vincing (*10, 11*). In the vast majority of ABO incompatible matings, the pregnancies go to term, and the infants, with occasional and rather unpredictable exceptions, do not suffer the effects of hemolytic disease.

Possibly anti-Tj^a may be considered as a naturally occurring antibody, as indicated by its presence in the serums of three male individuals who were never transfused. On the other hand, anti-Tj^a which was not found in case 2 in 1951 was demonstrable 2 yr later. If there is a direct relationship of anti-Tj^a and miscarriages, then one must conclude that the antibody was also not present during her childbearing age, when she had seven full-term infants, and the same considerations apply to her older sibling, who had four normal children. There is, however, no evidence to support the assumption that a form of anti-Tj^a exists which fails to penetrate the placental barrier.

The pregnancy wastage of 18 consecutive fetuses suggests a lethal effect specific for the heterozygote Tj^aTj^b, but exceptions must occur because it is the double heterozygous mating that is the most likely source for the rare genotype Tj^bTj^b, and this indeed is established for at least two of the families, III and V (Table 1). With a very low frequency for gene Tj^b, the chances are that also in the remaining five families the parents are both heterozygotes. Assuming a frequency of 0.1 percent for gene Tj^b, the ratio of Tj^aTj^b/Tj^bTj^b is 1998 : 1.

In any event, the data presented indicate that a very rare antibody, specific for a blood factor present in almost all bloods, may be responsible for habitual abortion in certain patients. Such a mechanism, however, can hardly explain the vast majority of early pregnancy wastage, unless future studies reveal the presence of antibodies not detectable by methods currently employed.

The concomitant presence of anti-Tj^a with the red cell structure of genotype Tj^bTj^b, in the absence of obvious antigenic stimuli, provides an analogy to the Landsteiner rule governing the distribution of anti-A and anti-B in the scheme of the four blood groups. The same pattern is followed by the regular occurrence of a presumably physiologic antibody, anti-H, determined by the antigen structure *OcOc,* as recently described by Bhende *et al.* (*8*); and indeed, this antigen-antibody relationship is considered to be an integral part of the ABO (H) system. With regard to the apparent exception in case 2, it may be mentioned that examples of group A with complete or almost complete absence of anti-B have been observed (*12*). In the light of these facts, the failure in 1951 to demonstrate anti-Tj^a in case 2 may be more apparent than real, because exhaustive studies were not made to exclude the presence of the antibody in low titer and perhaps active only at lower temperature (18°C).

The sex distribution of anti-Tj^a, ten females to three males, does not indicate a sex relationship, because the 13 examples were not found in study of a random sample. A history of 17 miscarriages in four patients (4, 4, 3, and 6, respectively) suggested blood studies that led to the detection of anti-Tj^a in their serums and, incidentally, also in the serums of the three male sibs.

References and Notes

1. P. Levine *et al., Soc. Exptl. Biol. Med.* **77**, 403 (1951).
2. A. Zoutendyk and P. Levine, *Am. J. Clin. Pathol.* **22**, 630 (1952).
3. R. J. Walsh and O. Kooptzoff, *Australian J. Exptl. Biol. Med. Sci.*, in press.
4. L. Hirszfeld and M. Grabowska, *Experientia* **8**, 355 (1952).
5. P. Levine *et al.*, in preparation.
6. I. Davidsohn and A. King, oral communication.
7. S. Iseki, S. Masaki, and P. Levine, *Nature* **173**, 1193 (1954).
8. Y. M. Bhende *et al., Lancet* **1**, 903 (1952).
9. In a written communication to us, H. M. Bhatia of Bhende's group refers to a fourth example of anti-H.
10. P. Levine, *J. Heredity* **34**, 71 (1943).
11. J. A. H. Waterhouse and L. Hogben, *Brit. J. Social Med.* **1**, 1 (1947).
12. K. Landsteiner and P. Levine, *J. Immunol.* **17**, 1 (1929).

Fred E. Wright: 1878-1953

FREDERICK EUGENE WRIGHT, for many years a petrologist on the staff of the Geophysical Laboratory of the Carnegie Institution of Washington, died on 25 August, 1953 at his summer home on Sagastaweka Island in the Thousand Islands. He was recognized as a pioneer in the development and application of optical methods for the identification of minerals, especially fine-grained ones such as are found in synthetic preparations. He was born at Marquette, Michigan, in 1878, and received his early education in that vicinity. He then went to the University of Heidelberg in Germany and in 1900 was granted the degree of doctor of philosophy. After serving successively as instructor in petrology at the Michigan College of Mines (1901–04), as assistant state petrologist of Michigan (1903–04), and as state petrologist (1904–05), he came, in 1906, to the U.S. Geological Survey in Washington. About the same time he became associated with the Geophysical Laboratory and, after a few years, relinquished his formal connection with the Geological Survey.

