zerland, a country where thyroid pathology constitutes a national problem.

In a preliminary field experiment Hunziker determined (1916) that application of a small amount of iodide of potassium to the soil did not affect the yield of grass unfavorably.

During the following 3 years (1917 to 1919 inclusive) iodide of potassium was added to the fertilizer used for the garden from which Dr. Hunziker's family was supplied with such vegetables as spinach, rhubarb, cabbage, lettuce, beans, etc. (In 1918 the amount of KI applied to the soil was 17 grams to 1,200 square-meters; in 1919 about 20 grams to the same area.) The iodized vegetables were served to his 5 children (2 boys, 3 girls) ranging in age, at the beginning of the experiment, from 3 to 8 years.

As a control 5 children (2 boys, 3 girls, from 7 to 12 years old) from another family were supplied with vegetables raised on soil which was not iodized.

Hunziker's graphs of the measurements of the circumference of the neck in the thyroid region show plainly the influence of the iodized vegetables on the growth of the thyroid gland. (For the exact mode of the measurements and for the construction of the graph I refer the reader to Hunziker's publication.[2])

The effect of the iodine deficiency of the food was so decided that in July, 1919, after the experiment had lasted 2½ years, the oldest girl of the non-iodized food-group asked that she be treated for a rapidly enlarging struma.

Hunziker's results are corroborated by the findings of von Fellenberg,[3] in Switzerland, and of McClendon and Hathaway,[4] in the United States. According to these authors the development of goiter may be prevented in goitrous zones by administering food-plants raised in goiter-free regions.

Hunziker did not determine the amount of iodine in his vegetables which prevented goiter formation in his children, but McClendon and Hathaway state that 1 part of sodium iodide in 100,000,000 parts of water suffices for this purpose.

It is of historic interest in this connection that in 1850 a commission appointed by the Academy of Science in Paris refused to concur in A. Chatin's[5] conclusion that deficiency of 1/400 milligram of iodine *pro die* might result in goiter development.

I would like to add that Dr. Hunziker carries on his investigations of the goiter problem, while engaged in an active and arduous medical practise in a small country town. Fifteen publications dealing with various aspects of the problem attest his zeal.

[3] von Fellenberg, *Biochem. Ztschr.*, 142: 246, 1923.

[4] McClendon and Hathaway, *Jour. Am. Med. Assn.*, 82: 1668, 1924.

[5] A. Chatin, *Compt. rend. Academ. d. Sciences*, 30: 82, 1850.

Being on the subject of iodized alimentation (under which heading I include the ingestion of the condiment, iodized salt) I take occasion to mention an observation gathered in the field of my specialistic medical endeavor, that is to say, dermatology. I refer to the phenomenon that, due to an existing idiosyncrasy or a developing sensitization (allergy?), the administration of even such minute quantities of iodine as are needed for goiter prophylaxis may be followed, in certain individuals, by a follicular eruption of pustular character. Etiologically, these cutaneous lesions must be differentiated from the juvenile form of acne, which they resemble. Iodide acne seems to occur more frequently since our drinking water is chlorinated, a circumstance which is not surprising, as all the halogens act as follicular irritants ("poisons des follicules," according to Thibierge).

KARL G. ZWICK

CINCINNATI, OHIO

A BACTERIAL GALL DISEASE OF THE DOUGLAS FIR

A GALL disease of the twigs and stems of the Douglas Fir (*Pseudotsuga taxifolia* Doug.) has been observed quite commonly in parts of Napa, Lake, Santa Cruz, Amador and Siskiyou Counties in California, in marginal localities for the growth of this tree. Infection apparently takes place only on younger trees (about 3 to 15 years old), more abundantly in stands of thrifty, crowded and shaded reproduction. Galls once started on the main stem may continue to live and increase in size for many years. Young trees are sometimes killed by the disease or may have dead tops (spike top) due to girdling by a gall.

The galls are globular in shape, varying in size from a pin head to several inches in diameter, with a rough, spongy, fissured surface breaking out in typical, more or less cross-shaped patterns. The gall is composed of hypertrophied tissues, involving both stele and cortex, and is very similar in structure to the olive tree galls produced by the bacterial pathogene *Bacterium savastanoi* E. F. S.

The causal organism occurs in and among the hypertrophied gall cells and is very easily isolated in pure cultures. It is a non-motile rod averaging $1.9–3.9 \times 0.5–1.5\ \mu$, frequently occurring in pairs. The colony is white with a metallic sheen, rather smooth surface and undulate margin.

Inoculation of the twigs of Douglas Fir trees with this organism gave rise to typical galls from which the organism was again isolated.

H. N. HANSEN

RALPH E. SMITH

UNIVERSITY OF CALIFORNIA, BERKELEY