

## Symposium

# 55 YEARS FROM ORGANIZING THE BEGINNING OF ALLERGOLOGY IN CROATIA: FUTURE WE BUILT ON THE PAST





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## SALOMON STRICKER (1834-1898): A PIONEER MICRO-BIOLOGIST

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### Summary

The paper presents basic biographical data on the Austrian pioneer of experimental medicine Salomon Stricker (1834-1898), and emphasizes the link of his experimental work to important research projects of this time period. His influence on Carl Heitzmann and Carl Koller was pointed out. The work of both was connected directly with Stricker's experimental designs, far less known in published literature. Demonstrating *ad oculos* the world of capillaries, diapedesis of blood cells, cell division *in vivo* by Stricker, paved the way for investigations in immunology and allergology.

**Keywords:** Salomon Stricker (1834-1898); development of experimental medicine; Austria/Vienna, 19<sup>th</sup> century.

Erna Lesky (1911-1986), Vienna's *grande dame* of the field started the part on Stricker in her classic on medical history in the city (1, p.544 ff.), saying that "it did not cause little attention that the dominant personality in pathology, Carl von Rokitansky (1804-1878), who previously claimed that pathology must be the basis of all action in medicine, now favored the foundation of a department for experimental pathology. Salomon Stricker (1834-1898) was chosen, coming from Ernst Wilhelm von Brücke's (1819-1892) laboratory. He had a sound laboratory experience already as a student (1855-1859) in the latter's laboratory, worked also with Carl Ludwig (then at our own institution in the school of military medicine). Graduating in 1858 he underwent clinical training in the various departments of the Vienna General (i.e. University) Hospital in internal medicine, surgery, dermatology, syphilology ophthalmology, and already after four years became docent.

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**Fig. 1.** Salomon Stricker 1834-1898 (Courtesy and copyright by Prof. P. Usenský, Vice-Rector, University of Bratislava, Slovakia).

In 1868 the institute of "Allgemeine und experimentelle Pathologie" was founded, Stricker was appointed Professor extraordinarius, to reach the highest and most coveted rank of Professor ordinarius only after five more years in 1873. A phenomenal career [2,3] Just for comparison: Abraham Romeo Seligmann (1808-1892), first professor of history of medicine in 1848, it took 21 years; Carl Ludwig Sigmund von Ilanor (1810-1883), first professor of syphilis 1849 and Ferdinand Hebra (1816-1880), first professor of skin diseases also 1849, it took both twenty years, Moriz Kaposi (1837-1902) and Isidor Neumann (1832-1904), their successors it took 12 years, to bridge this gap, which by itself had only a character of higher prestige and a voting right in the faculty.

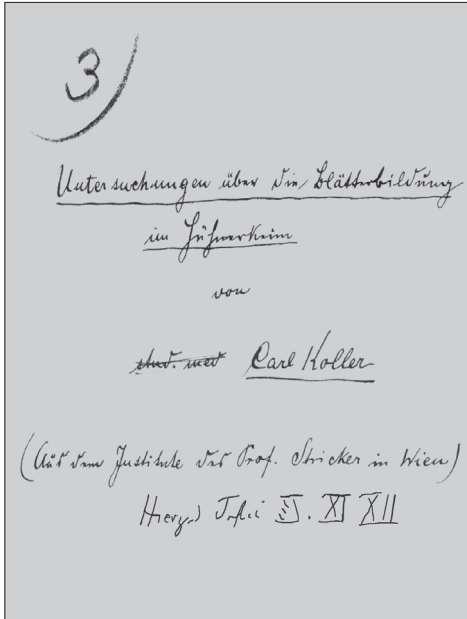
Stricker was of humble origin, born in the then Hungarian City of Vág-Ujhely/Waag Neustadt, today Novo Mesto nad Vahóm, Slovakia. He was Jewish; first attending the Catholic German gymnasium in Pressburg/Pozsony, today Bratislava, capital of Slovakia, thereafter the Protestant gymnasium in Budapest. Medical School he made in Vienna and there he stayed ever after. In the perspective of what is a chronicler, what a historian and what an experimenter, Stricker definitively fell into the latter category but with all the knowledge the former two categories would require. He must have had two outstanding qualities: (i) an extraordinary IQ plus a strong drive for making a career – well in line with historical scholarly tradition of Jewish education- and (ii) an equally remarkable dexterity in manual activities. His projection devices he all designed and built by himself, according to his followers, and thereby was able to demonstrate



experiments on the walls of his lecture theaters in a final magnification of 10.000-20.000. Some achievement at the time, indeed. As a parameter may be taken, that his lectures were all chock-full of attendees, students and contemporaries alike. As any lecturer or professor well knows, both these categories of listeners are the most difficult to convince, to impress, to teach. Let me just mention from the vantage point of the dermatologist, who were his pupils in this particular field making him, historically, the main path into dermato-pathology as finally designed by Paul Gerson Unna (1850-1929). Albert Reder-Schellmann, later ordinarius for dermatology at the military medical academy in Vienna (1826-1904), Isidor Neumann (1832-1904), ordinarius for syphilis and dermatology 1881-1904; Filipp Josef Pick (1834-1910), for the same disciplines professor in Prague 1873-1910, Heinrich Auspitz (1835-1886), professor and head of a non-university department of syphilology in the Vienna General Hospital, Moriz Kaposi (1837-1902), successor to Ferdinand Hebra in the prestigious chair of Dermatology in Vienna (1881-1902), Eduard Lang (1841-1916), first professor in the same field in Innsbruck (1873-1886), the follower to Auspitz in Vienna, nad the above mentioned Paul Gerson Unna. He is the editor of the first encyclopedic volume of dermatopathology in 1894 (German) and 1896 (English) even if Isidor Neumann's treatise of 1869 and after (five editions) give many details of the dermatopathology, e.g. of lupus erythematoses (sic!), or of senile skin changes well before Unna. The years of birth of the above gentlemen may illustrate how well Stricker's talents were perceived amongst his contemporaries otherwise they would not have attended his presentations [2].

