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EHRHARD VOIGT

28 July 1905 – 22 November 2004

On November 22nd 2004, Dr. Ehrhard Voigt, Professor of Geology and Paleontology at Hamburg University, died after short illness at the age of 99.

A full and active live in geology and palaeontology came to an end, and the world of science lost an internationally prominent earth scientist.

Ehrhard Voigt was born on July 28th, 1905 in Schönebeck on the Elbe, in the district of Magdeburg. Encouraged by his father, he began to collect fossils while attending the „Friedrich“ grammar school in Dessau. His father often accompanied him on his collecting trips in Anhalt and the Harz region. At this young age Voigt already showed interest in geological and palaeontological questions. In flints from the Upper Cretaceous, which he collected in his parents' yard and in the glacial meltwater sands of his homeland, he discovered large quantities of bryozoans. This rich fauna prompted him to focus his studies particularly on bryozoans. For more than 80 years, this phylum remained his main object of research. In 1923, the 18 year-old pupil published his first scientific work „Über einige neue und wenig bekannte Bryozoen der Gattung *Floridina* aus dem Danien von Faxe“. This work was based on material from the famous bryozoan beds of the Danian from Faxe in Denmark which Voigt had ordered from Copenhagen in order to wash the chalk off the bryozoans and identify them. His results were published in a Danish scientific journal. Only one year after this, having corresponded intensely on scientific matters with F. Canu (Versailles), Ehrhard Voigt published an extensive work of 150 pages and 6 plates entitled „Beiträge zur Kenntnis der Bryozoenfauna der subhercynen Kreidemulde“. As a schoolboy, he was already acquainted with German, Dutch, Danish and American colleagues, with whom he exchanged materials and publications, and owned a collection comprising a great number of bryozoan species from Rügen, Lägerdorf, Maastricht, Stevns Klint and the USA.

In 1924, Ehrhard Voigt began studying science and in particular geology at the Martin-Luther-University in Halle-Wittenberg. His lecturers were Johannes Walter and Johannes Weigelt, the latter of whom taught as an unsalaried lecturer at the time. Two years later, he switched to the Maximilian-University in Munich for three semesters. Here, Voigt studied geology under Erich Kaiser and Karl Boden, and paleontology under Ferdinand Broili, Edgar Dacquè and Ernst Stomer von Reichenbach. After another semester at the Ernst Moritz Arndt University of Greifswald, he returned to Halle, joined by his Halle

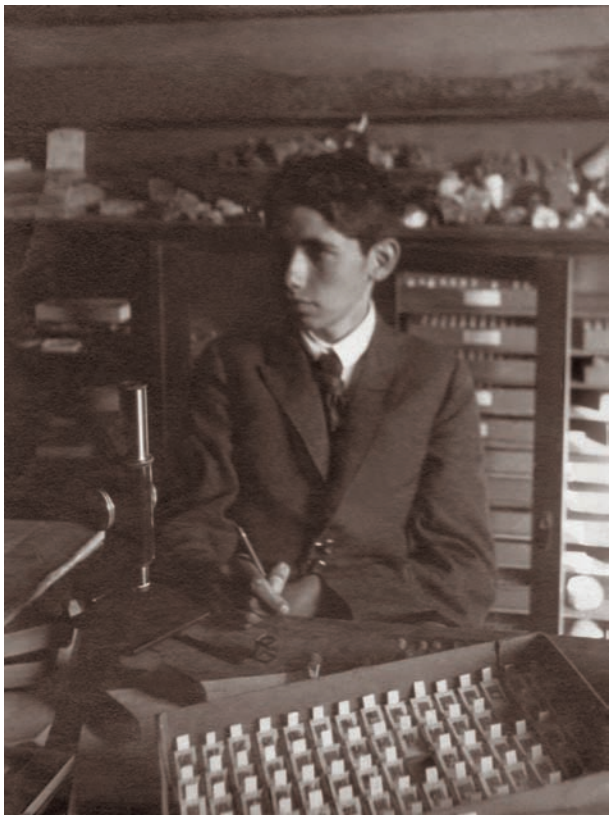

Fig. 1: Ehrhard Voigt, aged 16, with his first collection of bryozoans.

