afforded no certain proof of any connection between the fires of the mountain and the formation of the chalk.

The fine earthy texture of the material is evidence that the deposit was not a *subaerial* seashore accumulation, since only sandstones and conglomerates, with rare instances of more compact rocks, are thus formed. Sand-rock-making is the peculiar prerogative, the world over, of shores exposed to waves, or strong currents, either of marine or fresh water. We should infer, therefore, that the accumulation was produced either in a confined area, into which the fine material from a beach may have been washed, or on the shore of a shallow, quiet sea; in other words, under the same conditions nearly as are required to produce the calcareous mud of the coral island. But, although the agency of fire in the result cannot be proved, it is by no means improbable, from the position of the bed of chalk, that there may have been a hot spring at the spot occupied by it. That there were some peculiar circumstances distinguishing this from other parts of the reefs is evident.

This, if a true conclusion, is to be taken, however, only as one method by which chalk may be made. For there is no reason to suppose that the chalk of the Chalk-formation has been subjected to heat. On the contrary, it is now well ascertained that it is of cold-water origin, even to its flints, and that it is made up largely of minute foraminifers, the shells of Rhizopods. Professor Bailey found under his microscope no traces of foraminifers, or of anything distinctly organic, in the Oahu chalk.

XI. RATE OF INCREASE OF LIMESTONE FORMATIONS.

On page 212 it is shown that coral-reef limestones are of slow formation, the rate of increase in thickness, where all is most favourable, not exceeding perhaps a sixteenth of an inch a year, or five feet in a thousand years. And yet such limestones probably form at a more rapid rate than those made of shells, because the animals are to a larger extent calcareous, or