The recrystallized substance corresponds in chemical and physical properties to a hexuronic acid, and is apparently identical with the hexuronic acid described by Szent-Györgyi and reported as a reducing factor in adrenal cortex, cabbage and other sources. Feeding approximately 0.5 mg. daily protects growing guinea pigs from scurvy and permits normal vitality in the animals when on a vitamin C free diet. A detailed account of the experimental work will be published in the near future, but this involves only a few steps beyond the work previously published.

On April 16, 1932, Svirbely and Szent-Györgyi[11] announced that they had, by means of 1 mg of hexuronic acid daily, protected guinea pigs from scurvy in an experiment lasting 56 days. Because of the unavailability of milk powder for making the basal diet this test was unfortunately marred by loss of weight of all animals. A current experiment with a satisfactory diet was in progress, and three animals which had received 1 mg of hexuronic acid for 55 days were found to be free of scurvy. However, it was not until May 7, 1932, that Svirbely and Szent-Györgyi[12] stated that hexuronic acid is vitamin C. They said:

> This allows us to conclude that vitamin C is a single substance and identical with hexuronic acid.

Simultaneously with our previous note, C. G. King and W. A. Waugh[10] reported that they have obtained, from lemon juice, crystals which showed antiscorbutic activity and were apparently similar in chemical and physical properties to hexuronic acid. The duration of the test period was not stated, and apparently no chemical analysis was made. Until this is done, the nature of their product remains in doubt.

The results of Waugh and King[13] and those of Svirbely and Szent-Györgyi[14] were published in full in 1932. Subsequent studies by others have shown that vitamin C had indeed been identified.

The following facts in chronological order are evident from the above analysis of the statements appearing in the literature:

(1) Szent-Györgyi first isolated "hexuronic acid" but viewed it only as a reducing substance associated with vitamin C (1928).

(2) McKinnis and King first published a positive suggestion that hexuronic acid is vitamin C (1930).

(3) King and his students carried out a sustained study of vitamin C resulting in the isolation of the active substance in the crystalline form and first stated that the crystalline substance was apparently identical with Szent-Györgyi's hexuronic acid (April 1, 1932).

(4) Fifteen days after King and Waugh published, Svirbely and Szent-Györgyi gave their first evidence that hexuronic acid has anti-scorbutic properties, but it was not until May 7, 1932, that they stated that "Vitamin C is a single substance and identical with hexuronic acid."[12]

GERALD J. COX

NUTRITION FELLOWSHIP OF
THE BUHL FOUNDATION,
MELLON INSTITUTE

11 *Nature*, 129: 576, 1932.
12 *Nature*, 129: 690, 1932.
13 *Jour. Biol. Chem.*, 97: 325, 1932.
14 *Biochem. Jour.*, 26: 865, 1932.

## NON-TRANSMISSIBILITY OF TRICHINELLIASIS IN PIG

A sow with a bodyweight of about 550 pounds has been fed Trichinellas on the 35th, 56th, 80th and 103rd day of its pregnancy. Each time about 3,000 Trichinellas have been given. The age of the Trichinellae, which had been raised in mice from a strain originally isolated from pork sausages, was from three to four months.

The sow farrowed a litter of eleven pigs eleven days after the last infection. About two weeks later lactation ceased.

Six of the young pigs have been autopsied and their striated muscles digested during the first three weeks after birth; similarly, the remaining five pigs during the next three weeks. In none of the little pigs could Trichinellas be found. The diaphragm of the sow contained 434 Trichinellae per gram of muscle.

M. HOBMAIER

HOOPER FOUNDATION FOR MEDICAL
RESEARCH AND DIVISION OF VETERINARY
SCIENCE, UNIVERSITY OF CALIFORNIA,
BERKELEY

## THE PROGRESSIVE CONFUSIONAL SYNDROME FOLLOWING INJURIES TO THE CERVICAL PORTION OF THE SPINAL CORD[1]

IN a large proportion of cases of fracture of the cervical vertebrae, mental symptoms of loss of memory, confusion, hallucination and even delirium have been observed. Such symptoms have usually been considered the result of cerebral contusion or concurrent disease, and so of course they may be in many instances. Similar symptoms have been observed, however, in six cases of non-traumatic injury to the spinal cord which are being reported in more detail elsewhere. One of them was a chordotomy for pain, two chordotomies for athetosis, one a pathologic fracture from tuberculosis of the spine, one a spontaneous hematomyelia and one a rapidly progressing sarcoma. All the patients died; in three the circulation appeared to fail before the respiration.

1 From the Neurological Unit, Boston City Hospital, and the Department of Neurology, Harvard Medical School.