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Fig. 2: Ehrhard Voigt with his father Adolf Voigt at the family home (already encrusted by bryozoans; 1924).

Fig. 3: R. S. Bassler (U.S.A.) with the young Ehrhard Voigt and his parents at the home of the Voigt family in Dessau (1928).

teacher Johannes Weigelt in 1929. In Halle, Voigt was awarded a doctorate (Dr. rer. nat.) for his geological-sedimentological work on „Die Lithogenese der Flach- und Tiefwassersedimente des jüngeren Oberkreidemeers". The course for this topic had been set years before when he had concentrated on the Cretaceous of northern Germany and in particular its rich bryozoan fauna.

His early passion for collecting fossils not only resulted in new scientific insights, but through the help of R. S. Bassler (Washington) and on request, he also sold small, thematic collections of bryozoans to the European countries and to the USA. His foreign exchange enabled him to support his parents, who found themselves in financial distress during the period of inflation (1920 – 1923) when one billion German Marks in paper money was worth only one Mark in gold. Voigt's close friendship with the two bryozoologists Canu and Bassler, who later edited the bryozoan *Treatise*, dates from these years. In the

Fig. 4: The Mother of Ehrhard Voigt with Prof. E. D. Ulrich at the home of the Voigt family in Dessau (1929).

summer of 1926, Bassler, and later in 1927, E. O. Ulrich (another American bryozoan specialist) visited the young Ehrhard Voigt at his parental home in Dessau, where they examined and exchanged bryozoan materials.

From 1929 until 1936, Voigt worked as an unpaid assistant at the Department of Geology in Halle where the palaeontologist and geologist Johannes Weigelt was an exceedingly prolific teacher and researcher. Weigelt benefitted from the increasingly extensive excavations in the Middle Eocene brown coal at Geiseltal near Halle on the Saale. The deposit at Geiseltal, just like the world natural heritage „Grube Messel“, provides tremendous insights into life of the Eocene. Apart from plant fossils and insects, these sites have yielded an outstandingly well-preserved vertebrate fauna, with many species of mammals, amphibians, fishes, turtles, crocodiles, lizards, snakes and birds.

While at Halle Ehrhard Voigt acheived a great deal in science and in the field of dissection. Almost 25 works on mammals (some of which are quite extensive) as well as diverse palaeohistological works and publications on the so-called Lackfilm method he invented, bear witness to his achievements. In order to excavate the fossils and to preserve the small troves of vertebrates that were embedded in the clay-rich sediments of the brown coal and were extremely difficult to handle, a new dissection technique was needed. Voigt's Lackfilm method was subsequently used worldwide for collecting geological, pedological and archaeological profiles of sediments. This method also enabled Voigt to reveal fossils that previously had been invisible, using light transmitted through the transparent Lackfilms viewed at high magnifications. He was now able to identify the muscles, cartilage and connective tissues of vertebrates and insects. For the first time it became possible to detect fossilized muscles fibres, tissues with cartilage and lipid cells and original colour pigment cells in frogs filled with granules of guanine, as well as the red blood cells of a lizard, all preserved almost as well as in modern animals. Further palaeohistological works yielding unique scientific results, like the preservation of the soft tissues of insects in amber inclusions, were to follow.

As his pioneering results show, Ehrhard Voigt was an extraordinarily productive scientist in his years at Halle University. Halle was very well suited for geological studies and gave Voigt the opportunity to expand his field of interest to the tectonic and regional geology of central and northern Germany. Works like „Der Kippschollenbau der Halbinsel Schonen“ (1930) and „Tektonische Grundlagen der Bildung von Trümmer-Eisenerzlagerstätten im Nordwesten des Harzes“ (1931), a joint venture of Voigt and his mentor Weigelt, bear witness to this expansion.

