

galvanic battery, when instantly, as if by magic, a prodigious magnetic force is communicated to the iron — even a force of two thousand or three thousand pounds, which vanishes as soon as the connection with the battery is broken. Now, is it not amazing that this powerful force should be communicated in a moment through a wire not more than one twentieth of an inch in diameter? Do we not here catch a glimpse of a prodigious natural force, which lies hidden and silent all around us, and which, if it could only be fully developed, would arm man with an energy almost irresistible? I confess I do not yet despair of his being one day put into full possession of this power.

The next wide field that opens before us is chemistry : and how many marvellous things invite our examination ! But I must not forget that my first object should be to hurry forward. Yet I must linger long enough to point out a few flowery spots.

The atoms, or particles, of all matter, are subject to the influence of two forces — attraction and repulsion. When the first predominates, solid bodies are formed ; when the latter prevails, elastic gas, or air, is the result ; when both are equally balanced, liquids are produced. The antagonist to affinity, or attraction, is heat ; and it is always because bodies contain this principle in different degrees, that some are solid, some liquid, and some gaseous. Men are accustomed to think of heat only in that state in which it affects our senses ; but in fact the greater part of it is in a hidden or latent state, and no body is so cold but a great amount of heat can be elicited from it, either chemically or mechanically. If, for instance, all the heat contained in the snow and ice that has mantled New England during the past winter had been suddenly extricated, there can be hardly a doubt but a general conflagration of the surface would have been the result.