

LECTURE VI.

1. Introductory remarks. 2. Organic and inorganic kingdoms. 3. Distinctive characters of animals and vegetables. 4. Nervous system, and sensation. 5. Diversity of animal forms. 6. Ellis's discoveries. 7. Nature of sponge. 8. Cilia, or vibratile organs. 9. The hydra, or fresh-water polype. 10. Zoophytal organization. 11. The food of zoophytes. 12. Mode of increase and death. 13. Corals, or skeletons of zoophytes. 14. Diversity of form and structure. 15. Geographical distribution of the polyparia. 16. The flustra, or sea-mat. 17. The vesicular corallines, or sertulariæ. 18. The gorgonia, or sea-fan. 19. The red coral. 20. The tubipora, or organ-pipe coral. 21. Madreporæ. 22. The actinia, or sea-anemone. 23. Caryophyllia and turbinolia. 24. Fungia. 25. Astrea, pavonia, &c. 26. Meandrina cerebriformis, or brain-coral. 27. Appearance of the living corals. 28. Coral reefs. 29. Coral reef of Loo Choo. 30. Coral islands. 31. Fossil zoophytes. 32. Zoophytes of the chalk. 33. Zoophytes of the Shanklin sand. 34. Recent formation of chalk from corals. 35. Fossil infusoria. 36. Corals of the oolite and lias. 37. Corals of the older secondary formations. 38. Coralline marbles. 39. The crinoidea, or lily-shaped animals. 40. Encrinites and Pentacrinites. 41. Structure of the crinoidea. 42. The lily encrinite. 43. Pear encrinite of Bradford. 44. Pentacrinites, actinocrinites, and other crinoidea. 45. Derbyshire encrinital marble. 46. Geological distribution of the crinoidea. 47. Concluding remarks.

1. INTRODUCTORY REMARKS.—The secondary formations reviewed in the last discourse presented a marked increase in those extraordinary types of animal life—the polyparia, crinoidea, and other zoophytes. We observed that some deposits, as the *Coral rag* of the oolite, consisted almost wholly