



In memory of Professor Leonor Michaelis in Nagoya: Great contributions to biochemistry in Japan in the first half of the 20th century



Toshiharu (Toshi) Nagatsu *

Research Institute of Environmental Medicine, Nagoya University, Furo-cho, Chikusa-ku, Nagoya, Aichi 464-8601, Japan
Fujita Health University School of Medicine, 1-98 Dengakugakubo, Kutsukake-cho, Toyoake, Aichi 470-1192, Japan

ARTICLE INFO

Article history:

Received 18 March 2013
Revised 15 April 2013
Accepted 15 April 2013
Available online 27 April 2013

Edited by Athel Cornish-Bowden

Keywords:

Michaelis
Nagoya
Japan

ABSTRACT

Leonor Michaelis spent the years of 1922–1926 as Professor of Biochemistry of the Aichi Medical College (now Graduate School of Medicine, Nagoya University) in Nagoya, Japan. Michaelis succeeded in gathering many bright young biochemists from all over Japan into his laboratory, and made tremendous contributions to the promotion of biochemistry in Japan. Michaelis was invited to many places in Japan to present lectures over those years. Kunio Yagi, who was Professor of Biochemistry at Nagoya University in the second half of the 20th century, succeeded in crystallizing the “Michaelis” enzyme–substrate complex. Historically, Michaelis has had an enormous impact on biochemistry in Japan.

© 2013 Federation of European Biochemical Societies. Published by Elsevier B.V. All rights reserved.

1. Introduction

Leonor Michaelis (1875–1949; [Figs. 1 and 2](#)) spent the years of 1922–1926 as Professor of Biochemistry of the Aichi Medical College (now Graduate School of Medicine, Nagoya University) in Nagoya, Aichi, Japan. During that time Michaelis had an enormous impact on the development of biochemistry in Japan, prompting the establishment of the Japanese Biochemical Society in 1925.

On the occasion of celebrating the centenary of the publication of the famous paper by Michaelis and Menten in *Biochemische Zeitschrift* in 1913 [1], I would like to present a historical overview of the tremendous contributions of Leonor Michaelis to the development of biochemistry in Japan in the first half of the 20th century.

Kunio Yagi [2,3], who later became Professor of Biochemistry of the School of Medicine at Nagoya University and was my mentor at the School of Medicine, followed the work of Leonor Michaelis and succeeded in crystallizing the “Michaelis” enzyme–substrate complex of D-amino acid oxidase, confirming the hypothesis offered in the famous paper by Michaelis and Menten in 1913.

Kunio Yagi published a special monograph, “Professor Michaelis and Japan,” in 1973 [4], and also wrote a historical memoir of Michaelis in his manuscript in “New Horizons in Biological Chemistry” in 1980 [5].

The invitation for Michaelis to become Professor of Biochemistry at the Medical School in Nagoya was also mentioned in an autobiographical memoir of Michaelis in the NATIONAL ACADEMY OF SCIENCES, USA in 1958 [6].

During his stay in Nagoya, Michaelis was invited to present lectures in many places throughout Japan and also to organize highly stimulating special courses for young Japanese biochemists. A detailed story on lectures given by Michaelis in Sapporo, Hokkaido was recently reported by Fujita et al. in Japanese in the *Journal: SEIKAGAKU (BIOCHEMISTRY)* published by the Japanese Biochemical Society in November 2012 [7].

2. Invitation of Leonor Michaelis to Nagoya in 1922

The Department of Medical Chemistry at the Medical School in Nagoya had been settled in 1916 as the prototype of the present Department of Biochemistry at the School of Medicine at Nagoya University. On the occasion of having raised this medical school from a lower grade to university rank as the Aichi Medical College in Nagoya in 1920, then Governor Miyao of Aichi Prefecture hoped to introduce a centre of excellence to the College. President Yamazaki of the College consulted with Seizo Katsunuma, who was Professor of Internal Medicine at the College at that time and later became President of Nagoya University; and they decided to invite an internationally famous professor of biochemistry to the medical college. Shigeru Sakai, who was also Professor of Internal Medicine of the College, was in Europe during that period and also contributed to the invitation of Leonor Michaelis. As a result, with the

* Address: Fujita Health University School of Medicine, 1-98 Dengakugakubo, Kutsukake-cho, Toyoake, Aichi 470-1192 Japan.

