



Hans Frebold

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31 July 1899 – 2 June 1983

Hans Frebold was born in Hannover, Germany, on 31 July 1899 and died in Ottawa, Canada, on 2 June 1983. He had been a member of Dansk Geologisk Forening for nearly 50 years. Frebold studied at the Technische Hochschule, Hannover, and the universities of Marburg and Göttingen, where early contacts with well-known paleontologists such as Wedekind, Salfeld, Brinckmann, Schindewolf, and others instilled in him an interest in Mesozoic ammonites to whose study he devoted much of his research time during the rest of his life. He took his doctor's degree in Göttingen in 1924 under the famed global geologist Hans Stille and at the same time began to publish what were to be the first of a long

series of scientific papers most of which were concerned with Mesozoic paleontology, biostratigraphy, and paleogeography. In 1925, Frebold served as assistant in the Geological Institute of the University of Königsberg whose director was the marine geologist Karl Andréé, but already in 1926 he moved to the University of Greifswald where he became Privatdozent in the Geological Institute headed by the well-known paleontologist Otto Jaekel. In 1931 he received the customary honorary title of Ausserordentlicher Professor. Before moving to Greifswald he married Elizabeth Oster who bore him 5 children. She died in 1971 after a long illness.

In Greifswald, Frebold began to develop a short-lived interest in the geology of the early Paleozoic of the Baltic area, but his main efforts continued to be devoted to Mesozoic, especially Jurassic, paleontology. In 1927 he began the study of Jurassic and Cretaceous fossils from Spitsbergen for Norges Svalbard- og Ishavs-Undersøkelser and in 1930 accepted an invitation from Dr. Adolf Hoel, chief of the same institution, to lead an expedition to Spitsbergen to study Jurassic and Cretaceous faunas and stratigraphy. This was a decisive event in Frebold's career, because the interest in Arctic paleontology and stratigraphy remained with him for many years to come. He spent the summer of 1931 in East Greenland on the first leg of Lauge Koch's Three-Year Expedition to East Greenland. The outcome of these activities was a long series of monographs and shorter papers on the paleontology and stratigraphy of these two Arctic regions. Most of them were concerned with the Jurassic and Cretaceous, but there were also important contributions to Triassic and late Paleozoic geology.

The year 1933 brought profound changes to the life of the Frebold family. On 30th January of that year Adolf Hitler became Chancellor of Germany. Frebold was fundamentally hostile to Nazism and everything it stood for and decided at an early date to leave Germany. In October 1933, he took his family to Copenhagen where he hoped to obtain the best working conditions in cooperation with Lauge Koch, while continuing to cultivate his relationships with the Svalbard Institute in Oslo. At the same time he was careful not to break off his connections with Greifswald completely, but remained on leave status for a number of years. Nevertheless, his anti-Nazi leanings could not have remained a secret in Germany. It was during the remainder of the 1930's that Frebold published numerous papers on Arctic geology, including a *Geologie von Spitzbergen der Bäreninsel, des König Karl- und Franz-Joseph-Landes* in the handbook series *Geologie der Erde*, published in 1935 by Gebrüder Borntraeger.

From 1933 until 1940 Frebold subsisted on grants made by a number of Danish foundations, which allowed him to continue his scientific work. He was also lecturing at the University of Copenhagen. When the Germans occupied Den-

mark in April of 1940, he lost this support, because Danish institutions were afraid to support German citizens of known anti-Nazi sentiments. The Danish government was about to grant Frebold Danish citizenship at this time, but the German occupation interfered with this plan. Frebold's Danish colleagues advised him to seek employment with a German organization, and agreed that nobody would blame him for doing so. As a result Frebold was employed at the German Scientific Institute in Copenhagen, which was sponsored by the German Foreign Office. Frebold became director of the Arctic division of this institution, a post which he kept until May 1945.

In 1943 he was called up by the German Navy, where he was a service geologist with the rank of lieutenant-commander. Frebold's association with the German Navy saved him from a great deal of "unpleasantness" at the hands of the Nazi party apparatus.

It was during this time, as a German naval officer, that he was able to help a number of Danes who had been falsely arrested by the Gestapo, and he even succeeded in extricating a Danish policeman from a German concentration camp. In the closing months of the war he risked his life by acting as an unofficial negotiator between the Danish underground and the German authorities. His purpose was to prevent the SS in Denmark from carrying out wholesale destructions of harbour installations and public buildings in Copenhagen, actions which were being contemplated by certain fanatical elements within the German occupation forces.

