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MASS POLARIZATION.

In continuation of my last note on Mass Polarization, it may be mentioned that when a piece of metal is hammered, twisted, rubbed, heated or annealed, its molecules are peculiarly arranged and its con-

ductivity or resistance, its thermal or electrical state is altered : and the peculiar arrangement of molecules or 'Mass Polarization' as this is termed may be either temporary or permanent, mobile or stationary and may be manifested by all material bodies and even by '*Ether*.'

When a sounding body is struck its molecules are agitated and this agitation is transferred to the neighbouring air or other material particles causing therein alternate condensations and dilatations and is extended onward in every direction, till the tympanum of the listener is polarised ; thence the same condition is transferred to the nerve filaments in the 'Vestibule' and ultimately a particular portion of the brain-material is polarised causing the sensation of sound. Again when one body is rubbed with another their molecules are either arranged in a peculiar condition or are set in a peculiar vibratory motion producing thermal or electrical effects or both.

The same thing may be said of '*Light*' ; when a candle burns the un-burnt solid particles in the flame are put into a peculiar condition and arrangement which is imparted to the surrounding Ether particles ; a constant change of configuration—polarization, depolarization and re-polarization—takes place in them and the whole mass of '*Ether*' is put into a mobile polarised condition ; and when this condition is communicated to the '*rods and cones*' they suffer a peculiar change which is then extended to another part of the brain-material causing the sensation of Light.

Again the phenomenon of induction, as Faraday has supposed, is the result of the polarised condition of the di-electric medium and it was also experimentally established by interposing a layer of mica-plates and examining each of them separately. The magnetic phenomena have been accepted unanimously by all physicists to be due to the polarised condition of the magnetic molecules each of which has been supposed to be a complete magnet. As by twisting hammering &c. the molecules of a metal are peculiarly arranged, so also by mere contact—volta's supposition—of two different metals or by unequal temperatures of their junctions they acquire such a polarised condition as to produce electrical effects. Ordinary acoustic and thermal phenomena ; some of the optical phenomena such as ordinary flame, phosphorescence ; some of the electric phenomena such as the production of statical, dynamical and thermo-electricities

and inductions thereof; and the so-called electric response and existence of life in all matter are due to the polarisation of crude material particles, whereas that of Ether particles produces subtler optical and electrical phenomena such as propagation of light and of electric waves in wireless telegraphy and of x' rays, Becquerel's rays and Lenard's rays &c. By these and by several other examples it can be shown conclusively that all the physical phenomena are nothing but the outcome of different and peculiarly constrained conditions of matter and ether termed as Mass Polarization.

K. D. M.

PAIN.

I pointed out in a former issue that Psychology, like any other positive science, studies facts open to observation, and attempts to discover the laws which govern them. It ought to be as interesting and useful to detect the properties of desire, anger and belief, and to investigate the conditions of their origin and growth as to enquire into the laws governing the growth of plants and societies, or explaining the phenomenon known as earthquake. For if a general knowledge about physical objects is useful to the various arts which contribute to human happiness, acquaintance with the laws of mental development and with the properties of mental objects would be indispensable to the art of education, to the fine arts, and in fact to every person who has to deal with minds.

In this paper I shall try to point out some of the properties of that familiar mental object known as *pain*. And the method that I would employ would be the same as a doctor would follow in discovering the cause, the symptoms and the effects of cholera—viz. observation. Take an ordinary pin, and prick it on any part of your skin; or if that is inconvenient, think of a dear friend who is dead. Pain will appear. Now observe its properties. Like oxygen it is invisible and inodorous, but unlike oxygen it has neither weight nor extension, and instead of supporting life, it tends to destroy it. Its