written. Wrench was sufficiently sane that the British Government early in 1939 heavily subsidized his work and that of his colleagues, directed toward revolutionary methods of farming. The war has interrupted but has not ended the valuable work to which Wrench and others in England have devoted themselves. The book itself, while very much in line with recent trends in American scientific agriculture, was chiefly a record of the health experience of the Hunza people over a long period of time, and it was supported by McCarrison who previously had noticed the unique health of this people who differed from their neighbors only in the matter of diet. Briefly, the Hunzas have no illness of any kind, and their old men of 70 play polo and retain the characteristics of youth. ". . . it is proved fairly conclusively that this happy state of unique physical fitness is to be attributed solely to their diet. The latter is low in meat, but rich in dairy products, whole grain cereals, germinating seeds, fresh vegetables, abundance of freshly picked fruit and freshly fermented wine . . . This diet, it will be seen, is high in protective substances, and resembles the ideal diet of McCollum and Simmonds, although the latter did not contain wine. The limitation of varieties at any one meal is rather a new conception save for the teaching of certain American food faddists, which have not received the sanction of the profession. This all sounds like a simple prescription, in view of the fact that the people who eat it, and because they eat it, fail to furnish any of the exhaustive catalogue of diseases which adorn the repertoire of the European and American practitioner. Not even appendicitis? No, not even a single spastic colon, and no concession to the Western luxury of allergy. What a benighted race indeed! But as Dr. Wrench quickly points out, it is not quite so simple as it appears. As usual there is a catch in it. Just as the reader has seized a pen to make a list of the Hunza diet (which might be used on himself if not his patients and procure for him a prolongation of his mortal itineracy) a difficulty looms up. These fruits, vegetables, cereals and germinating seeds are intangibly different from ours because they are the products of mountain terrace farming and each edible product today has a history through its seeds—a history in Hunza of the most expert agricultural tradition, in which soil fertilization is attained by the special use of special composts. It is almost inferred that the plain love of agriculture is not unconnected with the brilliant food results long attained in this mountain nation" (2).

The book suggested that any group of people who could raise crops of this kind over a period of time would gradually gain in health and perhaps like the Hunzas be without disease. Of course faith is not enough. The entire subject must be painstakingly investigated. From the data which Wrench presents, his conclusion is justifiable. The Hunza diet is the one factor which differentiates this people from neighboring nations — neighbors who unfortunately are as prone to disease as we are. This fact has been verified by McCarrison clinically and through animal experiments, using the Hunza diet on one group of animals and the diets of the neighboring nations on the control animals. This group fed the Hunza diet remained free of disease, whereas the others had all the diseases to which the animals were subject.

Psychosomatic medicine gradually is impressing the apparent truth that man is a unity, incapable of intelligent dissection into body and mind. Morale and stamina are characteristics of individuals who enjoy proper teaching and proper physical food. Whether the Hunza formula is the final answer to the nutritional problem or not, does not matter. At present it must appear to American nutritionists however that we as a people can reap ideal nutrition only through a new idealism in agriculture, embracing the large idea of raising crops on the basis of their nutritive content and not their gross weight. As everyone is aware, farmers cannot be expected at once to take up such a task. Pedigreed seed and ideal grains and vegetables are something that lie in the distant future. Even if it were proved beyond doubt that Wrench is correct in his magnificent assumption and that perfect health awaited only the inculcation and practice of perfect eating, there are a thousand vested interests ready to militate against so radical a conception.

But when a new and potentially big idea based on the general good manages to become clearly defined, there will always be found men of courage who will risk misunderstanding and ostracism to push it over. There will also be found men of a different strain who will use it for racketeering purposes. Today American agricultural scientists and American nutritionists both see the tremendous issues at stake. However, progress must be slow. Anyone who wishes can make the experiment, within limits, in his own back yard. Everyone can at least understand that our national morale, once the war is won, will require buttressing. Renewed efforts to attain perfect nutrition do not represent the sole need of America, but they represent a *sina qua non* in the process of postwar remodeling. The path appears to be through the educational work of agricultural scientists.

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REFERENCES

1. The Wheel of Health: A study of a very healthy people. By G. T. Wrench, M.D. (Lond.). C. W. Daniel Company, Ltd., 40 Great Russell Street, W. C. 1, London, England. 6 shillings ($1.50 plus 12 cents postage).
2. Book Review. *Am. J. Dig. Dis.*, Vol. 5, No. 11, p. 755, Jan., 1939.

