isolation of pure cultures from the soils for experimental works which the writer is planning to carry out in the near future.

The soil samples, including as many as fifteen or more types, were collected under more or less sterile conditions from various parts of the province, particularly the northwestern section. They are composite samples taken from the soils at a depth of about 20 to 30 cm below the surface.

The presence of Azotobacter in the soils was determined by using mannitol, dextrin or other simple carbohydrates in liquid media, and the results so obtained were checked by using either the nitrogen-free nutrient agar medium of Martin, Walker and Brown[3] or soil plaque methods of Winogradsky.[4] As a rule, two or three independent determinations were made for each sample.

Of all the 127 soil samples collected and determined, 102 or 78.2 per cent. contained Azotobacter. This finding is not surprising in view of the fact that in other countries over 50 per cent. of the soils containing Azotobacter is not uncommon, as reported by various workers, and furthermore, the soils of Szechuen Province are well known to be very fertile.

Isolation of the pure cultures was carried out during the progress of the survey. The media used were nitrogen-free agar media of various kinds. Repeated purifications were made by using congo red nitrogen-free agar medium of Bryan.[5] This medium proves to be very useful in purification especially in separating Azotobacter from their most common contaminants, Radiobacter.

The strains isolated from this survey are mostly *Azotobacter chroococcum* although a few of them are not yet definitely identified.

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PRODUCTION OF SYMPTOMS BY SUBCUTANEOUS INJECTION OF HISTAMINE WITHOUT INCREASE OF THE BLOOD HISTAMINE[1]

HISTAMINE has been used to produce experimental shock by many investigators, and at one time it was thought to be one of the toxic factors responsible for the production of shock following trauma. Since it was impossible to detect histamine in the circulating blood under these conditions, this substance was rejected as a possible cause by many workers. It was stated that when symptoms of shock were produced by the injection of histamine, large amounts of this substance were present in the circulating blood and therefore easily detectable.[2]

In order to note the changes in the blood histamine following the production of symptoms by the subcutaneous injection of this substance, the following procedure has been carried out in ten patients. A control blood is taken, blood-pressure and pulse being noted. One mgm of histamine diphosphate is then injected subcutaneously and the blood histamine determined, at 5, 15, 30 minutes and one hour, blood-pressure and pulse being recorded at the same time. In each instance symptoms of histamine intoxication were noted, such as an increase in pulse, decrease in blood-pressure, flushing of the face and the onset of headache. In no case, however, was an increase of blood histamine observed, even at the height of the symptoms. It was also noted that the particular allergic symptoms were reproduced if the patient on whom the test was being carried out was an allergic individual. The relationship of blood histamine to allergy is being reported elsewhere.[3]

In the light of these findings, therefore, it appears that histamine intoxication may occur without an increase in the peripheral blood histamine. Failure to demonstrate an increase in the peripheral blood histamine does not exclude the possibility that this substance may be responsible for the symptoms of shock.

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AGASSIZ AND LIEBIG

THE year 1940 should not be allowed to pass without noting that it marks the centenary of the publication of two papers whose contents have profoundly influenced the history of agronomy and of its offspring, soil science. These papers were "Etudes sur les glaciers," in two volumes, by the Swiss naturalist Louis Agassiz, and "Die Chemie in ihrer Anwendung auf Agriculture und Physiologie" by the German chemist Justus von Liebig.

Born within a few hundred miles of each other, the lives of these scientists were contemporaneous and almost conterminous. Agassiz, by his glacial hypothesis, solved the riddle of the origin of the surficial deposits of a large portion of the northern hemisphere. Liebig, with his mineral theory of plant nutrition, gave the world the scientific basis for the use of mineral fertilizers. Both men greatly stimulated research in their respective fields. Agassiz traveled in America, and liked the United States so well that he accepted the offer of a professorship in Harvard University and settled in this country.

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[3] Martin, Walker and Brown, *Research Bull.* 217, Iowa Agr. Exp. Sta., 1937.
[4] S. Winogradsky, *Ann. Inst. Pat.*, 40: 455–520, 1926.
[5] C. S. Bryan, *Soil Science*, 45: 1938.
[1] Aided by a grant from the Banting Research Foundation.

[2] C. A. Dragstedt and F. B. Mead, *Jour. Am. Med. Asn.*, 108: 95, 1937.
[3] *Journal Allergy* (in press).