to those which would regulate the distribution of particles thrown forth in all directions), and that other colder bodies placed in their neighborhood become hot, *as if* they received the heat so radiated. Again, all solid bodies which become heated in one part *conduct*, or diffuse, the heat from that part through their whole substance. Here we have two modes of communicating heat,—by radiation, and by conduction; and both these have their peculiar, and, to all appearance, very different laws. Now, let us bring a hot and a cold body (of the same substance) gradually nearer and nearer together,—as they approach, the heat will be communicated from the hot to the cold one by the *laws of radiation;* and from the nearer to the farther part of the colder one, as it gradually grows warm, by *those of conduction.* Let their distance be diminished till they just lightly touch. How does the heat *now* pass from one to the other? Doubtless, by radiation; for it may be proved, that in such a contact there is yet an interval. Let them then be *forced* together, and it will seem clear that it must now be by *conduction.* Yet their *interval* must diminish gradually, as the force by which they are pressed together increases, till they actually cohere, and form one. The law of continuity, then, of which we have before spoken (§ 199.), forbids us to suppose that the intimate nature of the process of communication is changed in this transition from light to violent contact, and from that to actual union. If so, we might ask, At what point does the change happen? Especially since it is also demonstrable, that the particles of the most solid body are not really in contact. *Therefore* the laws of conduction and radiation have a mutual dependence, and the former are only extreme cases of the latter. If, then, we would rightly understand what passes, or what is the process of nature in the slow communication of heat through the substance of a solid, we must ground our inquiries upon what takes place at a distance, and then urge the laws to which we have arrived, up to their extreme case.

(218.) When two theories run parallel to each other,