E-mail addresses: tnagatsu@riem.nagoya-u.ac.jp, tnagatsu@fujita-hu.ac.jp



Fig. 1. Professor Leonor Michaelis with his signature.



Fig. 2. Professor Leonor Michaelis wearing a Japanese kimono.

recommendation of Carl Neuberg, Professor of Biochemistry in Berlin, Germany, Leonor Michaelis received the invitation to become Professor of Biochemistry in Nagoya. Although such an invitation was an unusual event in Japan at that period, especially for a country with people speaking Japanese, a language completely different from Western languages and having a different (Oriental) culture, Michaelis kindly accepted the invitation and was appointed as Professor of Biochemistry at Aichi Medical College in Nagoya on October 30, 1922. Immediately after his acceptance, the Aichi Medical College in Nagoya started establishing a new Department of Biochemistry for Professor Leonor Michaelis with the best facilities at that time. Iwao Ogawa was appointed as the first research assistant of Leonor Michaelis. Ogawa had graduated from Tohoku University at Sendai, was a staff member of Nagoya Medical College at that time, and later became Professor and Director of the Research Institute of Environmental Medicine of Nagoya University, which was established by President Seizo Katsunuma in 1946. On November 1, 1922, Leonor



Fig. 3. Professor Leonor Michaelis with his family: his wife, Hedwig Philipsthal Michaelis, and their daughters, Ilse and Eva, along with his research assistants at Aichi Medical College in Nagoya. The first line of standing persons, from left to right: Professor Michaelis, Mrs. Michaelis, and Miss Ilse Michaelis. Miss Eva Michaelis is sitting in front between Professor and Mrs. Michaelis.

Michaelis arrived at Kobe Harbour, Japan, where Ogawa welcomed him and guided him to Nagoya, travelling by train. President Yamazaki welcomed him at Nagoya Station. A gorgeous residence was provided for him on the school campus. On November 9, 1922 Michaelis went to Tokyo to meet with Sabro Kakiuchi, who was his friend and Professor of Biochemistry at the University of Tokyo and later became the founder of the Japanese Biochemical Society in 1925.

One hundred thousand Japanese yen at that time, several billion yen at the present value, was provided for supporting the newly established Biochemistry Department chaired by Michaelis as Professor. His salary was twice as much as that of President Yamazaki of Aichi Medical College. When Professor Michaelis came to Nagoya, he brought with him many documents, apparatuses, and drugs from Germany.

He served as Professor in the Department of Biochemistry, and its Director, for three and a half years until he left Nagoya in 1926, when he travelled to the United States, where he first went to Johns Hopkins University in Baltimore and later, in 1929, to the Rockefeller Institute in New York as Professor.

Leonor Michaelis came to Nagoya alone at first in 1922. When his wife, Hedwig Philipsthal Michaelis, and their two daughters, Ilse and Eva, came to Nagoya in 1923, the Michaelis family became complete, enjoying a comfortable family life (Fig. 3). Michaelis was not only an outstanding biochemist but also an excellent pianist. When Albert Einstein visited Japan in 1922, he visited Nagoya in December of that year. Michaelis invited Einstein to his house,

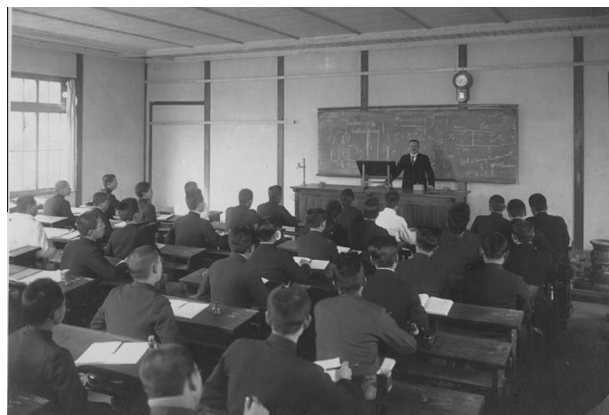


Fig. 4. Professor Leonor Michaelis in a class room during a lecture of biochemistry for students of Aichi Medical College in Nagoya.

Download English Version:

<https://daneshyari.com/en/article/10870855>

Download Persian Version:

<https://daneshyari.com/article/10870855>

[Daneshyari.com](https://daneshyari.com)