

to be doubted but that the power of a focus of the same length is in proportion to the surface of the mirror. A mirror whose surface is double that of another, must have the same sized focus, and this focus must contain double the quantity of light which the first contained ; and in the supposition, that effects are always in proportion to their causes, it might be presumed that the heat of this second focus should be double that of the first.

So likewise, and by the same mathematical estimation, it has always been thought, that at an equal intensity of light, a small focus ought to burn as much as a large one, and that the effect of the heat ought to be in proportion to this intensity of light: *insomuch* (says Descartes) *that glasses, or extremely small mirrors, may be made, which will burn with as much violence as the large.* I at first thought that this conclusion, drawn from mathematical theory, might be found false in practice, because heat being a physical quality, of the action and propagation of which we know not the laws, it seemed to me, that there was some kind of temerity in thus estimating its effects by a simple speculation.

I had, therefore, once more, recourse to experiments. I took metal mirrors of different

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