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## Eduard (Carl Adolph) Suess – between science and politics

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Eduard Suess (Fig. 1) is one of the most famous of all geologists who ever lived, because of his vast knowledge in various fields of the Earth sciences. In addition to his outstanding and monumental synthetic work, titled “*Das Antlitz der Erde*” (1885-1901, in English, *The Face of the Earth*, (1904-1924), in 5 volumes, Suess is known for hypothesising about two fundamental palaeo-geographical features, the Gondwanaland Supercontinent (in 1861) and the Tethys Ocean (in 1893). He also introduced the concept of eustasy, whereby periods of ocean transgression and regression could be correlated from one continent to another. In 1875, through his examination of the various spheres of the Earth (and their interactions), Suess came up with the concept of ‘biosphere’ as “the place on the Earth's surface where life dwells”. Of particular importance were his postulations on the structure of the Earth's interior. He coined the terms “Nife”, “Sima” and “Sial”. Nife (main components: nickel and iron) stands for the Earth's core, Sima (main components: silicates and magnesium) for the inner crust and Sial (main components: silicates and aluminium) for the outer crust. In his capacity as an elected politician, his legacy was instrumental to the well-being of the population, and includes the construction of a pipeline to supply clean water to Vienna from the mountains, in 1873. The opening of the Danube Canal in 1875, to prevent the recurrent flooding of parts of Vienna, was also to a large extent based on his initiative.



*Fig.1. Eduard Suess (1831-1914) Portrait dated around 1900.  
Library of the Geological Survey Archive – Biographical Materials*

Carl Adolph Eduard Suess was born in London on 20 August 1831 to Adolph Suess (1797-1862), who ran a successful wool company, and his wife Eleonore, born Zdekauer (1807-1881), a banker's daughter. When he was three years old, the family moved to Prague, where the relatives of his mother lived. In Prague, Eduard Suess spent 5 years at the “Clementinum”, a very traditional school, which was once famous for being the third largest Jesuit College in the world. In 1845 the family left Prague and moved to Vienna. In 1846, Suess completed his high school education at the “Akademisches Gymnasium” and began his studies at the Vienna Polytechnic Institute (now Vienna University of Technology).

In 1848, when revolution broke out across the Austrian Empire against the Habsburg Monarchy and its centralised administration based in Vienna, Suess, who at the time was in his late teens and full of youthful zeal, joined the Academic Legion of the revolutionaries. Half a year later,

in October 1848, Suess left Vienna, which was seething with unrest, and moved back to Prague to continue his studies at that city's Polytechnic Institute. Frequent visits to the National Museum in Prague and excursions to the fossil-rich area around the city awakened Suess's interest in palaeontology, an interest that would eventually turn into a lifelong passion.

Back in Vienna, in 1849, Suess wrote an article on Silurian graptolites from Bohemia, which was published in 1851, as his first scientific paper.

The article on graptolites was however reviewed disparagingly by Joachim Barrande (1799-1883), who at the time was the foremost authority on Palaeozoic research. Despite this inauspicious entry into the scientific world, Suess went on to acquire nation-wide fame through his research, in the space of just a few years.

In December 1851, Suess's political involvement with the 1848 revolution caught up with him, and he was arrested along with several student colleagues at the Polytechnic Institute. He was accused of taking part in a conspiracy instigated by the Hungarian freedom fighter Lajos Kossuth (1802-1894), but was released shortly afterwards owing to a lack of evidence against him.

After this, he discontinued his studies at the Polytechnic Institute, and turned his full attention to research in the field of palaeontology.

In 1852, Suess was appointed as an assistant at the Court Minerals Cabinet (later the Natural History Museum of Vienna), where he focused on the classification and taxonomy of fossil mammals, the first Austrian researcher to do so.

In 1857, after several years of intensive work, and having come to prominence through his research, Eduard Suess petitioned for Habilitation, a qualification for employment as university lecturer, in the field of palaeontology at Vienna University. The Faculty of Philosophy rejected his application because of his lack of a Doctorate – Suess did in fact never complete his university degree! However, Suess then appealed to Count Leo Thun-Hohenstein (1811-1888), the Austro-Hungarian Minister for Culture and Education, and was successful. The minister appointed Suess that same year as an “extraordinary” (i.e. associate), unpaid Professor of Palaeontology. This was the first Chair in this subject at an Austrian university.

In 1862, Suess resigned from his job at the Court Minerals Cabinet to conduct scientific work at the university, first as Associate Professor of Geology, this time a paid position, and then, from 1867, as a full Professor in this subject, a position he occupied until his retirement in 1901.

Thanks to his outstanding academic achievements, Eduard Suess became a member of numerous national and international scientific institutions. He was elected a member of the Geological Society in Berlin, the British Palaeontographical Society, and the Société Linnéenne de Normandie. In 1860, he became a corresponding member of the Imperial Academy of Sciences in Vienna and, thereafter, a full member in 1867. From 1885, Eduard Suess was one of the leading lights of the Austrian Academy, first as Secretary of its scientific branch (Mathematics and Science), then as its General-Secretary from 1891, and as Vice-President of the Academy from 1893. Finally, in 1898, he was elected President of the Academy, and continued to head this august institution from 1898 to 1911.

Besides Suess' scientific career, his political activities as an elected official are also noteworthy; he backed and promoted numerous public projects. His political achievements began with his project to build an aqueduct to convey spring water from the mountains to Vienna, known as the ‘Vienna Mountain Spring Pipeline’ (Fig. 2). Later, in 1869, Suess was elected to the Lower House of the Austrian State Parliament and successfully championed the introduction of interdenominational schools, thus loosening the Church's grip on education and the selection of teaching staff, in favour of state school supervision.



Fig. 2: Polka-Mazurka op. 114 (1874) “Die Hochquelle” [“high-spring”] by Eduard Strauss (1835-1916), the younger son of Johann Strauss Senior. Note the dedication to Eduard Suess on the occasion of the opening of the ‘Vienna Mountain Spring Pipeline’.

In the late 1880s, Eduard Suess suffered a great personal setback. As a political representative, he had been exposed to anti-Semitic attacks since the early 1880s, due to his mother's Jewish background. When he was elected as Rector of Vienna University on September 21, 1888, Suess found that he could no longer stand the endless attacks by anti-Semitic student fraternities, who had already boycotted his inauguration. In March 1889, only a few months after taking office, he resigned his position.

In 1901, having turned 70, he was appointed Professor Emeritus and retired. Eduard Suess passed away on April 26, 1914 in Vienna. He is buried in the family grave at the cemetery in Marz (Burgenland), some 70 km south of Vienna (Fig. 3).

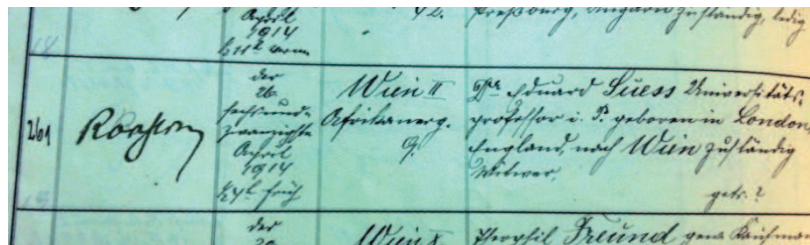


Fig. 3: Register of deaths, Vienna. Entry for 26 April 1914 at half past three in the morning. Right Column: Dr. Eduard Suess, retired University Professor, born in London, England, ward of Vienna. Widower.

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