His habilitation thesis, which was awarded in Halle in 1934, comprised an extensive monograph on the fishes from the Middle Eocene brown coal of Geiseltal. On the basis of his outstanding achievements, the now 34 year-old scientist was elected a Member of the German Academy of Natural Scientists Leopoldina in 1939. Almost simultaneously he was appointed professor at the University of Hamburg. This professorship was connected with the position of executive director of the former state department of geology.

But the young scientific assistant Voigt also tried to understand the agitated political situation of those times. He read Karl Marx's „Capital“ and Adolf Hitler's „Mein Kampf“. While Erhard Voigt criticised the political changes of the thirties, his most important teacher and mentor Johannes Weigelt not only expected National Socialism to better the desperate economic situation but was also an active party member and very much under the influence of this ideology. As Voigt and his teacher were very close, and the Geiseltal excavations, which were crucial for his career, were connected to the department in Halle, Voigt, as well as the other assistants, had to face an awkward choice at the beginning of the Third Reich. Ehrhard Voigt, who perceived himself as rather unpolitical, conformed with the decision of his fellow assistants to accede for the time being and join the party. This way they hoped to be able to influence the development of their surroundings. The economical boom of the following years seemed to prove the supporters of National Socialism right and outshone acts of violence and the start of deportations. In addition, the fear of communism masked the darker sides of the regime. The ambiguity of the period is reflected in the way Voigt acted: he visited his Jewish, and above all communist, but deeply appreciated colleague Fritz Brotzen in jail to bring him research material and binochulars and later helped him to leave Germany for Scandinavia.

Voigt served in the German army, predominantly as a geologist, for the entire duration of the Second World War. By the end of the war, he was in Courland. Completely cut off from the German troops, he was captured by the Russians and spent almost two years in captivity camp near Moscow. He reported on this time without animosity or hatred. According to Voigt, the guards' diet

wasn't any better than the prisoners'. Together with the other prisoners, he got through hunger and hopelessness by taking part in a „camp university", in which they organised presentations on their working life and studied the region's flora and fauna. He also assisted in the building of a new well in the Russian camp applying his geological expertise.

In July 1943, the state department of geology in Hamburg was flattened by the Allied bombings and Voigt was granted leave from the front to assess the damage. The bombs had destroyed the whole inventory of the department, its valuable library and precious collections. Voigt's own scientific possessions, including his collection of fossil bryozoans, which were very extensive even then, as well as the accompanying specialist literature, were lost too. Yet, he was able to remove from the pile of rubble quite a lot of samples, blackened and melted together by the fire. Some of these can still be seen in the teaching and reference collections in Hamburg.

Years of poverty and shortage left their indelible marks on Voigt. Throughout his life he collected cardboard, envelopes, boxes and packages of all kinds which he reused either as packaging or, imaginatively converted into cavity slides with glass or celluloid windows for housing microfossils. At a time when recycling was not a topic of interest, he taught his children to recycle such material. Colleagues were amazed by his ability to make special containers and other aids for everyday life. During the war and the following difficult times he overcame many a shortage. For example, a comb made of nails is still owned by the Voigt family. Time and again he brought home from quarries flexible fuse wire which was originally used for blasting, using it to solve countless daily problems, repairing tools and mending clothes. On field trips, he always carried chocolate on himself and a canteen filled with cucumber liquid. Either this or water he also recommended to his children as the best refreshment on long hikes.

At the end of 1939, Voigt became acquainted with his future comrade Curt Arpe and his wife, the primary school teacher Ellinor Arpe, née Bucerius. During the war Arpe died in Russia. After Voigt returned from captivity and had taken up his professorship again, he married Ellinor in May 1947. She resigned her post and provided the home the returnee needed to be able to conduct research and rebuild the department. Additionally, their three children, two of whom were twins, derived a lot of strength from their mother. Ehrhard Voigt liked to leave not only the housekeeping, but also management and financial matters to Ellinor. He failed, however, in stimulating an appetite for geology among his children; they all developed other academic interests.

