

concentration of the aqueous phase is high enough, p_H 2.5, there is a gradual decomposition of the emulsifying agent, which results, ultimately, in the disintegration of the emulsion.

CONCLUSIONS.

1. The influence of changes in hydrogen-ion concentrations on the emulsions prepared with magnesium oleate has been studied.
2. Certain physical constants of these emulsions have been determined.
3. The range of greatest stability of these emulsions is when the internal phase is well on the alkaline side of the p_H scale, namely, p_H 11 to 12.5.

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CALCIUM METABOLISM.

Calcium Metabolism Studies on the Nature and Rôle of the Activators: Researches on Fundamentals for the Prevention of Dental Caries. W. A. PRICE. *J. Am. Dent. Assoc.*, 16 (1929), 265.—Through *Squibb Abstract Bulletin*, Feb. 13, 1929.

In an attempt to interpret previously reported data and recent additions on the subject, the author indicates the importance of proper calcium utilization and its effect on resistance and susceptibility to infection as well as for tooth and bone formation. Calcium in milk, blood and many biologic fluids, which exists partly as diffusible and partly as non-diffusible, can readily be treated so as to change the percentages of diffusible and nondiffusible, by several means, including irradiation or shaking with raw cod-liver oil and with activated cod-liver oil; raw cod-liver oil usually decreases diffusibility, while activated cod-liver oil and irradiation increase it. Normally, there seems to be about 5% more diffusible than nondiffusible calcium, *i. e.*, with total serum Ca of 10 mg., a little more than 5 should be diffusible and a little less than 5 nondiffusible; a variation of 2-3 mg., in either direction seems usually to express itself with distinct physical disturbances. Exposure to radiant energy to 2800 A tend to raise the diffusible calcium; some of the bands beyond 2900 have distinctly harmful effects. A study of the effects of the irradiation of fluids compared both with effects of a demonstration of the irradiation of fluids compared also with effects of administration of the sterol ergosterol, separately and in association, gives evidence of its being similar in effect to, if not directly associated with, the diffusibility phenomena presented. Disturbed calcium metabolism was treated in both ex-

perimental animals and in practice by the use of activators, more than 1500 blood chemical studies being made on the latter. The treatment consisted of about 0.5 cc. of activated or raw cod-liver oil in accordance with the balance between diffusible and nondiffusible calcium, and 5-grain tablet of calcium lactate. Evidence of wastage of calcium was shown by the urine calcium and roentgenogram study of the texture of bone with regard to tendency to general calcification or decalcification. "The relation of these phenomena to some of life's problems seems to indicate that herein is an important step forward both in the understanding of bone and tooth formation and disease and the means for the forming of better hard tissues and the prevention of subsequent disease in these tissues."—J. P.

DIRECT SELLING COMPANIES.

Recently the Federal Trade Commission announced that "representatives of between seven and eight million people engaged in 'direct selling' of all kinds of merchandise will meet in a trade practice conference at Dayton, Ohio, next October under auspices of the Commission. Members of the industry will endeavor to adopt standards for correction of unfair advertising. Commissioner William E. Humphrey will supervise the conference." Application for the conference was made by the National Association of Direct Selling Companies, Inc., of Winona, Minn. They are said to do a business of \$300,000,000 a year and to employ close to one-half million people. E. C. Brokmeyer (*General Bulletin* No. K-27) comments that retailers should watch this and all other activities designed to eliminate the middleman, wholesaler or retailer.