## Modern Views of the Sun

final. The adoption of standard methods in the determination of wave lengths and of a number of standards of wave-length for universal use, correct probably within one-thousandth of an Augström unit, or one part in five million, is one example of a decision which more than justifies its formation; and a second is the adoption of the Harvard system of classification of stellar spectra for universal use.

The other instance of the dawning realization of the importance of the study of the sun has been the organization, under the auspices of the Carnegie Institution, of the Mt. Wilson Solar Observatory, also established just over ten years ago. This is probably the best equipped observatory in existence, with nearly every appliance that man can devise to assist in its special work on the sun, with the allied physical and astronomical problems. Under the able direction of Mr. Geo. E. Hale, our knowledge of the structure and movements of the sun's upper atmosphere has already been wonderfully extended and I shall have occasions frequently to refer to the discoveries made there.

In view of the limited time at my disposal it has seemed best to give you a brief account of present day views of the nature of the sun without attempting other than incidental reference to the historical development of the subject. To make the subject as comprehensible as possible to the layman, let us open it, even at the risk of some lack of sequence later, at the very beginning. If we look at the sun through smoked glass we see an intensely bright disc with a sharp circular boundary which is called the limb, and, sometimes, with dark spots on its surface. If we use a telescope of higher and higher power, of course with the intensity suitably diminished by shade glasses or other means, we find that the outer boundary still appears perfectly sharp and circular, that we see many more spots, that the surface of the sun, generally called the photosphere, is not uniformly bright but is mottled in a way that has led to its being called the rice grain structure, and that some parts near the limb and also often near spots are much brighter than the general surface, such parts being called faculæ. If these observations are continued we

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