In March 1945, Frebold became the target of an assassination attempt by Danish resistance fighters, who did not know what an important role he was playing in alleviating some of the harsh measures of the Nazi authorities. As a result of this event Frebold's family had to be scattered and stayed with Danish friends, frequently changing their place of residence. At the time Frebold believed that the would-be assassins were working for the Gestapo, and it was only after the war that their real identity became known to him.

Following the end of the war, similar groups of Danish vigilantes tried to have him arrested on several occasions, but the Danish government, which knew of his efforts on behalf of Denmark during the war, intervened and granted Frebold

and his family temporary residence status on a renewable basis in recognition of his efforts on behalf of Denmark.

From 1947 until 1949 he served as geological consultant to a Danish-American prospecting company which did some of the early exploratory work in search for oil in Denmark.

In 1949 Frebald accepted an invitation to join the Geological Survey of Canada in Ottawa with which he remained until his retirement in 1968. His last contribution to the Geology of the European Arctic was *Geologie des Barentsschelfes* which was published by the Deutsche Akademie der Wissenschaften in Berlin in 1951. A major work, *Geologie der Arktis*, was published by Gebrüder Borntraeger in 1945, but the entire edition disappeared during the Russian occupation of Berlin.

In Canada, Frebald devoted his research almost exclusively to Jurassic and Cretaceous paleontology and stratigraphy, especially of western Canada. From 1951 to 1959 he was chief of the division of stratigraphy and paleontology of the Geological Survey of Canada, but in 1959 he returned to full-time research, first as senior research paleontologist until 1963 and as principal research scientist from 1963 until his official retirement in 1968.

In 1964 he spent two semesters as visiting professor at the University of Oklahoma, teaching geology of the Arctic. After his retirement he continued his research with undiminished vigor and published many contributions to western Canadian paleontology and stratigraphy, most of which appeared as Bulletins of the Geological Survey. He continued his work on Jurassic faunas until the middle of 1982, a year before he died peacefully at his home in Ottawa. Frebald is survived by his second wife Britta who is Danish by birth, and by the families of five children by his first wife.

For his scientific work in East Greenland Frebald was awarded the Danish Medal of Merit with Bar by the King of Denmark and he was honoured by having a prominent mountain in East Greenland and a mountain range in Spitsbergen named after him. He was appointed to honorary professorships at the University of Greifswald in 1945 and the University of Kiel in 1949.

Curt Teichert
5 March, 1984

List of Publications by Hans Frebald

(Compiled by Burkhard Frebald and Curt Teichert)

- 1922: Phylogenie und Biostratigraphie der Amaltheen im mittleren Lias von Nordwestdeutschland. *Niedersächsischer Geologischer Verein, Jahresbericht*, 15, 1–26.
- 1922: Abspaltungen von *Lytoceras* im unteren und mittleren Lias. *Mitteilungen aus dem Museum der Stadt Essen für Natur- und Völkerkunde*, 4 p.
- 1924: Ammonitenzonen und Sedimentationszyklen in ihrer Beziehung zueinander. *Centralblatt für Mineralogie, Geologie, Paläontologie*, 313–320.
- 1924: Jura- und Kreidefossilien von Nowaja Semlja. (With H. Salfeld). *Rep. Scient. Results Norwegian Exped. to Novaya Zemlya*, 23, 1–12, Videnskapselskapet i Kristiania.
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- 1926: Die Bedeutung der Inseln Gotland und Öland für die heimatische Gerschiebeforschung. *Unser Pommernland*, 11, 2 p.
- 1926: Die stratigraphische Stellung des Lothringer Lias. *Neues Jahrbuch für Mineralogie, Geologie, Paläontologie, Abt. B, Beilage-Band 53*, 511–555, 1 p.
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- 1927: Paläogeographisch interessante Silurgeschiebe aus Ostpreussen und Pommern. *Centralblatt für Mineralogie, Geologie, Paläontologie, Abt. B*, 113–120.
- 1927: Die kambro-silurische Epirogenese im Oslo-Mjösengebiet der Kaledonischen Geosynklinale. *Zeitschrift der Deutschen Geologischen Gesellschaft*, 79, 231–233.
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- 1928: Deutung und erdgeschichtlicher Wert der Fossilkonzentrationen im Paläozoikum des Baltikums. *Zeitschrift für Geschiebeforschung*, 4, 9–29.
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- 1931: Fazielle Verhältnisse des Mesozoikums im Eisfjordgebiet Spitzbergens. Ein Beitrag zur Entwicklungsgeschichte des Skandiks. *Norges Svalbard- og Ishavs-Undersøkelser, Skrifter om Svalbard og Ishavet*, 37, 1-94, 6 pl.
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- 1937: Die geologische Entwicklung Novaja Semljas und angrenzender Gebiete: *Dansk Geologisk Forening Meddelelser*, 9, 2, 259-260.
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