

- 1920 b — Collectie Dr. Ed. Pergens. Ibid, p. 3.
 1920 c — Steenen wapenen. Ibid, 9, 3—4, p. 11.
 Kruytzer, E. M. 1934 — Eduard Pergens leerling van het Bisschoppelijk College te Roermond. Ibid. 23, 3. p. 28 (Verslag maandvergadering).
 Steenhuis, J. F. 1934 — Dr. Eduard Pergens als kenner van Bryozoën. Ibid. 23, 3 en 4, p. 33—36 en 51—52.
 Voigt Ehrhard 1953 — Revision von: H. Hamm „Die Bryozoen des Mastrichter Obersenon“ (1881). Mitt. Geolog. Staatsinstitut in Hamburg, Heft 22, S. 32—75.

FORAMINIFERA FROM THE CRETACEOUS OF SOUTH-LIMBURG, NETHERLANDS. LXII.

ONCE AGAIN PLANKTONIC FORAMINIFERA FROM THE TUFF CHALK OF MAASTRICHT.

by J. HOFKER

Descriptions and figures of planktonic Foraminifera have been given by the author in *Natuurhist. Maandblad* 45, 1956, pp. 51—57; Ibid., 46, 1957, pp. 57—60; *ibid.*, 47, 1958, pp. 42—43; *ibid.*, 48, 1959, pp. 20, 22; *ibid.*, 48, 1959, pp. 80—83; *ibid.*, 48, 1959, pp. 89—95; *ibid.*, 49, 1960, pp. 34—41; *ibid.*, 50, 1961, pp. 66, 67, figs 7 and 8 on p. 65; *ibid.*, 50, 1961, pp. 85—86; all species mentioned were from the Tuff Chalk itself or from the Lower Paleocene just above it, or the Cr4 just below it.

Recently, Berggren has criticized these publications (*Stockholm Contributions in Geology*, 9, No. 1, 1962, pp. 1—106); in that paper he believes that *Globigerina daubjergensis* Brönnimann, found by Hofker in the Mb, Mc and Md as well in the Paleocene, would either be misinterpreted *Rugoglobigerina macrocephala* Brönnimann, or these specimens would have descended into the Tuff Chalk by means of holes in the hard ground above; *Globigerina pseudobulloides* Plummer, found in many samples from Lower Mb up into the Paleocene, and, together with *G. daubjergensis* Brönnimann, in small specimens even in the upper Cr4 beneath the Tuff Chalk, would for the Cr4-specimens also be *G. macrocephala*, and for the Tuff Chalk specimens *Praeglobotruncana monmouthensis* (Olsson).

Some specimens mentioned by Hofker in 1956 (*G. linaperta* Finlay, *G. hornibrooki* Brönnimann) were determined by the author after descriptions and figures given by Brönnimann

from specimens from the Danian of Denmark and the Lower Lizard Springs Formation in Trinidad; they seem, after the treatise by Bolli, Loeblich and Tappan in 1957, to belong to other species, according to their critic on Brönnimann's determinations. But in the meantime, typical *Globigerina daubjergensis* has been stated by the author in several samples from the upper Mb, so that its occurrence cannot be denied; moreover, a comparison with *Rugoglobigerina rugosa macrocephala* Brönnimann, as figured by the author from upper white chalk of Denmark and from the upper Cr4 (*Natuurhist. Maandblad* 49, 1960, p. 39, pl. 2, fig. F; p. 37, pl. 1, fig. F) with its large umbilicus covered by poreless plates of the chambers, and the much smaller specimens given as *G. daubjergensis* (on these plates, resp. figs B and B, E) proves that the author did not confuse *G. daubjergensis* with *G. rugosa (macrocephala)*. For the same reason, specimens of *G. daubjergensis* from the Mb and Mc cannot be identified with *G. macrocephala*, as Berggren supposes, but are true *G. daubjergensis*; nor can they have descended from the hard ground holes at the top of the Md, for they are found about 25 m below that hard ground, and holes, made by Crustaceans, as we know now, never have a length more than 3—4 m!

Globigerinoides hyalina Hofker (*ibid.*, 45, 1956, p. 53, fig. 18) from the upper Md and lower Paleocene of Holland, was criticized by Loeblich and Tappan, 1957 (*Journ. Pal.*, 31, 1957, p. 1116, Column 1) as possibly being a misformed specimen of *Globigerina biforaminata* Hofker; however, several more specimens were found later in the Paleocene above the Tuff Chalk, and they seem to form the first stage of development of *Globigerina kozlowskii* Brotzen and Pozaryska, found in the upper Paleocene (Montian) of Poland (*Rev. Micropal.*, 4, 1961, pp. 155—166). So it is certain that such a form with several sutural openings along the dorsal sutures, exists.

