duced four papers or less. The remaining eighth produced over 42 per cent. of the total number of papers. Of the 2,200 papers, one fifth was produced by the one-paper men, 46 per cent. by those writing three papers or less, and one fifth by those producing nine or more papers. Certain special classes, including paleontologists, mineral resource analysts, mineralogists and administrative geologists, include most of the longer individual bibliographies. Of 73 men producing over five papers, 44 belong in these classes; of 17 writing over 10 papers, 14 are so classified.

The average paper written by the one-paper men contained 34 pages; that written by the nine, ten and eleven-paper men grouped contained 17 pages. The average geologist of the entire group produced in the two-year period 2.5 papers averaging 27 pages in length, thus aggregating 34 pages per year. Twenty men in several Canadian Bureaus and Societies (excluding the Geological Survey of Canada) average 68 pages per year, 92 men in state surveys averaged 60 pages per year, 224 men in universities and colleges averaged 45 pages per year and 119 men in the U. S. Geological Survey averaged 38 pages per year.

Seventy-eight institutions appear in the university and college group. Fifty per cent. of the university total and one sixth of the entire amount was produced by men in nine leading universities. The first twenty universities were the source of over eighty per cent. of the university total. One university, Yale, during this period produced considerably over a tenth of the university total, and more than twice as much as the next university.

Among the 32 state surveys which produced a total of about 11,000 pages, the two most productive were the source of one fourth of the total and the first eight produced over 60 per cent. of the whole. It is not to be supposed that analysis of publications of another two-year period would result in identical rank of the various institutions since variations from year to year in any but the larger institutions are considerable. Nevertheless, there have been stated above only those general facts which the writers believe would be fairly characteristic of the composition of any biennium when conditions were not notably different from those during the 1921–1922 period.

CHESTER K. WENTWORTH,
U. S. Geological Survey
EARL T. APFEL,
Illinois Wesleyan College

CONCERNING THE ENCYSTMENT OF BUCEPHALUS CERCARIAE

IN the October, 1926, issue of the Transactions of the American Microscopical Society, Dr. George R. La Rue makes the statement (p. 274) that the entrance of the Bucephalus larva into the second intermediate host, so far as he was aware, had not been observed. He inferred that they enter the host by penetrating through the surface of the body just as the schistosome and strigeid cercariae are known to do.

I have performed an experiment to observe the method of penetration. A small (two-inch) rock bass was placed in a finger bowl containing a freshwater mussel (*Elliptio dilatata*) which was rapidly shedding active cercariae. As the fish fluttered about cercariae became entangled on the margin of the fins, especially the dorsal and caudal. Active movements of the fish resulted in many of the cercariae being cast off. After a few minutes the fish was transferred to a watch glass and the movements of the cercariae observed under the binocular. At first the tails of the Bucephalus aided the larva to maintain its anterior sucker in contact with the fin. Many attempts were made to find a place of entry. Gradually the tails became only a confused coiled mass, as the body portion began to penetrate. Within five minutes the body had become separated from the tails and had entered the space between the fin rays. The course of the cercariae is well defined by the bright pink color of the blood corpuscles which gather in its wake. Working by means of a worm-like movement, the cercariae, within thirty minutes of its entanglement on the fin, completes its excursion within the host and begins to encyst.

Encystment usually takes place at the base of the fin rays under the last few rows of pigmented scales. Five hours afterwards active movement was still visible within the cysts. Within twenty-four hours the characteristic clear cysts of Bucephalus are complete. These unpigmented cysts are not very visible to the unaided eye but are easily seen with a microscope. In a ten- to sixteen-inch small-mouthed bass hundreds of cysts may be found, in all the fins, but more especially on the pectorals and the caudal.

ARTHUR E. WOODHEAD
DEPARTMENT OF ZOOLOGY,
UNIVERSITY OF MICHIGAN

A PROTEST

THE author has noticed an ever-increasing tendency on the part of writers of college text-books and of research papers not to conform to consistent conventions and to correct English. Accordingly, he hopes that the following concrete examples may help to ameliorate this inexcusable state of affairs.

(1) The symbol for an electric cell consists of two segments of parallel straight lines, one of which is