

chemical reaction alters their constitution. By the decomposition of some compounds, the elements are obtained for forming others; and such changes are going on around us and within us in great numbers unperceived. In the worlds above us, and in the earth beneath us, from its circumference to its centre, the transmutations of chemistry are in progress, and many of them are modified by the agency of man; so that here is another channel through which human actions exert an influence upon the material universe, and to an extent which we cannot measure. Let us look at some of the modes in which this is done.

Take, in the first place, the facts respecting photography, or the art of obtaining sketches of objects by means of the action of light. This is strictly a chemical process. In a beam of light, that comes to us from the sun, we find not only rays of light and heat, but chemical rays, which act upon some bodies to change their constitution. When these rays are reflected from a human countenance, and fall upon a silvered plate, that has been coated with iodine and bromine, they leave an impression, which is fixed and brought out as a portrait by the vapour of mercury and some other agents. Here the chemical changes produced by these rays are exceedingly perfect; but they produce effects upon many other substances, artificially or naturally prepared; such as paper, for instance, immersed in a solution of bichromate of potash, or upon vegetation, whose green colour is probably the result of this action, (as is obvious from the fact that plants growing in the dark are destitute of colour.) Indeed, a large part of the changes of colour in nature depend upon these invisible rays.

It seems, then, that this photographic influence pervades all nature; nor can we say where it stops. We do not know but it may imprint upon the world around us our features, as they are modified by various passions, and thus fill nature with daguerreotype impressions of all our actions that are performed in daylight. It may, be, too, that there are tests by which nature, more skilfully than any human photographer, can bring out and fix those portraits, so that acuter senses than ours shall see them, as on a great canvas, spread over the material universe. Perhaps, too, they may never fade from that canvas, but become specimens in the great picture gallery of eternity.