ERROR

In the article "Digestion and the Nervous System" which appeared in the June issue of this Journal, the author, J. Earl Thomas, M.D., wishes to make a correction. On page 202, first column, 15th line, it reads: "Carlson verified these results and showed that excitatory responses were obtained most frequently when the muscle was in a state of contraction or possessed

a high degree of tonus, whereas inhibitory effects were observed when the muscle initially was relaxed." This should read: "Carlson verified these results and showed that *inhibitory* responses were obtained most frequently when the muscle was in a state of contraction or possessed a high degree of tonus, whereas *excitatory* effects were observed when the muscle initially was relaxed."

Abstracts of Current Literature

CLINICAL MEDICINE

MOUTH AND ESOPHAGUS

ROBSON, L. C.: *Perforated Oesophagus Following Burns. Brit. Med. J., p. 414, April 3, 1943.*

This is a case report of a woman, age 29, who suffered extensive 2nd and 3rd degree burns. After transfusion with two pints of blood and treatment of the burned areas with 15 per cent tannic acid the patient seemed improved. However, severe pain between the shoulder blades developed which required morphine. The patient died on the 4th day. Autopsy revealed no evidence of a corrosive poison having been swallowed. About two inches above the cardiac opening there was an erosion, ¼ inch in diameter, perforating the posterior surface of the esophagus. The surrounding tissue was partially digested. The stomach showed twenty small erosions and the duodenum three. The liver was enlarged and showed fatty changes. The lungs were congested.—M. H. F. Friedman.

STOMACH

MANGALIK, V. S., GOEL, M. P. AND MANGALIK, H.: *Studies in Gastric Acidity in Indians with Alcohol Test-meal. Indian J. Med. Res., Vol. 30, p. 351, 1942.*

Fractional gastric analysis with alcohol as test-meal was performed on 121 persons. In 29 cases, alcohol and gruel test-meals were used on the same individuals on different occasions. Alcohol was equally good or perhaps better. Absence of an initial fall of acidity was noticed with the alcohol test-meal. Secretion response in Indians of these provinces showed higher initial and maximum acidity. No significant difference was found in gastric response of Hindus, Muslims, vegeterians and non-vegetarians. Hyperchlorhydria was more common in winter. Incidence of achlorhydria and gastric acidity was studied in various types of anemias and in gastro-intestinal lesions. Use of histamine in cases of apparent achlorhydria is stressed, specially as this is the only reliable method of distinguishing true Addisonian pernicious anemia from tropical macrocytic anemia.—Courtesy Biological Abstracts.

MAHER, M. M., ZINNINGER, M. M., SCHIFF, L. AND SHAPIRO, N.: *Some Observations on Gastritis and Peptic Ulcer. Am. J. Med. Sci., Vol. 205, p. 328, March, 1943.*

The authors, utilizing the criteria set forth by Schindler, examined 28 patients with peptic ulcers gastroscopically within one month of surgical resection or post-mortem and compared their gastroscopic findings with the histologic picture noted in these cases. Twelve additional cases were studied histologically.

They found that twelve cases had normal mucosa when viewed gastroscopically, 5 showed hypertrophic gastritis, 10 had superficial gastritis, and one had superficial and hypertrophic gastritis. On microscopic examination of the 12 diagnosed as normal 8 showed atrophic gastritis, 4 atrophic gastritis and hyperplasia. Of the five diagnosed gastroscopically as hypertrophic gastritis 2 showed atrophic gastritis and 3 atrophic gastritis and hyperplasia. Of the 10 cases called superficial gastritis 3 showed normal mucosa, 3 had atrophic gastritis, and 4 atrophic gastritis and hyperplasia. The one case diagnosed superficial and hypertrophic gastritis microscopically showed an atrophic gastritis.

This report further emphasizes the fact that the pathologist and gastroscopist are apparently using the same or similar terms for widely varying conditions. Also the diagnosis of peptic ulcer apparently carries with it in a large percentage of the cases a diagnosis of gastritis if the microscopist is to be relied upon.—I. J. Pincus.

BOWEL

MARTIN, LAY: *Studies on Motility of Terminal Small Intestine and Some Conditions Causing Delayed Emptying. Bull. Johns Hopkins Hosp., Vol. 72, p. 119, Feb., 1943.*

Roentgenographic studies on the small intestine were made on 153 patients. Of these, 120 presented gastro-intestinal symptoms. The patients were divided into 3 groups:

1. Barium retained in terminal ileum at least 14 hours. None had undergone previous appendectomy. 65 cases. A large number gave no history or findings of disease of appendix or cecum or terminal ileum.
2. Barium retained in terminal ileum at least 14 hours but these patients all had previous appendectomy. 35 cases. Of these, 15 presented no evidence of lower right quadrant adhesions or inflammation of the ileum.
3. Small intestine free of barium within 14 hours.