Stricker is described by his followers and pupils as a workaholic. His motto was "*docendo discimus*", teaching was the core of his scientific activities. The "*Handbuch der Gewebelehre*" and the series of articles in the Vienna Weekly on experimental pathology amply offer evidence for his theories and perspectives. This notwithstanding, he got into an argument with Julius Cohnheim, his erstwhile friend, on the theories of inflammation. He did not enter bacteriology coming up first with Armauer Hansen's description of the leprosy bacillus nor with Koch's detection of the mycobacterium tuberculosis. Well worth to mention however are three other facts:

- (i) Carl Heitzmann (1836-1896) the famous, Croatian born (Regnum Hungariae and Austrian Empire of then, just like Stricker) [3], dermatologist and pathologist and physician painter, founding member of the American Dermatological Association (ADA, the world's oldest and most prestigious national dermatological society), in 1876, after his emigration to the USA, was one of his most avid followers and pupils [4].
- (ii) The demonstration of the diapedesis of erythrocytes in vivo as much as the contractibility of capillaries, which he was able to demonstrate to Cohnheim.



**Fig. 2.** frontispiece of a manuscript draft by Carl Koller from the early 1880s, obviously just around Koller's graduation (1882), because it reads "stud. med", crossed out thereafter when he must have become M. D. already. Copyright by Madame Hortense Koller-Becker, 1902-2002.

(iii) Carl Koller (1857-1944), who introduced cocaine into ophthalmology, working on that drug together with Sigmund Freud (1856-1939) and Sigmund Lustgarten (1857-1911), was stimulated to perform such experiments under Stricker's original domain. A factor widely overlooked in the literature (Fig 2).

Koller's first report on cocaine for ophthalmo-anaesthesia appeared in 1884 [5,6]. Both, Koller and Lustgarten left Austria. In 1884, Koller entered into a duel, won, but both opponents had to quit the Imperial Army, and Koller left the following year. Lustgarten, his assistant in the duel, followed after a controversy with the administration of the Vienna General Hospital in 1887. He settled in New York City, in his obituaries described as a "docteur à la mode" and "Schoengeist", but he retained emotional ties to his old country. In 1910 he made a will favoring the Medical Faculty of Vienna University and the Mount Sinai Hospital in New York City, to benefit talented students of any denomination. He died in 1911; the will was enacted after the death of his wife in 1941 but, due to WW II was effectuated only in the mid-fifties. The author of these lines was the first (or one of the first) Lustgarten stipendiates, - warranting perennial gratitude on the part of the writer.

As with many devoted, enthusiastic investigators, scientists, private life lags behind Stricker married when he was beyond fifty, his bride was twenty. It must have been love, which falls upon man like a golden cage from above. After eight years of marriage



**Fig 3.** Madame Ann M., Sydney.

he died – and he left her a fortune. She could easily have smiled to another guy, but steadfastly remained a widow for 37 years, lagging only behind Martha Hebra, Kaposi’s spouse, who outlived her husband 44 years, Margarethe Langerhans, 45 years, and Zita Hapsburg, 67 years. Regrettably, Aloisia Stricker’s fortune was invested in War Loans in WW I and eventually she died in dire poverty on Christmas Day 1935 in Vienna.

The author of this short article is in touch with many of the old Viennese medical families, many of them Jewish: Sigmund, Hebra, Kaposi, Urbach, Koller, Stricker, et al. Stricker had no children, but his brother Abraham had and the progeny is spread over the globe, Australia, USA and beyond. With her kind permission, the portrait photograph of Stricker’s great-grand niece, Madame Ann M. of Sydney, whom the author knows personally, a reproduction of her image appears here as Fig. 3.

In conclusion it can be said that Stricker at the microscope level as much as Hebra on the clinical level (dermatitis artefacta; experimental scabies) were pioneers in experimental medicine. *Allergology* of today, by the mere token of immunological mechanisms operative in the antigen-antibody arena, is the playground of modern scientists, exemplified in the new “biologicals” which were beyond anybody’s dreams just a quarter of a century ago. Stricker paved the way by demonstrating *ad oculos* the world of capillaries, diapedesis of cells, cell division *in vivo* and more.

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#### Sažetak

### **Salomon Stricker (1834.-1898.): Pionir mikrobiologije**

U radu se iznose osnovni biografski podaci o austrijskom pioniru eksperimentalne medicine Salomonu Strickeru (1834.-1898.) te se podvlači poveznica njegovog eksperimentalnog rada s važnim istraživačkim projektima tog vremena. Osvjetljen je utjecaj Strickera na Carla Heitzmanna (1836.-1896.) te na Carla Kollera (1857.-1944.) koji je uveo kokain u oftalmologiju. Strickerovom eksperimentalnom utjecaju pripisuje se Kollerov istraživački interes, što je do sada bilo nepoznato u objavljenoj literaturi. Stricker je istražujući ulogu kapilara staničnu diapedezu i diobu utro put kasnim istraživanjima na području fiziologije, imunologije i alergologije.

**Ključne riječi:** Salomon Stricker (1834.-1898.); razvoj eksperimentalne medicine; Austrija/ Beč, 19. stoljeće