projected against the dark side; but a meteorite impact on the moon itself would certainly appear, if at all, as a momentary pinpoint of light. I think that Mr. Giddings had the rare fortune to see several meteor trails projected against the dark side of the young moon, and that such is the simple explanation of this phenomenon. It seems strange indeed that such an unusual observation should have been "courteously discounted" apparently without any thought whatever being given to the matter, and *Science* is to be congratulated in calling attention to these observations.

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Whole-Blood Cholinesterase Determinations in Some Hematologic Dyscrasias; Low Cholinesterase Values in the Leucoses

The asthenia and extreme pallor attending the acute malignant leucoblastoses (leucoses) are considered to be, as in the comparable case of shock (*O. St. med. J.*, 1943, 39, 907; 1944, 40, 130; 1945, 41, 1107), manifestations of profound cholinergic intoxication. Death is the culmination of this intoxication, which operates to produce an irreversible shock state characterized by the atopic-exudative syndrome of thrombocytopenic purpura. The last phase is usually not accounted for on the basis of myelophthisis or leucoblastic infiltration.

Whole-blood cholinesterase determinations have been made in 14 leukemic patients from military hospitals to determine a possible basis for the cholinergic state. The series included five cases of acute and two of subacute myeloblastosis, one of acute monoblastosis, one of acute lymphoblastosis, four of chronic leukemic myeloblastosis, and one of chronic lymphatic leukemia. The blood cholinesterase values in leucoses were compared with those obtained in 18 patients with nonleukemic hematologic conditions, the latter series incorporating three instances of macrocytic and three of hypochromic anemia, three of polycythemia vera, one of eosinophilia of undetermined origin, one of idiopathic hypoprothrombinemia, and seven of benign systemic lymphosis (infectious mononucleosis).

In 13 of the 14 cases of malignant leucoblastosis, the blood cholinesterase was lowered to a degree proportional to the acuity and clinical severity. The exceptional case was that of stationary chronic lymphatic leukemia.

In the nonleucotic series all cholinesterase values, with four exceptions, were within normal range. In the macrocytic anemias the values were low, confirming the observations of Sabine (*J. clin. Invest.*, 1940, 19, 833). In one case of polycythemia it was elevated.

In neither series did the blood cholinesterase values parallel the erythrocyte or leucocyte counts or the hemoglobin concentrations. A confirmation of the independent variability of these factors was obtained experimentally in one case. By massive infusion of human plasma as a source of cholinesterase, the level of the latter in the blood of a patient with subacute myelogenous leukemia was raised to normal value. During the period when the rise was extant there was abatement of the pallor and the prostration, but erythrocyte and leucocyte counts remained stationary, rising only after discontinuance of plasma administration when the cholinesterase content of the blood began to fall to its preadministration level.

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A Simply Constructed Biophotometer

Through the efforts of the U. S. Government and the American Red Cross, food and medical supplies were transported to prisoners of war and civilian internees in Japan. At our camp in Zentsuji, Shikoku Island, Japan, a limited number of supplies were received, including vitamin concentrates of all types. The diet at this camp, as in the majority of the Japanese POW camps, was inadequate in all respects, and many officer prisoners of war were showing symptoms of various nutritional deficiency diseases. Among these were complaints of night blindness, beriberi, etc. In order to distribute equitably the limited quantity of vitamin supplements to those who needed them most, a biophotometer for measuring minimal visible light was constructed by use of apple crates for framing, and cardboard from the Red Cross parcels for the sides.

The instrument was so constructed that a panel could be put between a light source in the bottom of the instrument and the patient's eye at the other end. In various positions in the panel were letters "E," cut out of the cardboard panel. The first "E" was covered with 1 sheet of tissue paper, the second with 2 sheets, and so on until the twelfth "E" was covered with 12 sheets. Thus, the amount of light from the bulb reaching the patient's eye was graded. Across the other end, through which the patient looked at the panel, were stretched varying numbers of pieces (1 to 8) of blue cellophane.

The 8 sheets of cellophane were placed over the eyepiece, and the number of "E's" that the patient could see was recorded. Then a sheet was removed and the number of "E's" recorded, this number obviously being either the same as with the 8 sheets, or more. This procedure was repeated until the patient could see all "E's."

By performing this test on a number of seemingly normal individuals who were receiving, in addition, vitamin supplements, a normal curve could be obtained by plotting the numbers of letters seen, *i.e.* the minimal visible light, vs. the number of colored cellophane slides. It was found that the total numbers of letters that could be seen by the normals averaged about 97 over the 8 slides (mildly deficient cases of avitaminosis A, about 75 to 90; badly deficient cases, less than 75).

The curves recorded as described above are very similar to those reported in the literature and indicate that such a simple instrument was reliable and could well be used in a clinic with a very small construction cost.

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