

EDWIN G. BAETJER, chairman of the Board of Dun and Bradstreet, Inc., who died on July 20, whose estate is estimated at over \$3,000,000, left \$100,000 to Princeton University; \$50,000 to the Johns Hopkins University, and \$25,000 to the McDonogh Educational Fund and Institute, Inc., of Baltimore.

THE Reynolds Metal Company of Richmond, Va., is planning to establish at a cost of \$1,000,000 a research laboratory for the study of aluminum alloys. The laboratory will be situated on Memorial Drive, Cambridge, Mass.

THE American Society of Heating and Ventilating Engineers, of which Dr. C.-E. A. Winslow, of the School of Medicine of Yale University, is president, has appointed a committee to supervise the raising of a fund for its enlarged program of research at its laboratory in Cleveland and in cooperating institutions. The goal set to meet current research is budgeted at \$110,000 for the next three years.

THE R. R. Rowley collection, one of the finest private fossil collections gathered by one individual, including 200,000 specimens collected over a period of sixty-eight years, now in a private museum, is being acquired by the University of Illinois. Much of the collection comes from Missouri, Iowa, Illinois and Kentucky. All is in excellent condition. Among the 200,000 items are 147 type specimens and numerous others set aside by Rowley as new types, but not described by him before his death.

BECAUSE of transportation restrictions the only ses-

sions of the fifty-ninth convention of the Association of Land-Grant Colleges and Universities to be held in Chicago on October 24 and 25 will be those of the executive body. The Association of Official Agricultural Chemists, Inc., and the Association of American Feed Control Officials, Inc., will not meet this year.

A CONFERENCE on the Control of Tuberculosis in a Metropolitan Area, sponsored by the Institute of Medicine of Chicago, will be held on Tuesday and Wednesday, November 13 and 14, at the Palmer House, Chicago, and will cover phases that are of particular importance at this time to clinicians, specialists, lay workers and teachers, who are cordially invited to attend.

A CONFERENCE sponsored by the Armour Research Foundation of the Illinois Institute of Technology will be held in Chicago from October 1 to 6. Twenty leaders of Mexican industry, government and finance are expected to be in attendance. Visits are planned to industries, colleges and research organizations in the area. There will be panel discussions on research methods and the solution of industrial research problems.

DR. GEORGE M. DECHERD, JR., director of the post-graduate training program of the Medical Branch at Galveston of the University of Texas, announces that a conference on internal medicine will be held at the Medical School from November 1 to 3. Dr. George Fahr, professor of medicine at the University of Minnesota, will be among the guest speakers.

## SPECIAL ARTICLES

### ISOLATION OF AN APPARENTLY NEW VIRUS FROM TWO FATAL PNEUMONIA CASES

DURING the winter of 1944 two viruses were isolated from two fatal cases<sup>1</sup> of pneumonia. One was isolated from each case and they were regarded as different viruses, until studies indicated that they were identical. In this paper they will be described as one virus. This virus resembles some members of the psittacosis group, but it differs sufficiently from any of the previously known viruses so that it is believed to be a hitherto undescribed virus. It has been termed the Illinois virus.

The cases from which it was isolated occurred in Chicago at about the same time. One was a practising physician and the other a student in a dental school. In each instance the clinical picture was essentially the same. The onset was gradual and the predominant

ing signs and symptoms were weakness, malaise, fever and head and chest pains. The two cases differed in that the student showed a fine red rash extending from the neck down to the level of the nipples and he had chills and pain in the joints and back. Pneumonia eventually occurred in both patients. They were admitted to a hospital in Chicago, one about 14 days and the other about 6 days following the onset of illness. They died on the same day, one after 4 days of hospitalization and the other after 9 days.

Epidemiological studies revealed that these cases had indirect contact with each other shortly before the onset of their illnesses. The physician was a staff member of a medical school clinic in which the student had his eyes examined about ten days before he became sick. The examination, however, was not made by the doctor but by his medical assistant. Also the clinic and the dental school were housed in the same building. No evidence of contact with birds or animals could be found in the case of either patient.

From each case the virus was isolated by inocula-

<sup>1</sup> Specimens from these cases and information regarding the clinical and epidemiological findings were provided through the courtesy of the late Dr. Irving S. Cutter and Dr. Opal E. Hepler, of Chicago.

tion of mice by the intranasal route with a suspension of the lung tissues. To confirm the original isolation, it was isolated on three different occasions from each of the original lung specimens which had been stored in dry ice subsequent to the first isolation. Cultural studies were made on these specimens and no significant bacteria could be detected.

Albino Swiss mice were employed in these studies. They were tested periodically to determine if they carried a mouse pneumonitis virus and in no case could the presence of such virus be demonstrated.

The viruses obtained from both patients readily passed through Berkefeld N or W filters. They killed mice when inoculated by the intranasal, intraperitoneal or intracerebral routes. When mice were injected with either virus by the subcutaneous route, about 8 per cent. of them became infected and died, while the others developed immunity against intracerebral inoculation of either virus.

