

On occasions basic scientists may underestimate the difficulties of transforming the results of academic scientific research into clinical practice. More than twenty-five years of close collaboration has taught us to respect those who are prepared to undertake the initial step which leads to the experimental phases of clinical trials and full assessment of therapeutic potential. This meta-

Birkmayer W, Mentasti M (1967) *Arch Psychiatr und Z Ges Neurol* 210: 23–35 (manuscript received November 2, 1966)

Bartholini G, Burkhard WP, Pletscher A (1967) *Nature* 215: 852–853 (manuscript received April 17, 1967)

morphosis requires the catalyst of remarkable human qualities of which Walther Birkmayer was so generously endowed. This is further illustrated by the evolution of L-deprenyl treatment – the scientists Moussa Youdim and Peter Riederer suggested the notion but it required the dynamism of Walther Birkmayer to make it a clinical reality.

Walther Birkmayer was never content to rest on his laurels and always looked beyond his present achievements, energetically pursuing fresh ideas. Most days, he drove his scientist colleagues to distraction with at least ten fresh if at times unrealistic ideas and thereby managed to keep his national and international competitors in a ferment of activity if only to repeat and confirm his original findings. He was always the spark that ignited and the dynamo that drove. His thoughts and his actions were always directed to solve the enigma of Parkinson's disease and to improve its treatment, an undertaking that may well be emotionally influenced by the death of his own mother from the malady.

Walther Birkmayer was active for decades in medical research, both nationally and internationally, activity distinguished by passion and dedication. Through this many television appearances he contributed to the demystification of mental disease; he was blessed with a rare talent for explaining complicated scientific concepts and results in language that all could understand. As a sympathetic physician he endeavoured to treat his patients with every means at this disposal including the "dernier cri" of pharmacological achievements.

In 1993, when he confessed that he had just been the recipient of a further (the fourth) honorary Doctor Degree he admitted that he had planned to complete his scientific work with a final effort concerning the combination of Madopar and NADH. In this Walther Birkmayer was going back to the 60's, when he and his co-worker Dr. Metasti described the effects of combination treatment with L-dopa and benserazide, but also with p-tyrosine and NADH. This decision not to continue clinical research was characteristic of "Walther the wise". No one could doubt that he could look back on his many achievements with profound satisfaction and that he could now sit back and see whether others could do better. Perhaps the spark and the dynamo was not quite so energetic during his last few years, but his presence and the warmth of his personality enriched us and illuminated our lives and our work.

Walther Birkmayer published a total of 444 scientific papers and 19 books. In 1963, he was awarded the title of "Universitätsprofessor" at the instigation of Hans Hoff. He was an Honorary Member of the French Neurological Society (1965), the German Society for Neurology (1982) and the World Federation of Neurology Research Committee for Extrapyrarnidal Disorders. He was distinguished with Honorary Doctorates from the Semmelweis University, Budapest (1984), Göteborg University (1986), Marburg University (1991) and Turku University (1993). Amongst the many other awarded honours were the Ehrenzeichen für Kunst und Wissenschaft 1. Klasse (First Class Distinction for Art and Science) (1986), the Gold Grosse Ehrenmedaille (Greater Service Medal) from the City of Vienna (1981) and the Grosse Ehrenzeichen für Ver-

dienst um die Republik Österreich (Greater Service Medal of the Republic of Austria, 1990).

He initiated and founded the "Austrian Parkinson's Disease Society" in 1981 and headed the "Burda-Award" Committee from its inception. He devoted a great deal of his passion and energy to the Journal of Neural Transmission following its renaissance in 1971. This journal was founded by Carmen Corolini and Alexander Sturm in 1950 as *Acta Neuro-vegetativa* (later the Journal of Neuro-Visceral Relations). Walter Birkmayer altogether with the signed Managing Editor, J. Ariens-Kappers, O. J. Grüsser, W. J. H. Nauta and R. J. Wurtman, transformed it with exemplary skills into the successful format that we know today. The publishers, editors and members of the Advisory Board of the Journal of Neural Transmission, as well as Springer-Verlag Wien New York, were deeply appreciative to Walther Birkmayer for his efforts over the years, and particularly for his constant striving to produce an attractive and highly respected journal for neuroscience and neuroscientists.

Walther Birkmayer died on December 10, 1996 in Vienna. The requiem at the Church of the Karmelites in his living district left everyone with the impression that he was a man with a deep humanity and religious feeling. Requiescat in pace!

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