

## Content of Advanced Chemistry Course Section B: Earle Scott (Kippin) Leader

In his introductory remarks, Dr. Scott immediately raised the question of a descriptive as opposed to a theoretical advanced inorganic course. It was noted that the trend toward teaching principles on the elementary level increased the need for chemical facts to be presented later in the undergraduate program. The chairman opened discussion by asking the question: "What are the specific advantages of having physical chemistry as a prerequisite for advanced inorganic?"

His discussion began, the group rapidly divided into "descriptive", "theoretical", and "combined" factions. Many members expressed the necessity of adequate theoretical preparation for successful graduate work. While no definite comments were made, it did not appear that the group considered the ~~elementary~~ physical

chemistry ~~course~~ <sup>approach</sup> to be adequate.  
Proponents of the descriptive course  
emphasized the necessity of familiarity  
with substance and their reactions.  
but appeared willing to compromise  
for a <sup>so</sup> combined approach. It was  
noted that descriptive chemistry cannot  
be presented most effectively by  
interspersing theoretical topics. The  
suggestion of a two semester  
sequence - one descriptive and one  
theoretical - did not stimulate much  
reaction.

The advantages of a physical  
chemistry prerequisite appeared to be  
accepted by the group with the condition of  
the usefulness of concepts such as  
- enthalpy,  $\Delta H$ , bond energies, entropy,  
and kinetics in the presentation of  
descriptive material. No one  
questioned the physical chemistry  
requirement, but remarks concerning  
relationships between the physical  
chemistry and advanced inorganic courses  
were of limited scope.  
(Insert additional if time)

Throughout the discussion, the textbooks available for the advanced inorganic program were introduced and evaluated. It seemed that a text was available for any type of course desired by a particular school or faculty member. A series of paperbacks ~~for the~~ was suggested while a few members noted the possibility of using the "library" as a textbook.

Laboratory work is not included <sup>(to a</sup> <sup>reasonable</sup> <sup>extent</sup> as a ~~part~~ part of the advanced inorganic program ~~is~~ given at the schools represented in the discussion groups. The few who did provide an inorganic preparation, laboratory preferred to follow such preparations with measurements of characteristic physical properties of the compounds.

Although the group arrived at no definite conclusion concerning the specific contents of the advanced inorganic course, it did suggest that the student be taught the sequence: quantum mechanics, structure, and descriptive chemistry.

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