

The surface of the earth, therefore, particularly between the tropics, will be heated and cooled in succession, from east to west, and currents of electricity, on thermo-electric principles, will at the same time be established in the same direction : now these currents once established from east to west, will, of course, give occasion to the magnetism of the earth from north to south. Hence the magnetic directive power of the earth, in a direction nearly parallel with its axis, is derived from the thermo-electric currents, induced in its equatorial regions by the unequal distribution of heat there present; and depending principally on its diurnal motion.

These recent and beautiful discoveries show, in the most striking manner, that the operations of nature are more extraordinary, and indicate more of simplicity and wisdom of design, in proportion as they are better understood. By what simple expedients, when known, are those wonderful phenomena of the earth's electricity and magnetism produced, which formerly appeared so anomalous and perplexing! And what encouragement do these discoveries hold out to us, respecting future discoveries, which may throw still further light upon the operations of the Great Architect of the universe.

4. *Of the Distribution of Light, in the decomposed Form, over the Globe.*—Every one is fami-