His wife was not always particularly pleased with the material that accumulated in his study over the years. Her husband for instance did not allow her to remove the unstable piles of shoeboxes that were used for his collections from the table for the sake of cleaning. Potted plants on the windowsills were replaced by sample boxes. Whoever dared to disturb the order of Ehrhard Voigt's study had to face severe reproaches. Through the years, the piles of literature and samples gradually expanded from his room to the rest of the apartment, making it increasingly difficult for Mrs. Voigt to make the apartment look like a human dwelling, at least to visitors. Nonetheless, she tolerated her husband's egocentric behaviour with admirable patience and a lot of charm. For decades, she supported him by marking the samples and writing captions to photographs, proof-reading and sorting out his correspondence. The more a macula degeneration impaired his eyesight, the more he was dependent on such help. On the other hand, he was able to compensate for his bad eyesight with his phenomenal mind: he always knew precisely where the book or sample in demand was to be found. Until very old age, he held on to his unwavering will to do scientific work, which was accompanied by an austere sense of duty. To Ehrhard Voigt, there was no difference between work and leisure time.

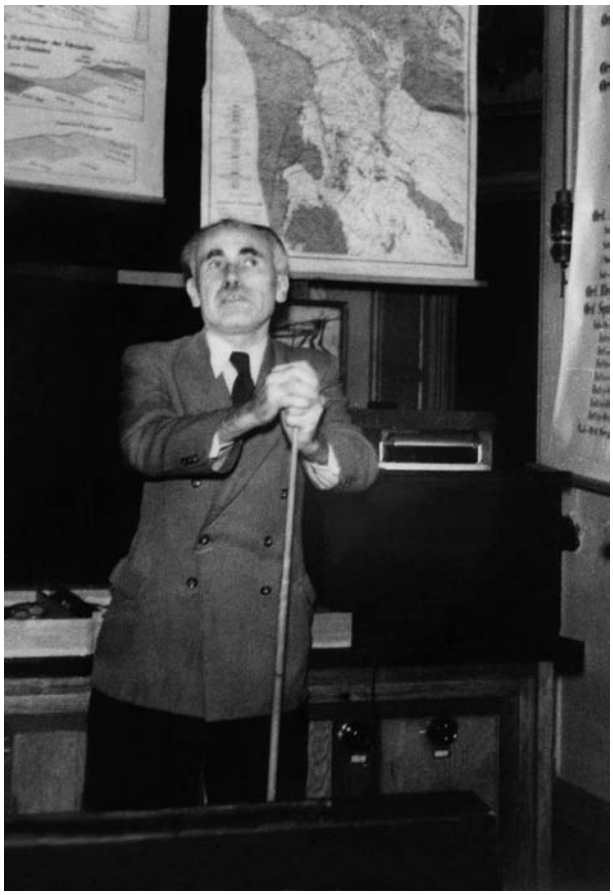

Fig. 5: Ehrhard Voigt lecturing in the Geological State Institute located at the Esplanade (Amsinck Villa on the Binnenalster) (1957).

When Ehrhard Voigt returned to Hamburg from war captivity in 1946, his substitute, curator Prof. Dr. J. Wysogorski, had established emergency accommodation in

Fig. 6: A photograph taken during the IBA (International Bryozoology Association) conference in Durham (1980); with Dr. Ph. E. Bock (Australia) and Dr. R.Boardman (U.S.A.)

the patriarchal Amsinck Villa on the Binnenalster, known to the students as the commode. Under the most difficult conditions of the postwar period, they started rebuilding the department. Thanks to the active participation of all staff members and the first generation of post-war students, the department was able to work again by the middle of the 1950s. Voigt had assumed the task of rebuilding the collection of textbooks on general geology and historical geology, which he was to continue for a long time as Professor Emeritus. It has always been Voigt's special concern to establish a teaching collection that would be consistently replenished and revised according to the progress of geological and palaeontological knowledge, and would thus be a teaching aid for the students in their courses. Voigt spared no effort to gather valuable material for the teaching and reference collections on his numerous excursions in Germany and abroad, or to use his connections in order to acquire material by exchange.

