

bottom currents of the sea is another cause, and, as we shall soon see, most effective. Still another is the greater cooling and hardening of the crust in the polar regions, and the tendency to collapse of the equatorial protuberance from the slackening of the earth's rotation. Besides these, the internal tides of the earth's substance at the times of solstice would exert an oblique pulling force on the crust, which might tend to crack it along diagonal lines. From whichever of these causes, or the combination of the whole, we know that, within the Laurentian time, folded portions of the earth's crust began to rise above the general surface, in broad belts running from north-east to south-west, and from north-west to south-east; where the older mountains of Eastern America and Western Europe now stand, and that the subsidence of the oceanic areas, allowed by this crumpling of the crust, permitted other areas on both sides of the Atlantic to form limited table-lands. This was the commencement of a process repeated again and again in subsequent times, and which began in the middle Laurentian, when for the first time we find beds of quartzite, limestone, and iron ore, and graphite beds, indicating that there was already land and water, and that the sea, and perhaps the land, swarmed with forms of animal and plant life, unknown, for the most part, now. Independently of the questions as to the animal nature of Eozoon, I hold that we know, as certainly as we can know anything inferentially, the existence of these primitive forms of life. If I were to conjecture what were these early forms of plant and animal life, still unknown to us by actual specimens, I would suppose that, just as in the Palæozoic, the acrogens culminated in gigantic and complex forest trees, so in the Laurentian, the algæ, the lichens, and the mosses grew to dimensions and assumed complexity of structure unexampled in later times, and that, in the sea, the humbler forms of Protozoa and Sea Mosses were the dominant types, but in gigantic and complex forms. The land of this