ASTRONOMY
IN
THE HIGH SCHOOL CURRICULUM

AN ABSTRACT OF

A THESIS

PRESENTED TO THE GRADUATE FACULTY

OF

WESTERN CONNECTICUT STATE COLLEGE

IN PARTIAL FULFILLMENT

OF THE REQUIREMENTS FOR THE DEGREE

MASTER OF SCIENCE

by
Esther Raymond Boyd
December 1970

This thesis attempts to present information concerning the inclusion of astronomy as a course in the high school curriculum. It begins with an introduction which presents the reasons why such a course should be available.

Following the introduction is an historical approach to the problem. Astronomy was taught at the high school level from about 500 B.C. until the early twentieth century. How this was done is traced from the time of the Sophists until our present system in the United States.

The historical background is followed by a discussion of the present situation in the United States and Russia. Information about the present situation in the United States is obscured by the fact that astronomy is often included in an earth science program.

The main part of the thesis is devoted to a discussion of the various means by which astronomy could be taught in our high schools. How students should be selected for such a course is not discussed. However, most students with average I.Q.'s would be able to handle a course in descriptive astronomy which is the first method presented for teaching astronomy. The depth to which any one class would go would depend on the ability of the members of that class. A complete syllabus, including laboratory experiments,

is presented for such a course of instruction.

The second method is teaching physics by means of astronomy. Astronomy is used as the motivating factor for gaining a knowledge of physics. A complete syllabus is not presented for this method. However, the correlation between astronomy and physics is depicted.

The third method is teaching astronomy through the medium of mathematics. This is, as is the astronomical physics course, an entirely new approach. In this method the astronomy that would be taught would be limited to the fields of astrometry and celestial mechanics, both at a relatively simple level. A syllabus is not presented but there is included an outline of the several areas in each field to be studied. This is followed by several sample problems together with their solutions. The mathematics involved in the solutions are algebra, plane trigonometry, and spherical trigonometry.

The conclusions emphasize the fact that the author merely presents historical evidence for the inclusion of astronomy in the high school curriculum and possible methods for instruction. It makes no attempt to force the reader to any decision as to whether astronomy should or should not be taught in the high school. The conclusions also give the reasons for the author's methods of teaching astronomy and suggest areas for further investigation.