ZOOLOGICAL COURSES IN THE EARLY DAYS OF THE UNIVERSITY OF ILLINOIS

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In a little less than a year the University of Illinois will have passed the three quarter century mark in its history. When its doors were opened, in March 1868, to receive the first students, the offerings of courses in science were naturally considerably different from what we have come to regard as characteristic courses today. Some of the changes in course offerings have been due to changes and development of the fields of knowledge while just as truly in part they are attributable to changes in objectives.

The work in zoology in the University of Illinois falls very readily into four distinct epochs.

1. The gestation period from the founding in 1868 to 1885 in a struggling new institution.

2. The birth and rapid development of teaching and research under the guiding genius of Stephen A. Forbes (1885-1909).

3. The period of maturing and expanding of the scope of the department under the leadership of Henry B. Ward (1909-1933).

4. The current phase of the development of the physiological aspects of zoology which became particularly recognized in the program in 1933.

In the present article only the first two of these epochs will be considered.

In the minds of its founders, definite plans for the University were carefully formulated before it came into existence. As engendered in the mind of Jonathan B. Turner, the plan envisioned an institution dedicated to the needs of the industrial workers of the state. This idea was carried out in the charter of the University which bore the name of the "Illinois Industrial University" but the first board of trustees broadened the concept of "industrial" sufficiently to include several distinctly liberal fields of instruction in the first program of the University, even though only five faculty members were available to do all the teaching.

However, the spirit of the practical pervaded the whole institution and under these circumstances it is not surprising to find that the earliest courses in zoology and entomology were particularly concerned with matters pertaining to agriculture. One other important influence supplemented the agricultural emphasis namely, the active interest in exploration of the West.

In the earliest plans for a University a special committee outlined a series of desirable professorships which in scope looked very ambitious for a university starting from nothing. In a carefully guarded statement supplementing the proposed list of professorships (1867) it was added "The number of professors must depend upon the extent of the endowments and the consequent ability to pay salaries." And furthermore "Several of these departments may at the outset be represented by the same man." In the compromise between the ideal set up of separate departments and the practical problems of finance, the entire field of natural history and geology were combined and to this post Major J. W. Powell of Normal who was becoming distinguished by his western explorations was called but never became a resident teacher.

In the first year of operation of the University the Board of Trustees envisioned researches in economic zoology as a desirable field for development, but such work had already been firmly established at Normal, under the agencies of the State Entomologist and the State Natural History Society which later became the State Laboratory of Natural History. It was not until 1884, when Stephen A. Forbes, in charge of these two state organizations at Normal was persuaded to come to Urbana as professor of zoology and entomology that the University acquired the prestige which these scientific organizations had gained in the fields of economic zoology and entomology.

In the first year (Catalogue for 1868-9) the courses in zoology are rather sketchi

described. Elementary zoology, given in the second year, opened in the first term with "Principles of Zoology — development, structure, classification and distribution of animals."

The second term was devoted to "Systematic zoology, in lectures; natural orders, families, etc.; embryology, and peculiar modes of reproduction; alternate generations; comparative anatomy as applied to classification; collection and preservation of specimens and natural history of domestic animals."

In the third term was given: "Entomology; classification of insects, habits of those injurious to the region with means of checking their ravages. Habits of beneficial insects."

The first term of the third year was devoted to "general physiology, comparative anatomy and veterinary surgery."

Little is known of the methods of instruction in this first year, or of the faculty except that Professor Burrill, whose name is more familiar as a botanist, taught entomology and at least part of the zoology. He held the title of Assistant Professor of Natural Science. Professor Forbes and Dr. L. O. Howard have been outspoken in their praise of the significance of his teaching.

The objectives of natural history instruction in these early days are summed up (1873-4, catalogue and circular, p. 37) in the statement of the objects of The School of Natural History in the following sentence: "The aim of this School is to thoroughly educate and prepare Practical Geologists, Collectors and Curators of cabinets and museums of Natural History, and Superintendents of scientific explorations and surveys." It was further recorded that "The instruction is given by lectures and text-books and excursions are made under charge of the professors." Laboratory work was very limited. Late in this period it is recorded that a course in anatomy for veterinary students was taught, using a papier-mache model of a horse for laboratory study.

Until 1885, the teaching of natural science followed much the same trend as that established when the University was founded, with the objectives little changed from those mentioned above. The year 1885 marks the opening of a new epoch in the teaching of zoology and entomology in this institution. On January 1 of that year Stephen Alfred Forbes came to have charge of Entomology and Zoology after having been appointed the preceding March. Under his guidance the teaching of zoology was reorganized on new levels.

For a time he did all the teaching except for what help he commandeered from the other scientific laboratories under his direction. Under his capable direction zoology was no longer to remain a discipline intended wholly for training farmers and potential explorers, but became a professional field for intensive cultivation in laboratory study and in research.

When he first organized the laboratory teaching, Professor Forbes wrote out in longhand detailed copy for laboratory directions which were then duplicated by the blueprint process. Later editions of these guides were typewritten and duplicated by a hectograph process. A copy of this later edition was on display in the University exhibit at the Chicago World's Fair in 1893.

When Frank Smith came to the University, he introduced to the work of the elementary course exercises in the study of Protozoa and in preparation of microscopic sections. Modifications of these outlines were used down to 1909 when the courses of the department were entirely reorganized.

Previous to the coming of Forbes, zoology and entomology had been taught by individuals who had their chief interests in other fields, with no individual devoting his entire time to teaching of zoological subjects. As a start in building a staff, Professor Forbes out of his own meagre salary paid for a laboratory assistant. From this beginning, the staff was built to include specialists in various fields. Joint employment by the State Laboratory and the University enabled the building much more rapidly than could have been accomplished otherwise. Offerings in physiology, aquatic biology, experimental zoology, and ecology brought expansion to the originally humble beginnings. By 1909, when Professor Forbes retired as head of the Department of Zoology, he left to the third epoch a strong staff representing most of the fields of zoology then recognized.

The history since 1909 parallels the history of the development of new fields and is too recent to merit special attention here.