DEVELOPMENT OF SCIENTIFIC CONCEPTS

17 September 1964

CAPTAIN PHILLIPS: General Steel, Mr. Ward, Gentlemen: You heard yesterday that a knowledge of the past is certainly necessary for an analysis of the present, and that this was just as true of science as it was of governments or civilizations.

To expand our knowledge and to speak on our subject of today, the "Development of Scientific Concepts," we have a man who spent many years studying the men and the methods of science. Dr. L. Pearce Williams is the Associate Professor of History at Cornell University. His specialty is the history of science. Dr. Williams.

DR. WILLIAMS: I am going to start out by changing the title of the lecture. It will cover the same material but I would like to attack it from a different point of view and simply ask the question, "What is science?" and see if the history of science can shed some light on it.

I think we stand today in a period of crisis in science itself. The scientific journals are filled with problems of publication and of information retrieval; there is a feeling that somehow the arteries of science are becoming clogged or hardened by the extraordinary flow of scientific information.

I think the question of what is science is becoming increasingly obtrusive. This itself is a historical repetition. In periods of scientific crisis, this is precisely the question which is raised. It is a clarifying question; it removes a lot of the underbrush, a lot of the brambles, and it gets down to a kind of basic thing.

I would like to call your attention today to two such crises in the past, making the present one a third, for I shall return to that; two crises in the past which have led to an attempt to redefine what the scientific enterprise is. And in turn, should like to try to lay out certain methods and approaches to science which, hopefully,