As stated, Berggren brings *Globigerina pseudobulloides* as found by Hofker, for as far as it is found in the upper white chalk to *Rugoglobigerina macrocephala* (a quite different species!) or, as far as it is found in the Tuff Chalk, to *Globigerina monmouthensis* Olsson which species he incorporates into *Praeglobo-*

truncana; but, as soon as the same species is found in the Paleocene above the Tuff Chalk, Berggren gives it its true name, *Globigerina pseudobulloides* Plummer, which species he brings into the genus *Globorotalia*, though the most characteristic feature, the keel, is missing totally. In reality, as I have pointed out in another paper (1960, Rev. Micropal., 3, pp. 119—130) in Denmark this species forms a continuous gens gliding from the upper white chalk up into the lower Paleocene, changing its structure gradually. Quite the same can be stated about the specimens, often found commonly in the samples from Mb, Mc and Md and in the lower Paleocene above, and the specimens of the white chalk of Denmark show the structure of those found in the upper Cr 4 in Holland, those of the lower Danian very much resemble those of the white chalk, and are identical with those found in the Mb, whereas the specimens found in the lower Paleocene of Denmark above the Danian stage show the structure of the specimens found in the lower Paleocene above the Tuff Chalk in Holland. Sections made of all these forms, which will be published in another paper, reveal that all these forms closely belong together and that, when the *Globigerina pseudobulloides* from the Tuff Chalk of Holland is identical with Berggren's *Praeglobotruncana monmouthensis* (Olsson), true *Globigerina pseudobulloides* Plummer from the Danian, the Lower Paleocene and the Midway, also belong to *Praeglobotruncana*; thus according to Berggren's suppositions (he nowhere proves them in his paper), the genus *Praeglobotruncana* would not be restricted to the Cretaceous, but also is found in the Lower Tertiary, and that species hitherto brought to *Globorotalia*, without a marginal keel, in reality would belong to *Praeglobotruncana*! Berggren, moreover, denies the occurrence of true *Globorotalia pseudomenardii* Bolli in the type-Montian, saying 'that in reality we seem to deal here with some *Pararotalia*; here he gives the hint as to what I already stated (Natuurhist. Maandblad, 50, 1961, p. 85), viz. that the most primitive form of true *Globorotalia pseudomenardii*, and thus obviously of the whole group of later keeled *Globorotalia*, seems to be a somewhat changed *Pararotalia*, and that thus the genus *Globorotalia* s.s. had its root in *Pararotalia*; I made for this transsitional form the species *Globorotalia praepseudo-*

menardii Hofker. But the specimens found in the Tuffeau de Ciply, the basal Montian, cannot be distinguished from type-specimens of *Globorotalia pseudomenardii* Bolli from the middle Lizard Springs Formation of Trinidad; topotype specimens prove that without any doubt.

So we come to the conclusion, that Berggren's critics do not prove anything against the supposition that the Maestrichtian Tuff Chalk and the Danian of Denmark are contemporaneous and that the planktonic forms prove that; moreover, Berggren's paper strongly points to the uncertainty of many of the newly born genera of planktonic Foraminifera; only the study of specimens with high magnifications, in clarifiers, and by means of sections, can free us from the chaotic state in which some modern investigators have brought the taxonomy of planktonic Foraminifera. Berggren's paper is only an instance of that kind of investigations, and a result of this chaotic taxonomy.

BOEKBESPREKING

Die Neue Rassenkunde, herausgegeben von Ilse Schwidetzky. Gustave Fischer Verlag, Stuttgart 1962, 318 Ss mit 74 Abb. Geb. DM 48,50.

Professor Ilse Schwidetzky aus Mainz hat eine Anzahl Beiträge auf rassenkundigem Gebiet der besten deutschen Anthropologen gesammelt zu einem Werk, das für Sachverständige wertvoll genannt werden darf und es Egon von Eickstedt zu seinem 70. Geburtstag gewidmet. Besonders starke Verbindung wird gelegt zu Ergebnissen der neueren Genetik und zwar zur Bildung von Rassen und Arten, zum Studium von Genen und Populationen. Über solche Fragen gibt der einleitende Artikel von der Hand Remanes eine gute Übersicht. Da heisst es u.a.m. (S. 12), dass „Rassengeschichte nur in einem unregelmässigen Netzwerk darstellbar ist“ Der Verfasser weist auch daraufhin, „mit welcher Vorsicht eine Rassenphylogenie und Rassengeschichte betrieben werden muss und wie kompliziert das wirkliche Geschehen ist“. (S. 13).

Mehrere Rassenmerkmale werden ausführlich besprochen und mit wertvollen Tabellen erläutert. Hier von betreffen viele Blutmerkmale, denn die Biochemie erweist sich bei der Rassenanalyse als sehr wichtig. Die Erwägungen über Rassenevolution (S. 94 f.) bleiben auf exaktem Boden und werden bündig gefasst. Über prähistorische Rassen wird nur sehr wenig geboten. Etwas mehr über Hypothesen auf diesem Gebiet hätte jedoch interessiert. Allerdings wird (S. 130) hingewiesen auf die demographische Revolution im Neolithikum, wobei ein starker Genfluss die in Isolation entstandenen Bevölkerungsdifferenzen verwischt. Die Tabelle 18 gibt eine aufschlussreiche Übersicht über die Bevölkerungsdichte bei prähistorischen Be-