In 1960, the department moved into the new building at Von-Melle-Park 11, which Voigt had planned. About a decade later, however, the building proved to be too small due to the consistent increase in the number of students. Relocation to a multi-storey building at Bundesstrasse 55, called the „Geomaticum", became unavoidable in 1975.

Ehrhard Voigt always felt an obligation to the combined subject of geology and palaeontology and represented both subjects in teaching and research. He used to spend a lot of time preparing and devising his lectures, running courses and field trips, making thorough efforts to keep up-to-date with the latest research. His lectures were free and lively speeches, organized with the sole assistance of some keywords noted on pieces of scrap paper.

Ehrhard Voigt always kept close contacts with numerous associations and friends of mineralogy and geology, and also with palaeontological research groups and the group of collectors of erratic boulders in Hamburg and its surroundings. He cultivated these contacts by giving regular lectures.

Although he always remained loyal to palaeontology and most of his publications dealt with palaeontological topics, he also published some significant works in geology. It is worth pointing out especially his works on „Randtröge vor Schollenrändern und ihre Bedeutung im Gebiet der Mitteleuropäischen Senke und angrenzender Gebiete" (1963) and „Frühdiagenetische Deformationen der turonen Plänerkalke bei Halle/Westf. als Folge einer Grossgleitung unter besondere Berücksichtigung des Phacoid-Problems" (1962). The illustration and publication of Hucke's posthumous manuscript „Einführung in die Geschiebekunde" (1966) was intended as memorial to his longtime friend Kurt Hucke.

Apart from energetically conducting his research, as a lecturer Voigt followed the development of German higher education during the so-called 1968 student revolt very closely. Time and again he joined in the debates on university politics frankly and courageously and took a firm stand against the revolutionary reorganisation of the traditional German system of higher education.

During the course of many decades, numerous students worked on their dissertations under Voigt. Their „doctoral advisor" not only accommodated them with his well-known

Fig. 7: One of the last photographs of Ehrhard and Ellinor Voigt in Parkallee 7, Hamburg. Ellinor Voigt (1911 – 2005) survived her husband for about a year.

generosity, but also encouraged them consistently to apply the standards he regarded as absolutely compulsory and to observe and analyse especially subordinate aspects as accurately as possible. In this, just like in his own research, Voigt benefitted from his exceptionally keen powers of observation and other qualities such as his excellent memory.

When he retired in 1970, Voigt had already published 120 scientific works on a wide range of topics, and by the time of his death he had more than doubled this number. Although he attached great importance to monographs, they were his personal forte. Voigt always placed more emphasis on detailed analysis, from which he derived general insights.

Ehrhard Voigt always took international cooperation for granted. He often teamed up with colleagues from France, Britain, Belgium, The Netherlands, Denmark, New Zealand and also Russia on different projects; joint works were published in German, French and English, and were also translated into Russian.

When he died, he had almost finished two major works on bryozoans from the Upper Cretaceous and the Danian. Some minor papers on which he was working in cooperation with international bryozoan researchers will be finished by these colleagues.

Voigt's outstanding achievements were honoured on many occasions. Since 1934, he already was a member of the Academy of Natural Scientists Leopoldina in Halle. In 1960, he was awarded the Stille Medal by the German Geological Society, and in 1961 he received an honorary doctor from the University of Bordeaux. He was a full member of the Academy of Sciences, Göttingen (since 1966), the Royal Danish Academy of Sciences, Copenhagen (since 1972), the Accadèmia Mediterranea della Scienza, Catania (since 1982) and the Royal Physiographic Society, Lund (since 1984). The Joachim Jungius-Society of Sciences honoured his achievements by awarding to him its Joachim Jungius Medal (1988). He was also a member of the „Senckenbergische Naturforschende Gesellschaft", Frankfurt, where his unique and internationally important collection of bryozoans is now lodged (the University of Hamburg, which faces inevitable economies, could not reassure that they could take care of the collection).

We will always remember Ehrhard Voigt as a researcher and teacher, and as an amiable colleague, friend and companion.

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