

boasted of the minuteness and precision of their master's system, and contrasted the positive results to which it led with what they regarded as the vague conclusions and unsupported or idle speculations of other writers. Werner arranged the crust of the earth into a series of "formations", which he labelled and described with the same precision that he applied to the minerals in his cabinet. He taught that these formations were to be recognised all over the world, in the same order and with the same characters. The students whom he sent forth naturally believed that they carried with them, in this sequence, the key that would unlock the geological structure of every country.

But never in the history of science did a stranger hallucination arise than that of Werner and his school, when they supposed themselves to discard theory and build on a foundation of accurately-ascertained fact. Never was a system devised in which theory was more rampant; theory, too, unsupported by observation, and, as we now know, utterly erroneous. From beginning to end of Werner's method and its applications, assumptions were made for which there was no ground, and these assumptions were treated as demonstrable facts. The very point to be proved was taken for granted, and the geognosts, who boasted of their avoidance of speculation, were in reality among the most hopelessly speculative of all the generations that had tried to solve the problems of the theory of the earth.

Werner's first sketch of his plan of the structure of the earth's crust and the succession of the rocks