The results of his researches in crystallography, experimental petrology, and related subjects are embodied in about 150 scientific papers. His book entitled *The Methods of Petrographic-Microscopic Research* (Carnegie Institution of Washington, 1911), now long out of print, had a powerful influence in stimulating interest in petrology and petrography by demonstrating the accuracy and practicability of quantitative measurements with the microscope of the optical properties of crystals even as small as 0.01 millimeters on a side.

Dr. Wright is also internationally known for his systematic studies of the surface of the moon, especially by measuring the percentage of polarization of light reflected from various regions of the moon's surface. These studies were undertaken at Mount Wilson Observatory, where he spent several summers as a guest worker. His investigations supplied definite information concerning the nature of the materials on the moon. By the use of various methods, including a special polarization eyepiece for determining the amount of plane polarization at different points on the moon's surface and a photoelectric cell for the measurement of the amount of plane polarization and of the relative spectral intensities of the rays, he showed that the lunar surface materials are predominantly light-colored rocks. Furthermore, from thermal measurements in addition to the optical measurements, he showed that the surface materials are of the nature of volcanic ash and pumice with a high silica content.

He had an active and productive life, occupying many posts of high responsibility and accepting many important scientific assignments. During World War I he took an active part in the development of methods for the production of optical glass for which there was then a critical need for use in military devices, such as range finders, gun sights, and periscopes. His activities in this connection were carried out while he was serving as an officer in the Ordnance Department of the Army. In World War II he served as civilian adviser to the Joint Optics Committee of the Army and Navy Munitions Board. He was president of the Optical Society of America (1917–19), of the Mineralogical Society of America (1941), and of the Geological Society of Washington (1924); vice president of the Geological Society of America (1941) and of the National Academy of Sciences (1927–31); and for 20 years was the Academy's Home Secretary.

In addition to the afore-mentioned memberships in societies, Dr. Wright was a Fellow of the American Association for the Advancement of Science and a Foreign Fellow of the Geological Society of London. He was also a member of the American Philosophical Society, the Astronomical Society of America, the American Physical Society, the American Academy of Arts and Sciences, the Physical Society of London, the Washington Academy of Sciences, the American Institute of Mining and Metallurgical Engineers, the Army Ordnance Association, the American Geophysical Union, and the Philosophical Society of Washington. He was a member of the Cosmos Club for nearly 50 years.

His efforts and accomplishments won him many honors. Among these were the granting of an honorary science degree by the University of Michigan in 1940, the award by the U.S. Army in 1945 of the Gold Medal for Exceptional Civilian Service, and the award by the Mineralogical Society of America in 1952 of the Roebling Medal.

LEASON H. ADAMS

Carnegie Institution of Washington,
Washington, D.C.

James Somerville McLester: 1877–1954

JAMES S. McLESTER, of Birmingham, Alabama, died 8 February, 1954, aged 78 years. He will long be remembered by his many patients, his students, and his colleagues for unusual integrity and kindness. The warm affection of former residents of the Hillman Hospital recently was expressed by their joining together in having his portrait painted for the University of Alabama. Those residing in Birmingham organized a "McLester's Residents Club" and members of this club were the pallbearers at his funeral. The esteem of colleagues appears from his membership in many of the leading national societies as well as by his election in 1934 to the presidency of the American Medical Association.

McLester was one of several physicians who, having studied in the laboratories and clinics of Germany, in the days of their preeminence, before World War I, pioneered in introducing scientific procedure into the practice of medicine in America. This was lagging in those times, especially in the cities of the South and West. Some of these physicians, like McLester, were the giants of their localities—big in public spirit and character as well as in scientific background, such men as Frank Billings of Chicago and Arthur Dunn of Omaha.

McLester's German training was in Göttingen and Freiburg in 1901–02 and in Berlin and Munich in 1907–08. He wrote few strictly scientific papers, but this German training was responsible for his subsequent insistence on rigid evaluation of clinical observations as well as for the early emphasis he placed on laboratory aids in diagnosis. He had been taught the Wassermann reaction by Wassermann himself, and a serologic test for syphilis had later been performed, he used to say, on every patient he had seen. The x-ray machine in his office was the second to be installed in Birmingham, and his electrocardiograph and apparatus for determining the basal metabolic rate were perhaps the first of these in use in Alabama. His Oxford monograph, *The Diagnosis and Treatment of Disorders of Metabolism,* appeared in 1935.

Teaching was a lively interest. He was instrumental in establishing at Birmingham a 4-year medical cur-