Transfer is also simplified: a bent glass rod dipped into the culture picks up patches from the surface which, because of the surface tension, immediately disperse over the surface of the inoculated fluid. A blend of equal parts of Difco nutrient broth, tryptose-phosphate broth, and brain-heart broth with 5 per cent glycerin was used as a culture medium.

In providing a standard suspension, a week-old culture is revolved a week. By such a schedule, 10,000,000–100,000,000 singled organisms per cubic centimeter are obtained in the filtrate. A steady biological state can thus be maintained for *in vitro* and *in vivo* experiments.

Reference

1. WELLS, W. F., and WELLS, M. W. *J. Amer. med. Ass.*, 1936, **107**, 1698–1703; 1805–1809.

Letters to the Editor

Comparative Digestibilities of Plastic Shortenings Made From Lard and From Hydrogenated Vegetable Oils

One of the most common popular beliefs which are stated as fact is that lard and other pork fats are less digestible than fats from other sources, such as beef fat, hydrogenated vegetable oils, etc. This misconception has persisted despite a tremendous amount of scientifically controlled experimental observations to the contrary. The most comprehensive studies, reported in Technical Bulletins from the Animal Nutrition Division of the U. S. Department of Agriculture (see R. Hoagland and G. G. Snider, *Tech. Bull. 821*), have shown that lard is significantly more digestible than either vegetable shortenings or blended vegetable and animal shortenings.

In the past two years a new type of shortening has been introduced which is made entirely of lard plasticized by the addition of hydrogenated lard and then deodorized to an entirely bland product, as is done in the case of vegetable shortenings. To prevent any suspicion that this bland lard shortening might be less digestible than a comparable all-vegetable shortening, the following feeding experiment was conducted.

The basic diet contained crude casein (18 per cent), dextrose (56 per cent), salt mixture (7 per cent), liver extract concentrate (3 per cent), brewers' yeast (1 per cent) and shortening (15 per cent). A control experiment using the above proportion of components without the shortening was run to determine the basal excretion of fat by the experimental animals.

Four groups of five albino male rats were started, two groups receiving the bland lard as the shortening portion and the other two groups receiving a well-known, all-vegetable shortening purchased at a retail store for this purpose. After a three-day orientation period on the experimental diets, all feces were collected and food consumption measured for seven days. The two groups receiving the bland lard diet were then changed over to the vegetable shortening diet and vice versa. Again there was a two-day transition period followed by a seven-day experimental period. Thus, each of the four groups was maintained for seven days on each of the two shortenings.

TABLE 1

FAT INGESTION AND EXCRETION OF RATS ON DIETS CONTAINING PLASTIC SHORTENINGS MADE FROM LARD AND FROM ALL-HYDROGENATED VEGETABLE OILS

Animal group	A		B		C		D		All animals	
Shortening type	*Lard*	*Veg.*	*Lard*	*Veg.*	*Lard*	*Veg.*	*Lard*	*Veg.*	*Lard*	*Veg.*
Food consumption (grams)	444	494	480	484	493	472	430	431	1847	1881
Wt. fat in food (grams)	66.6	74.0	72.0	72.6	74.0	70.8	64.5	64.7	277.1	282.1
Wt. acidic extract (grams)	4.9	8.1	6.6	5.7	6.6	4.6	5.2	6.8	23.3	25.2
Corrected for low fat diet	3.7	6.9	5.4	4.5	5.4	3.4	4.0	5.6	18.5	20.4
X 1.045	3.9	7.2	5.6	4.7	5.6	3.5	4.2	5.8	19.3	21.3
Total fat undigested (%)	5.9	9.7	7.8	6.5	7.6	4.9	6.5	9.0	7.0	7.6
Digestibility (%)	94.1	90.3	92.2	93.5	92.4	95.1	93.5	91.0	93.0	92.4

The collected feces were crushed, saponified in methanol, acidified with 35 per cent H_2SO_4, and then extracted thoroughly with ether according to methods previously reported (see Hoagland and Snider; also K. F. Mattil and J. W. Higgins. *J. Nutrition*, 1945, 29, 255–260). The extracts were washed with water, dried, freed of solvent, and then dried to constant weight. From the weight of the acidic residue obtained in each case was subtracted the corresponding amount of lipid obtained in the feces on the low fat diet. The difference was multiplied by the factor 1.045 to convert to glyceride weight. The digestibility coefficients were determined from the calculated weight of excreted glyceride and the total amount of experimental fat ingested (Table 1).

