X-ray diffraction patterns by the powder method were obtained for natural apatite (free from iron), and for dental enamel, normal bone, salivary calculus, tubercular calcified lung and synthetic "tri-calcium phosphate." The "tri-calcium phosphate" which we prepared had an index of refraction 1.628 and, therefore, is to be assigned to the apatite group. While there are minor differences, the patterns are very similar with respect to both position and intensity of lines. Thus they indicate similarity of crystal structure, corroborating the optical evidence.

We wish to emphasize the point that the conditions for precipitation in the bone and elsewhere will be governed by the solubility relations of these apatite minerals (such as $3Ca_3(PO_4)_2.CaCO_3$) rather than by $Ca_3(PO_4)_2$, to which much attention has hitherto been given.

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Antagonization of Anesthetic Effect of Magnesium Sulphate by Chlorides of Potassium, Rubidium and Sodium.

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Meltzer and Auer in 1905 reported that subcutaneous or intravenous injections of magnesium sulphate would completely anesthetize animals, and that they could be instantly and completely aroused from this anesthesia by intravenous injections of $CaCl_2$ but not by $SrCl_2$. They made no mention of the effects of the monovalent cations. In this series of experiments we have anesthetized rabbits intravenously with m/6 $MgSO_4$ (5.5 to 11.6 cc. per kg.) solution. The controls recover equilibrium and voluntary movements in 7 to 12 minutes. Eleven rabbits completely anesthetized with $MgSO_4$ recovered equilibrium and power of voluntary movement in from 30 seconds to 2 minutes when injected with a mixture of 9 volumes m/6 NaCl + 1 volume m/6 KCl; and 2 rabbits recovered in 30 seconds and 1¼ minutes respectively after receiving 20 cc. m/30 KCl alone. Two rabbits which received 20 and 25 cc. m/30 RbCl recovered in 1 minute and 1¾ minutes respectively. Rabbits also recovered when NaCl alone was used, but much larger amounts (30-40 cc. m/3 NaCl) had to be used, and the recovery obtained in 1¼ to 2 minutes was less complete than with potassium or rubidium for though the animals would sit up, they did not regain

the use of their hind legs for quite a time after the injection. With 2 animals in which lithium chloride was used, the results were doubtful, one recovering equilibrium in 4 minutes after receiving 40 cc. LiCl m/6, the other only reacted to prodding after 6 minutes, in spite of receiving 20 cc. LiCl. Ammonium chloride, with and without sodium chloride, killed 3 animals with convulsions without any sign of their regaining consciousness.

From these experiments it is obvious that sodium potassium and rubidium ions antagonize the narcotic effects of Mg ions, in accordance with their position in the Hofmeister scale, and their effects upon surface tension and emulsions.

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Clinical Studies on Cardiovascular Response to Adrenalin Administered Subcutaneously.

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One cc. of adrenalin hydrochloride was injected subcutaneously on 19 subjects, 12 of whom were suffering from hypertension. The injections were repeated 1 to 4 times at intervals varying from 2 hours to 1 month.

Normal individuals gave a reaction to first injection characterized by a fairly rapid rise of arterial pressure which lasted 40 to 60 minutes. On a second injection the rise of pressure was much more sudden, but the contrast between the first and subsequent tests was much less marked than in the hypersensitives described below.

It was found that 8 of the hypersensitives on the first reaction presented a slight increase in the systolic blood pressure. On repetition of the injection at least 12 hours later a sudden and severe increase was noted, forming a marked contrast to the slight response on the first occasions. Four hypersensitives gave on the first tests a response resembling that given by the other 8 on second tests.

Two hypersensitives who were again examined in 2 weeks and 1 month respectively, after the first injection did not now show the sudden increase previously observed, and on repetition of the test in 24 hours it was not reproduced.

The diastolic blood pressure in all cases showed a tendency to decrease, except in cases of sudden and intense increase of the systolic pressure, when a slight diastolic increase would occur. Otherwise