

minimum amount of water. This solution is filtered until it becomes perfectly clear, and then evaporated down to one-fourth its original volume. This solution is allowed to jell and harden, and the resulting cake is cut into fine chips and dried at 35° C.

Soap made in this way consistently resulted in a pure white product that shows within experimental error 100 per cent of the theoretical iodine number. This product will make a water clear solution which shows no turbidity when kept at 5° C. for long periods of time, even though the concentration is as high as 10 per cent. Soaps that will not stand this test do not detoxify efficiently.¹

The sediment that forms in solutions of impure soaps may be either stearates, hydroxystearates, oleates, or polymerization products of the ricinoleate. Due to the tendency of this chemical to polymerize, the pure fatty acid must never be kept in the form of fatty acid longer than is absolutely necessary.

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A note on the photoactivity of cod liver oil.

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As a preliminary step in the investigation of the relationship between cod liver oil and ultraviolet radiation as antirachitic factors, the experiments of Kugelmass and McQuarrie¹ on the photoactivity of cod liver oil were repeated. In every case negative results were obtained.

An apparatus similar to that described by these investigators was employed. Eastman's Speedway plates, possessing properties similar to Seed's Graflex 60, were used. Since these plates proved to be sensitive to the red light in the room, the whole experiment was carried out in total darkness. The cod liver oil was a sample of Mead and Johnson's, guaranteed as to vitamin activ-

¹ Larson, Evans and Nelson, *Proc. Soc. Exp. Biol. and Med.*, 1924, xxii, 194.

¹ Kugelmass, F. N., and McQuarrie, I., *Science*, 1924, lx, 272.

ity. The apparatus was so arranged that a slow stream of dry oxygen was passed continuously over the surface of the oil during the exposure.

A twenty-four and sixty-six hour exposure to the oxidizing cod liver oil, made alkaline with 10 per cent potassium hydroxide, produced no darkening of the photographic plate. A seven-day exposure to the oil, untreated by alkali, also produced no effect. These results gave no evidence that cod liver oil, while oxidizing, emits ultraviolet light. That oxidation of the oil plays no part in its action as an antirachitic factor would be expected from the findings of McCollum, Simmonds, Becker, and Shipley² that, when air is bubbled through cod liver oil heated to 100° for 10 to 20 hours, vitamin A is destroyed, but the oil is still as effective as the untreated oil in curing rickets.

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The mercury combining power of deproteinized blood.

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In the study of renal function, simple methods that give clinically accurate data are desirable, particularly to the physician to whom the more complicated blood analyses are not available. The salivary urea index, recently described,¹ is such a method. This test is based on the principle that urea is present in the saliva in definite concentrations depending on the amount in the blood. The salivary urea increases with urea retention in the body. The degree of urea retention can be estimated clinically by the simple measurement of the mercury combining power of the saliva quite as satisfactorily as by the more elaborate blood urea determination.

Since our study of the mercury combining power of saliva and the development of the salivary urea index, we have modified the

² McCollum, E. V., Simmonds, N., Becker, J. E., and Shipley, P. G., *Bull. Johns Hopkins Hosp.*, 1922, xxxi, 221.

¹ Hench, P. S., and Aldrich, Martha, *J. Am. Med. Assn.*, 1923, lxxxi, 1997.