Examination of the literature indicates that two fats which are equally digested by rats will also be equally digested by humans. (This point will be elaborated further in a forthcoming review on the subject.) From

the data in Table 1 it is evident that the new plastic all-lard shortening and the well-known, all-hydrogenated vegetable shortening are equally digestible when fed to white rats. Therefore, they should be equally digestible in humans. The lard shortening has the added advantage that, due to the fact that the major portion is not hydrogenated, there has been no appreciable destruction of the naturally occurring, essential, unsaturated fatty acids. Thus it is evident that, although the lard-type shortening is probably nutritionally superior on the overall basis, both types of shortening are highly digestible and nutritious.

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The Fireland Tribes of Chile

A Chilean Scientific Mission for the Study of the Fireland Tribes has recently finished field work begun in late January. The Mission was sponsored by the Universidad de Chile, the Dirección General de Informaciones y Cultura, the Museo Nacional de Historia Natural, and the Dirección General de Sanidad. The members of the Mission were: Gen. Ramón Cañas Montalva, geographical adviser; Alejandro Lipschutz, director of the Department of Experimental Medicine, chief of the Mission; Com. Lt. Col. Gustavo Luco, liaison officer of the Armed Forces and the Dirección General de Informaciones y Cultura; Grete Mostny, chief of the Department of Archaeology and Ethnography of the National Museum of Natural History; Juan Damiánovic, chief of the Health Service of the province of Magallanes; Fidel Jeldes, technician of anthropology of the Institute of Criminology of Chile; Hans Helfritz, cameraman of the Dirección General de Informaciones y Cultura; and Antonio Santiana, from the University of Quito, guest of Prof. Lipschutz. Louis Robin, member of the French Mission sent recently to Chile by the Musée de l'Homme, also took part in the work of the Mission. Mrs. Lipschutz accompanied the Mission. Work was greatly helped by the Armed Forces of Chile and especially by the Air Force. Mobilization was mostly by air. The members of the Mission flew over the Cordillera de Darwin to a clearing near the Bay of Yendegaia, where field work was begun. From there the Mission continued on the Argentine Navy patrol boat, "Zurubi," to work in various parts of the northern and southern shores of the Beagle Channel. This facility was generously offered by the Governor of Ushuaia. Adm. Portillos also rendered great help to the Mission.

The work for the Mission centered on (1) transculturation phenomena, including nosology, and (2) physical anthropology, including blood groups. These studies are urgent because of the great changes which have taken place in the whole tribal life of the Fuegians since Martin Gusinde finished his classical field work 20 years ago and because these tribes are on the way to rapid extinction.

The Mission has studied about two-thirds of the individuals known to be members of the Yámana (Yáhgans) tribe, who live mostly on the island of Navarino. On the Isla Grande the Mission examined half of the individuals of the tribe of Onas, including mestizos, who live mostly near Rio Grande on the Atlantic border of the Isla Grande. An inquiry was also made about the remaining half of individuals of Ona extraction who live around Lago Fagnano, where the Mission was unable to go because of poor roads and lack of lodging. Various members of the third Fireland tribe, the Alakalufs, also were studied. Only 17 Alakalufs, or Alakaluf mestizos, were accessible, since the majority of them wander in their canoes in the channels of the South.

The results obtained were of great interest from the point of view of acculturation in its different aspects and also from the point of view of physical anthropology. Blood groups were determined in 20 individuals of Ona extraction (half of the whole population), 40 of Yámana extraction (two-thirds of the whole population), and 17 of Alakaluf extraction. In all three tribes about 75 per cent were of Group O, contrary to what was found formerly by Rahm in Yámana, most of whom, he stated, were of group B. Since the Mission studied most rigorously the genetic antecedents of all the individuals available, it was possible to establish that all the individuals who do not belong to Group O had some white ancestry which the Mission was able to trace, in almost all cases, to parents or grandparents of the respective individuals. The Mission came to the conclusion that the Fuegians, like the American Indians in general, belong to Group O, and that the presence of Groups A, B, and AB is due to infiltration of the respective blood factors through miscegenation with whites. Different cases of "ethnic mutation" also were studied with special reference to the social factors responsible. Informative films and especially documentary films of the facial typology of the Fuegians were made.

A group of the Mission, including Prof. and Mrs. Lipschutz, Dr. Mostny, and Mr. Helfritz, flew over the islands and Cape Horn to complete their knowledge about the most southern zone visited by the wandering Indians in their fishing and hunting expeditions.

Results, together with ample photographic material, will be published in a series of papers.

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On Opinions of the International Commission on Zoological Nomenclature

William F. Rapp, Jr. (*Science*, 1945, 102, 17) has outlined the story behind the Meigen names that for 38 years have confused the orderly progress of dipterists in their work. But the criticism of the Opinions of the International Commission is based on misunderstandings that should be clarified.

In issuing Opinion 28 in 1910, the Commission did the only thing then within its power: decided whether or not the paper was published under the meaning of the code. It had no power to make exceptions, and it did decide, on what it believed to be conclusive evidence, that the