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Fourier, a French philosopher, has done physics. much in this department of knowledge. One of the conclusions he establishes is this': " There are three states in which material bodies exist; the solid, liquid, and gaseous." Fourier proved that when a solid body became incandescent, the light which it emits is polarized, that the light emitted by an incandescent liquid, (as molten iron) is likewise polarized, and that the light of incandescent gases is unpolarized. These facts are true, whatever may be the nature of the materials. Here is a distinction established by this great natural philosopher, between the light emitted by incandescent solids and liquids, and that emitted by gases. This is the contribution from the Science of Heat.

Now, Mr. Arago has, with most beautiful sagacity, availed himself of these two facts constituted by the sciences of Light and Heat to determine the nature of of the sun's atmosphere. This may easily be done; for since it is established that the light from incandescent solids and liquids is polarized, while that from heated gases is not polarized, all that need be done to determine this point, is to try the experiment, whether the sun's light be *polarized or not*. Arago, by applying the usual tests, found that it is not polarized.

The conclusion, as inevitable as it is important, is that the surface of the sun is covered, not by a solid or liquid, but by an *atmosphere of flame*. Here is one of the most beautified interences ever drawn from the whole range of physics, and it is established by the aid of science, with all the CERTITUDE OF A MATHEMATICAL DEMONSTRATION.

Arago has proved therefore that the sen's atmos; phere is an OCEAN OF FLAME.