specially effective, the writer would suggest a similar function for the thick, highly cuticularized epidermis that covers so many desertic plants, or plants that grow in places exposed to intense sunlight. One can easily prove by experiment that on a hot day a thin sheet of white paper considerably reduces the light intensity. A piece of *Opuntia* epidermis similarly obstructs the light rays, and even though the heat rays pass, we have seen that up to 40—43 C no injurious effect follows to many plants. It might further be pointed out, as Wiesner has already done, that the hair covering on the leaves of certain plants will contribute to the same end.

A very remarkable movement, however, has been studied by the writer during the past two summers, which need only be shortly referred to here. During the warmer days of July and August, when the shade temperature rises to 35—38° C, leaves of some sensitive plants that are fully exposed, and which under a greatly less intense illumination have already exhibited paraheliotropic movement, begin to incurve their leaflets so as at once to expose their under surface and shade the actively assimilating upper surface. At first this was supposed to be a sign of drooping, but more careful study proved it to be a normal movement, and one also that is shown by many plants that are not sensitive. Among sensitive plants *Desmodium canadense*, and among non-sensitive ones *Arisaema Dracunculus*, *Zinnia hybrida* and *Ambrosia trifida* may be mentioned. The conditions that bring about this remarkable movement need not be discussed now, but we regard it as another means of protection from the intense blue violet-rays.

Philadelphia, 2nd November 1894.

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