

## PLATE XIII.

The figures on this plate represent the changes in the composition and appearance of the calcareous deposits around the island of Bermuda, at different depths and distances from the outer edge of the reef.

Fig. 1. Section of the mud from 200 fathoms, about a mile from the reef (magnified 15 diameters), consisting principally of fragments of Molluscs, Polyzoa, Corals, calcareous Alga, and bottom-living Foraminifera.

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| <ol style="list-style-type: none"> <li>1. Fragment of Polyzoan.</li> <li>2. " Millepore (?).</li> <li>3. " calcareous Alga.</li> <li>4. Longitudinal section of <i>Amphistegina cumingii</i>.</li> <li>5. Gasteropod shell surrounded with calcareous Alga.</li> <li>6. Shell of Echinoderm cemented to other fragments—Foraminifera, Radiolaria, &amp;c.—by deposition of carbonate of lime.</li> <li>7. Part section of <i>Textularia barrettii</i>.</li> <li>8. Calcareous Alga.</li> </ol> | <ol style="list-style-type: none"> <li>9. Calcareous Alga.</li> <li>10. Transverse section of <i>Amphistegina cumingii</i>.</li> <li>11. Section of <i>Textularia</i> sp. (?).</li> <li>12. Longitudinal section of <i>Textularia conica</i>.</li> <li>13. Fragment of calcareous Alga.</li> <li>14. Conglomeration of deposit showing section of Coral.</li> <li>15. Longitudinal section of <i>Amphistegina cumingii</i> (young).</li> <li>16. Fragment of Polyzoan (<i>Lepralia</i> sp. ?).</li> </ol> |
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Fig. 4. Section of the mud from 380 fathoms, about 2½ miles from the reef (magnified 50 diameters). The fragments are all of much smaller size than in 200 fathoms, although consisting of fragments of nearly the same organisms. The shells of Pteropods and pelagic Foraminifera are, however, more abundant than in the shallower depths.

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| <ol style="list-style-type: none"> <li>1. Fragment of calcareous Alga.</li> <li>2. Sponge spicule.</li> <li>3. Fragment of section of <i>Orbitolites complanata</i>.</li> <li>4. Part section of <i>Pulvinulina canariensis</i>.</li> <li>5. Transverse section of <i>Heterostegina depressa</i>.</li> <li>6. " " <i>Patellina corrugata</i>.</li> <li>7. " " <i>Planorbulina mediterraneensis</i>.</li> <li>8. Longitudinal section of <i>Sagrina columellaris</i> (?).</li> <li>9. Fragment of Polyzoan.</li> <li>10. " shell of <i>Pulvinulina</i> sp. (?).</li> <li>11. Calcareous Alga.</li> <li>12. Basal portion of Sponge spicule.</li> <li>13. Fragment of Pteropod shell.</li> <li>14. Transverse section of <i>Discorbina</i> sp. (?).</li> <li>15. Fragment of test of Echinoderm.</li> <li>16. Longitudinal section of <i>Lingulina carinata</i> (?).</li> </ol> | <ol style="list-style-type: none"> <li>17. Fragment of test of Echinoderm.</li> <li>18. Part section of <i>Sphaeroidina dehiscens</i>.</li> <li>19. Longitudinal section of <i>Bulimina</i> sp. (?).</li> <li>20. Transverse section of <i>Rotalia soldanii</i>.</li> <li>21. Fragment of Polyzoan.</li> <li>22. <i>Rotalia</i> sp. (?).</li> <li>23. Fragment of calcareous Alga.</li> <li>24. Transverse section of Echinoderm spine.</li> <li>25. Section of <i>Globigerina rubra</i>.</li> <li>26. Ostracode valve.</li> <li>27. Section of Heteropod shell.</li> <li>28. " <i>Miliolina</i> sp. (?).</li> <li>29. Part of test of Lituolid.</li> <li>30. Fragment of calcareous Alga.</li> <li>31. Longitudinal section of <i>Bulimina</i> sp. (?).</li> <li>32. Fragment of calcareous Alga.</li> </ol> |
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Fig. 2. Sections representing the appearance of the mud in 950 fathoms, still further (about 5 miles) from the reef (upper half magnified 50 diameters, lower half 100 diameters). The particles are much smaller in size, while the pelagic shells are more numerous, and the reef fragments less numerous than in the shallower depths.

