

modification of the matter, though it does not essentially differ from either, and still less from both taken together. Fire never exists without heat, but it can exist without light. Heat alone, deprived of all appearance of light, can produce the same effects as the most violent fire; so can also light, when it is united. Light seems to carry a substance in itself which has no need of fuel; but fire cannot subsist without absorbing the air, and it becomes more violent in proportion to the quantity it absorbs; whereas light, concentrated and received into a vessel exhausted of air, acts as fire in air; and heat, confined and retained in a narrow space, subsists and even augments with a very small quantity of food. The most general difference between fire, heat, and light, appears, therefore, to consist in the quantity, and perhaps quality, of their food.

Air is the first food of fire; combustible matters are only the second. It has been demonstrated, by experiments, that a little spark of fire, placed in a vessel well closed, in a short time absorbs a great quantity of air, and becomes extinguished as soon as the quantity or quality, of this food becomes deficient. By other experiments it is proved, that the most combustible matters will not consume in vessels well