

in fact that sensation is the result of physical vibrations in the nerves, which leave behind them the tendency or habit of vibrating, this being the physical explanation of memory. Hartley took note of only one kind of association, viz., association by contiguity, sensations being together, either in space (synchronous) or in time (successive). James Mill took up the theory of Hartley, but he, like Hartley, confined himself to association in space (synchronism) and association in time (succession), whereas Hume had recognised three forms of association, viz., contiguity in time or space, resemblance, and causality.

20.  
James Mill's  
mental  
chemistry.

James Mill also laid stress upon the fact that, in the same way as in chemical compounds, the result or product may appear to be simple, and that the elements out of which it is compounded may from various causes become imperceptible. And he as well as Hartley attempted to show how simple mental states may, through the union with others, lead to apparently quite different states. For instance, disinterested love might have been developed out of originally selfish emotion. The principle of association was thus employed to bring unity and simplicity into the chaotic mass of the phenomena of the inner world, and it cannot be denied that the simplicity with which this complicated subject was thus represented did much to recommend the whole scheme. It was further elaborated with a very large amount of evidence drawn from original observation, as well as from physiological research, by Alexander Bain in his two well-known treatises mentioned above.<sup>1</sup> Bain, however, remedied in addition one

21.  
Alex. Bain.

<sup>1</sup> See p. 27, note 1.