After inoculation of mice by the intranasal route consolidation of the lungs and congestion of the spleen, liver and mesenteric glands were produced. By either the intraperitoneal or subcutaneous method of inoculation congestion of the spleen and liver and in some instances dark red spots of the lungs were caused. Following subcutaneous injection there was also necrosis of the tissues at the point of inoculation. Intracerebral administration caused a severe type of encephalitis. The average survival time after the various routes of inoculation with either virus was as follows: intranasal, 5 days; intracerebral, 5 days; intraperitoneal, 6 days; and subcutaneous, 7 days.

L.C.L. bodies were found in the lung, liver and spleen following the intranasal and intraperitoneal methods of inoculation. After intracerebral injection, they were present in the brain tissue and after subcutaneous in the skin at the point of introduction.

Cross immunity tests were made to determine antigenic relationship of the two viruses. The results indicate that they are immunologically identical.

The above results show that these agents possess identical physical, pathological and immunological characteristics and for this reason they are regarded as the same virus.

The Illinois virus resembles the psittacosis group of viruses in many of its characteristics, and for this reason it was compared immunologically with the Psittacosis 6 BC, Ornithosis 207, S-F 470, and Meningopneumonitis MP-F97 strains of viruses. These viruses were selected for this comparison because their pathogenicity for mice closely simulated that of the Illinois virus. The immunological tests were carried out by immunizing mice by subcutaneous inoculation of living Illinois virus and then testing them for pro-

tection against intracerebral injection of the above viruses. To detect degrees of immunity the virulence of each virus was titrated simultaneously in immunized and normal mice. The results of these tests are shown in Table 1.

TABLE 1  
CROSS IMMUNITY TESTS WITH MICE IMMUNIZED WITH ILLINOIS VIRUS

| Virus dilution   | Challenging viruses—0.03 cc intracerebrally |     |             |     |            |     |      |     |                    |     |
|------------------|---|-----|-------------|-----|------------|-----|------|-----|--------------------|-----|
|                  | Illinois                                    |     | Psittacosis |     | Ornithosis |     | S.F. |     | Meningopneumonitis |     |
|                  | I   | N   | I           | N   | I          | N   | I    | N   | I                  | N   |
| 10 <sup>-1</sup> | 0/8   | 8/8 | 8/8         | 8/8 | 8/8        | 8/8 | 4/8  | 8/8 | 8/8                | 8/8 |
| 10 <sup>-2</sup> | 0/8   | 8/8 | 8/8         | 8/8 | 8/8        | 8/8 | 3/8  | 6/8 | 8/8                | 7/8 |
| 10 <sup>-3</sup> | 0/8   | 8/8 | 8/8         | 8/8 | 4/8        | 5/8 | 1/8  | 4/8 | 7/8                | 8/8 |
| 10 <sup>-4</sup> | 0/8   | 6/8 | 7/8         | 6/8 | 2/8        | 4/8 | 0/8  | 6/8 | 6/8                | 8/8 |
| 10 <sup>-5</sup> | 0/8   | 7/8 | 8/8         | 7/8 | 1/8        | 2/8 | 0/8  | 4/8 | 3/8                | 8/8 |
| 10 <sup>-6</sup> | 0/8   | 4/8 | 2/8         | 3/8 | 0/8        | 0/8 | 0/8  | 4/8 | 3/8                | 4/8 |
| 10 <sup>-7</sup> | 0/8   | 1/8 | 0/8         | 1/8 | 0/8        | 0/8 | 0/8  | 0/8 | 2/8                | 1/8 |
| 10 <sup>-8</sup> | 0/8   | 0/8 | 0/8         | 0/8 |            |     |      |     | 0/8                | 0/8 |

Deaths/mice used.  
I—Immunized mice.  
N—Normal mice.

As demonstrated in Table 1 mice immunized with the Illinois virus did not show any evidence of protection against psittacosis, ornithosis or meningopneumonitis viruses, but they did exhibit some protection against the S-F virus. Only a few of the immunized mice died after injection with dilutions of S-F virus ranging from 10<sup>-1</sup> to 10<sup>-3</sup>; however, most of the survivors developed paralysis of one or more limbs. On the other hand, most of the control animals receiving dilutions from 10<sup>-1</sup> to 10<sup>-6</sup> died, while some of the surviving control mice also developed paralysis of their legs.

These results indicate that the Illinois virus is different from the psittacosis, ornithosis and meningopneumonitis viruses. Although it exhibits some immunological relationships with the S-F virus, it is considered to be different because in addition to their incomplete cross immunity the Illinois virus kills mice with regularity following intraperitoneal inoculation whereas the S-F virus does not.<sup>2</sup>

More complete information regarding the epidemiological, clinical and pathological findings of the cases and the results of further studies on the identification of this virus will be presented in a final report.

JOSEPH ZICHIS

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#### SEX DIFFERENCES IN KIDNEY MORPHOLOGY AND CHLOROFORM NECROSIS

NECROSIS of the convoluted tubules of the kidneys has been found to occur in male mice but not in

<sup>2</sup> M. D. Beck, M. D. Eaton and R. O'Donnell, *Jour. Exp. Med.*, 79: 65, 1944.