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| <ol style="list-style-type: none"> <li>1. Fragment of calcareous Alga.</li> <li>2. Transverse section of Alcyonarian spicule.</li> <li>3. Fragment of Polyzoan (<i>Lepralia</i> sp. ?).</li> <li>4. Longitudinal section of <i>Bolivina dilatata</i>.</li> <li>5. Fragment of calcareous Alga.</li> <li>6. Section of Heteropod shell.</li> <li>7. " Pteropod shell.</li> <li>8. " fragment of <i>Orbitolites</i> sp. (?).</li> <li>9. <i>Globigerina</i> sp. (?).</li> <li>10. Section of Ostracode valve.</li> <li>11. Part section of <i>Pulvinulina micheliniana</i>.</li> <li>12. Radiolarian.</li> <li>13. <i>Bulimina</i> sp. (?).</li> <li>14. Sponge spicule.</li> <li>15. Pteropod shell with <i>Cornuspira</i> sp. (?).</li> <li>16. Transverse section of <i>Discorbina vilardeboana</i> (?).</li> <li>17. Basal portion of Sponge spicule.</li> <li>18. Part section of <i>Sphaeroidina dehiscens</i>.</li> <li>19. " "</li> <li>20. Longitudinal section of <i>Miliolina</i> sp. (?).</li> <li>21. Alcyonarian spicule.</li> </ol> | <ol style="list-style-type: none"> <li>22. <i>Globigerina bulloides</i> (young).</li> <li>23. Ostracode valve.</li> <li>24. <i>Globigerina bulloides</i>.</li> <li>25. Basal portion of Echinoderm spine.</li> <li>26. Sponge spicule.</li> <li>27. Fragment of Mollusc shell.</li> <li>28. " "</li> <li>29. Transverse section of Echinoderm spine.</li> <li>30. Calcareous Alga.</li> <li>31. Fragment of test of Echinoderm.</li> <li>32. Fragment of outer edge of transverse section of Echinoderm spine.</li> <li>33. Fragment of Sponge spicule.</li> <li>34. Calcareous Alga.</li> <li>35. Radiolarian.</li> <li>36. Sponge spicule.</li> <li>37. " " (<i>Geodia</i> ?).</li> <li>38. Part section of <i>Orbitolites complanata</i>.</li> <li>39. Fragment of Mollusc shell.</li> <li>40. " calcareous Alga.</li> </ol> |
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Fig. 3. Section representing the appearance of the mud in 1950 fathoms, and still further (about 7½ miles) from the reef edge (magnified 50 diameters). Here the deposit is chiefly made up of the shells of pelagic Foraminifera, and might be called a *Globigerina* Ooze.

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| <ol style="list-style-type: none"> <li>1. Longitudinal section of Gasteropod shell.</li> <li>2. Fragment of section of <i>Orbitolites complanata</i>.</li> <li>3. Longitudinal section of <i>Pulvinulina canariensis</i>.</li> <li>4. Transverse section of Echinoderm spine.</li> <li>5. Longitudinal section of <i>Bulimina textularioides</i>.</li> <li>6. <i>Orbulina universa</i>.</li> <li>7. Longitudinal section of <i>Globigerina inflata</i>.</li> <li>8. " " <i>Spiroloculina</i> sp. (?).</li> <li>9. " " <i>Globigerina bulloides</i>.</li> <li>10. " " <i>Pulvinulina menardii</i>.</li> <li>11. Surface of shell of <i>Orbulina universa</i>.</li> <li>12. <i>Globigerina rubra</i>.</li> <li>13. Fragment of Sponge spicule.</li> <li>14. Radiolarian.</li> </ol> | <ol style="list-style-type: none"> <li>15. Long. section of <i>Pulvinulina micheliniana</i>.</li> <li>16. Transverse section of <i>Rotalia</i> sp. (?).</li> <li>17. " " <i>Truncatulina pygmaea</i>.</li> <li>18. Fragment of Pteropod shell.</li> <li>19. Longitudinal section of <i>Bulimina</i> sp. (?).</li> <li>20. <i>Globigerina rubra</i>.</li> <li>21. Sponge spicule (?).</li> <li>22. Longitudinal section of <i>Bulimina textularioides</i> (?).</li> <li>23. <i>Globigerina rubra</i>.</li> <li>24. Longitudinal section of Echinoderm spine.</li> <li>25. Part section of marginal ring of <i>Pulvinulina menardii</i>.</li> <li>26. Part section of <i>Globigerina</i> sp. (?).</li> </ol> |
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