Mollusca.—1. Casts of a *Tellina* allied to *T. biplicata*, a miocene fossil, and of another near *T. lusoria*. 2. Cast of a *Cytherea* resembling *C. Sayana*, Conrad. 3. Three casts of a *Mya*, one of which bears a close resemblance to *Mya truncata*.

Mr. Lyell concludes, from the various evidence here given, that the strata of Martha's Vineyard are miocene. The numerous remains of Cetacea of the genera *Balæna* and *Hyperoodon* are adverse to the supposition of their being Eocene, while such fossils abound in the miocene beds of America. The other fossils all point to a similar conclusion.

Letter from J. Hamilton Cooper, Esq., to Charles Lyell, Esq., V.P.G.S., "On Fossil bones found in digging the New Brunswick Canal in Georgia."

Mr. Cooper prefaces his communication by a description of the country surrounding the locality in which the bones were found. The portion described is that part of the sea-coast of Georgia which lies between the Alatamaha and Turtle rivers in one direction, and the Atlantic Ocean and the head of tide water on the other. For twenty miles inland the land is low, averaging a height of from ten to twenty feet, and reaching, in some instances, forty feet, and consisting of swamps, salt-marshes, sandy land, and clay loam. It then suddenly rises to the height of seventy feet, and runs back west at this elevation about twenty miles, at which point there is a similar elevation of between sixty and seventy feet. The whole of this district is a post-tertiary formation, and is composed of recent alluvium, and a well-characterized marine post-pliocene deposit. The recent alluvium is divided into inland-swamp, tide-swamp, and salt-marsh. The two last occupy a shallow basin having a depth of about twelve feet, the bottom and sides of which are the post-pliocene formation. This the author divides into three groups, in the last of which, constituting the elevated sand hills, no organic remains have been found; in the two former marine shells of existing species occur.

The fossil bones of the land mammalia discovered by Mr. Cooper, were found resting on the yellow sand and enveloped in the recent clay alluvium. Their unworn state and the grouping together of many bones of the same skeleton, render it highly probable that the carcasses of the animals falling or floating into a former lake or stream, sank to the sandy bottom, and were gradually covered to their present depth by the sedimentary deposits from the water. Among them were remains of the megatherium, *Mastodon giganteum*, mammoth, hippopotamus and horse. The fossil shells found in the post-pliocene, were species at present existing on the neighbouring shores.

The facts narrated by Mr. Cooper lead to the following conclusions :—1st. That the post-pliocene formation extends further south than Maryland, to which it has hitherto been limited. 2nd. The coexistence of the megatherium with the mammoth, mastodon, horse, bison, and hippopotamus. 3rd, That the surface of the country has

undergone no sudden or violent change since those animals inhabited it, which is proved by the absence of all traces of diluvial action in the enveloping alluvium or surrounding country. 4th. That whatever changes of temperature may have taken place since that time, fatal to the existence of those mammalia, the identity of the fossil with the existing species of the marine shells of the coast shows that the temperature of the ocean at a period prior to the existence of the megatherium, the mastodon, and the hippopotamus was such as is congenial to the present marine testacea of Georgia.

"Description of some Fossil Fruits from the Chalk-formation of the South-east of England." By Gideon Algernon Mantell, LL.D., F.R.S., &c.

The fruits described are three in number, viz.—

1. *Zamia Sussexiensis*, Mantell.—From the greensand. A cone allied to the *Zamia macrocephala*, a greensand fossil from Kent, figured in Lindley and Hutton's 'Fossil Flora,' pl. 125, from which it differs in form and in the number, size, and shape of its scales, which are more numerous, smaller and more oblong than in the Kentish species. It is five inches long, and at the greatest circumference measures six inches. It was found about two years ago in an accumulation of fossil coniferous wood in a sand-bank at Selmeston, Sussex, at the junction of the Shanklin sand with the gault. Dr. Mantell having sent a cast of the only specimen found to M. Adolphe Brongniart, that distinguished botanist suggested that it might be either the stem of a young cycadaceous plant or the fruit of a *Zamia*, but the situation and small size of the stalk at the base and the appearance of the scales, induce Dr. Mantell to refer it to the latter.

2. *Abies Benstedi*, Mantell.—From the greensand near Maidstone, Kent. A beautiful cone found by Mr. W. H. Bensted in the quarry in which the remains of the Iguanodon were discovered in 1834, where it was associated with *Fucus Targionii*, and some indeterminate species of the same genus; stems and apparently traces of the foliage of endogenous trees allied to the *Dracæna* (*Sternbergia*), and of trunks and branches of *Coniferæ*. The wood occurs both in a calcareous and siliceous state. The cone found is in every respect such a fruit as the trees to which the wood belonged might have borne. It bears a close resemblance to a fossil from the greensand of Dorsetshire, discovered by Dr. Buckland, and figured in the 'Fossil Flora' of Great Britain under the name of *Abies oblonga* (Fos. Fl. pl. 1.). Unfortunately the outer surface is so much worn that the external figure of the scales cannot be accurately defined; but the sections show their proportionate thickness. There is an opening at the base of the cone occasioned by the removal of the stalk, and an accidental oblique fracture exhibits the internal structure. In the longitudinal section thus exposed the scales are seen to be rounded and broad at their base and to rise gradually, and become thin at their outer terminations. The seeds are oblong, and one seed is seen imbedded within the base of each scale. Mr. Morris considers