maiming all the men in the room and filling the vessel with a cloud of scalding steam (p. 111).

These quotations will suffice to show the characteristics of the book. It can hardly be considered as other than somewhat sensational and often perhaps exaggerated, but to the student of chemistry it will afford much food for thought and reflection, and this, we think, is its chief value. The title of "Modern Chemistry" is well chosen, for the book is brought thoroughly down to date.

The illustrations are unequal. Some of the half-tones are excellent, while some of the wood-cuts are execrable, wholly unworthy of the book, and others have evidently been handed down from early times. Quite unique are the three cuts representing the reaction between phosphorus pentachlorid and sulfuric acid, which have a decidedly astronomical appearance, cometic, one might say.

The book is printed on thick, light paper and the typography is good. The only error we have noticed is the name of F. W. Clark instead of Clarke, and this is several times repeated.

J. L. H.

*Ctenophores of the Atlantic Coast of North America.* By ALBERT GOLDSBOROUGH MAYER. Publications of the Carnegie Institution, 162. 1910. Pp. 58; pl. 17.

Dr. Mayer is well qualified to give an account of our ctenophore-fauna by many years observation at numerous localities between Newfoundland and the West Indies, all but three of the 21 species here recorded having come under his own observation. And his book is made doubly welcome by the fact that American ctenophores have received little attention in recent years.

The first few pages are devoted to a brief statement of geographic distribution, three groups of species being recognized on our coast: "cold-water forms," "intermediate" and "tropical." The first are described as common north of Cape Cod, and occasional as far south as Hatteras, the second extending from Cape Cod to northern Florida, while the records of the tropical species are chiefly from the Tortugas, though some of them "drift northward in summer to the region of Vineyard Sound." The recognition of these three groups is justified; but exception must be taken to the limits assigned the first, for two of its members, *Pleurobrachia pileus* and *Beroe cucumis* are by no means exclusively cold-water species, as is shown by the presence of the former at Bermuda, in the Mediterranean and at the Seychelles, and of the latter near Madagascar and in the Malay archipelago. Mayer suggests that the Mediterranean "Pleurobrachias" might be young Lobatæ, but specimens from Naples prove to be typical *P. pileus*. If we remove these two species from the Arctic group, the extreme southern limit of the latter in winter appears to be New Jersey. The tropical group includes the noteworthy species *Hormiphora plumosa, Eurhamphea vexilligera* and *Folia parallelum,* not previously recorded from this side of the Atlantic. An interesting fact pointed out by Dr. Mayer is that we are far less rich in ctenophore species than the Mediterranean; though certain ones swarm on our northern coasts.

The general organization of the ctenophores has so often been discussed that Dr. Mayer limits himself to a brief summary of the features of the gastrovascular system of the six orders, and then proceeds to the descriptions of the species, which occupy the greater part of the volume. These are generally satisfactory, the lists of references full, and the figures numerous and unusually beautiful, and there are numerous notes on habitat and on physiology. No families are recognized, the only divisions being orders, genera and species. The following generic names are abandoned, because preoccupied, *Bolina, Eucharis, Ocyræ* and *Vexillum;* as substitutes Dr. Mayer proposes *Bolinopsis, Leucothea* (Mertens), *Ocyropsis* and *Folia.* Four species are described as new, *Pleurobrachia brunnea, Tinerfe lactea, T. beehleri* and *Leucothea ochracea.* But the first is so close to the *Hormiphora spatulata* described by Chun from the Plankton expedition that I believe the two are identical. *Leucothea ochracea* is interesting because, to

judge from analogy, we might expect the Tortugas representative of the genus to be identical with the eastern Atlantic and Mediterranean species. But Dr. Mayer has studied both in life, and the differences between them, particularly the presence of lateral tentacular filaments in *ochracea,* are too important to be considered individual variations.

The section dealing with the Lobatæ deserves special notice because of the excellent accounts of *Bolinopsis vitrea Mnemiopsis mccradyi, M. gardeni* and *Ocyropsis crystallina,* the earlier descriptions of which were unsatisfactory. These two species of *Mnemiopsis* are closely allied to the well-known *M. leidyi,* but the differences are constant, though slight. Unfortunately, the status of the other West Indian *Ocyropsis, O. maculata* Rang, is still doubtful, as Dr. Mayer never saw a specimen, and the same is true of *Lesueria hyboptera* A. Agassiz, which he suspects is "only a *Bolina infundibulum* with its oral lobes torn off, and the edges healed over."

Under the Beröidæ Dr. Mayer recognizes only one genus, *Beroe,* believing that *Pandora* is a young stage. On this he differs from Moser, and from the writer. Probably the last word on this point is yet to be spoken. Two species of *Beroe* are listed from our coast, *cucumis* and *ovata,* the latter including *clarkii* and *shakspeari,* and, I believe, correctly. The figure of the adult *ovata* is welcome, because many of the records of this species in the past have rested on insufficient evidence. *B. forskalii* is not included, as it has never been taken in American waters. But judging from its wide distribution in warm regions, it may be expected on our southern coast. Finally there is a brief account of the remarkable Greenland Platyctenid *Tgalfiella tristoma,* condensed from Mörtensen's preliminary description. His final paper has appeared in Vol. 5 of the Danish Ingolf Expedition.

Students will find in this book a convenient manual for a group, the previous literature of which is scattered and largely inaccessible.

Henry B. Bigelow

*Evolution in the Past.* By Henry R. Knipe, F.L.S., with Illustrations by Miss Alice B. Woodward and Ernest Bucknall. London, Herbert & Daniel. 1912. Pp. xvi + 242, 4 text figures and 56 plates. 4to.

A few years ago the author published a profusely illustrated work entitled "From Nebula to Man" in which in metrical form he gave a sketch of the gradual development of our earth from a nebular mass and of the evolution of living forms upon the globe. The difficulty of forcing the jaw-torturing nomenclature of the paleontologist and zoologist to adapt itself to the requirements of smoothly running blank verse revealed itself in the author's epic, and it is with a certain sense of relief that we turn from the earlier work to the present, in which in plain prose he brings together and outlines the gradual unfolding through successive geologic periods of the story of evolution.

The author has evidently read widely and familiarized himself with the latest results of scientific research in the domain of paleontology. His statements as to the different geologic periods and the forms of life which characterized them are in accord with the most advanced teaching of the present. The style of the book is popular, so far as it is possible to make any subject popular which deals with words of Greek origin, which are only in current use among specialists and students. The paleontologist, who is forced to frame names for newly discovered forms of animal life which existed in a past more or less remote, is at a disadvantage when writing of these things when compared with the man who has to deal with recent forms of life, which are known all over the globe by vernacular names. A man who writes about elephants, tigers, bears, and wolves, who discourses of thrushes and nightingales, who speaks of crocodiles and sharks, or bugs and snails, is comprehended even by children; but the man who writes about trilobites, ichthyosaurs, diplodocuses, dœdicurus and pliopithecus is apt to be regarded with breathless amazement by the uninitiated. An amusing illustration of this occurred recently when the