

11acklac - October 23, 1964

Summary of Discussion - Group II

Role of Biochemistry in the Undergraduate Curriculum

Chairman, Dr. Oby Rumbaut, (Hamline)

1st session - attendance 29

The chairman asked each participant to introduce himself and state whether ^{or not} biochemistry was taught in his college and if so, whether with or without laboratory.

Five did not offer biochemistry; nine of the twenty-two remaining ^{currently} did not include laboratory. About one third of those present were biochemists, the majority of the remainder were organic chemists.

The chairman asked three questions:

1. What is the purpose of the course in biochemistry?
2. What is the ^{background (major field)} ~~preparation~~ ^{of the instructor & background of students?}
3. Is biochemistry worth the time and effort expended on it?

Responses to No. 1.

1. Affords an interest for those not satisfied with other branches of ^{Chemistry}
2. Provides an opportunity to cross boundaries between fields; to integrate disciplines.
3. Serves to introduce the area of biochemical principles to special groups: premeds, medical technologists, biologists, nutrition students.
4. From the point of view of the ACS requirement, to serve as an advanced elective, if based on physical chemistry.

Responses to
#2 -

1. It was agreed that organic and physical chemistry should be prerequisites for biochemistry, if the ACS requirements is to be met

2. This would eliminate many biology and nutrition students who would otherwise gain at least some insight into the inner chemical workings of biological systems.
3. The possibility of offering two levels of biochemistry was proposed to meet this situation. (Some 8-10 participants reported requiring Organic Chemistry as a prerequisite while only 3 participants said they required formal physical chemistry as a prerequisite and used it consistently in the biochemistry course.

To arrive at an answer to Question 3, the chairman probed for the unique contribution of the course as a whole and of the laboratory specifically.

All agreed that the study of metabolism was the largest single contribution but differed as to whether it could be taught elsewhere, say in a special carbohydrate course. Others thought that its application ^{and synthesis} of the principles of organic and physical chemistry ^{was} its main value. Still others claimed that many techniques used in biochemistry laboratory were best taught in connection with the materials of that laboratory, even though they might be used ~~per se~~ in other fields incidentally.

There seemed to be a consensus that problem-solving can be superbly carried out in biochemistry

where boundary lines between fields are erased.

The second session continued the discussion on the unique contribution theme. The chairman asked if a course on Biochemical Topics would not fulfill the purpose - if a course is needed ^{at} all. Biochemists present seemed convinced that a course was desirable, that a seminar would not fulfill the student's need. This brought up the subject of textbooks, which were adequate in the ACS sense, which best for special groups, whether paperbacks, ^{on special topics} might not be a better answer, and whether current literature ranging from Scientific American articles to original papers in research journals might not be the best answer of all.

This discussion will undoubtedly stimulate an agonizing reappraisal for all participants now teaching biochemistry and may induce others to consider offering it, perhaps without laboratory.

Steve Antonius, Recorder