

objects, and still more, the restraint with which the true astronomer regards the unspeakable sublimities of his science, all go to make star-law the first in importance of all these agencies which give the human mind its glory and vision in a field so vast that we may never know its boundaries.

It becomes necessary, therefore, to acquire, at least, a general knowledge of this science, or else relinquish all claim to a culture the chief elements of which are clear vision and a serene poise that rises superior to the pettiness of these common aims and pursuits which characterize the consciousness and occupy the time of most of the human race.

The physicist realizes, especially in recent years, that there are facts outside the realms of gross matter quite as real and dependable, though far more subtle and elusive in some cases, as those observed by the five senses. The same is true of the astronomer. He too finds abundant exercise for his powers in fields of light and law, sharing with the physicist his problems of heat and radio-activity, of electric and magnetic forces, of relativity and other spatial subtelties, of hypotheses as to atmosphere and ether, color, light and sound. The physicist cannot possibly be an efficient physicist without being also something of an astronomer; neither can the astronomer be a thorough astronomer without being also a careful physicist.

But the co-ordination of the sciences does not stop here. Both the astronomer and the physicist are allured into fields beyond the boundaries of their respective sciences; so also the chemist, the biologist, the psychologist and the ethicist. No specialist can lay claim to a liberal culture in any sense without a comprehensive view of all the sciences. Such a culture will be sufficiently generous to preclude that prejudice which the specialists in one field of science too often manifest against the results obtained in another field by methods quite as strictly scientific as those employed by themselves in their own departments.

Such a prejudice has prevailed in their past between the physicist and the philosopher. We have had controversies, not always in the scientific spirit, which is always hospitable to facts