

in them, represented marine deposits that had been pushed upward by the expansive force working centrifugally through the earth. Needham explained the Mosaic "Days" as primitive periods of protracted length.

Justi, in his *Geschichte des Erdkörpers* (Berlin, 1771), regarded all planets and comets as torn fragments of the sun. The Earth was originally a mixture of soft earth and water, mixed with oily and mercurial substances. The spherical form was developed as a result of rotation round an axis. The water taken from the sun distributed itself over the globe, and the latter became enveloped by a vaporous atmosphere. Life began to inhabit the water, and minerals and the various kinds of rock were formed by new combinations of the original ingredients. The whole work is a compilation of fancies hung on a few slender pegs of fact.

Other German writers, Gleichen-Rosswurm, Professor Johann Gottlob Krüger, and Johann Silberschlag, allowed their imagination to carry them into still more glaring absurdities. But it is worth mentioning that Rosswurm, in sketching the development of life on the globe, begins with the existence of infusoria in the sea. The skeletons of these are said to have formed an "elementary earth" on the sea-basin, from which sprang larger and rougher forms of animals, until at last, after immeasurably long epochs, all aquatic forms of animal life had come into existence.

*Beginnings of Geological Observation.*—The true spirit of research was still kept alive by men who confined themselves to special subjects of investigation, or described the stratigraphy of particular localities.

Friedrich Mylius published in 1704 and 1718 a valuable work on the rocks of the Thuringian district. John Strachey, in England, gave an admirable description of the various kinds of strata present in the coal districts of Somerset and Northumberland (*Philos. Trans.*, 1714 and 1725). Holloway studied the chalk deposits in Bedfordshire (*Philos. Trans.*, 1723).

In Italy, Spada and the Sicilian observer, Schiavo, drew attention to the fossiliferous deposits of the younger Tertiary periods; the Venetian teacher, Donati, compared the present deposits and fauna of the Adriatic Sea with the deposits and fossils at the base of the Apennines. Baldassari contributed a similar work on the deposits near Siena. The traveller