equilibrium, are not cognizable; but when separated, each one is mutually repellent of its similar, and mutually attractive of its opposite or antagonist. Thus the two north or two south poles of two magnetic needles mutually repel each other; but the north pole of one needle and the south pole of another, mutually attract each other. Bodies are also rendered magnetic by induction, when in the vicinity of another magnet, precisely as happens with respect to electricity. Magnetism principally differs from electricity, in being apparently limited to a few bodies, as iron, and two or three others; but late observations have thrown an entirely new light on this part of the subject, which we have next to consider. Before we proceed, however, we may make a few remarks upon the obvious questions:—

What becomes of the two electric and two magnetic energies when in a state of equilibrium? Do the electric and magnetic energies combine to yield the same, or a different result? and what is the nature of this result or results: and in what form do they exist around us? On these questions different opinions have been held: some supposing that both the electric and the magnetic energies, when in a state of equilibrium, alike constitute *heat*; others, something else. That both are most intimately connected