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The relative importance of the intestine and kidneys as excretory channels.

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Despite the fact that during the past twenty years a number of investigators have attempted to dispel the popular notion that the intestine, in comparison with the kidney, is relatively unimportant as an excretory channel, this rôle of the intestine would not appear to be properly appreciated.

In connection with a study of metabolism in pellagra,[1] which we made several years ago under the auspices of the Thompson Pellagra Commission, fairly complete analyses of both the urine and feces were carried out. Thirteen subjects were studied. A lacto-vegetarian diet was employed, the experimental period extending from seven to ten days. Data on the water, nitrogen, sulfur, chlorine, phosphorus, calcium, magnesium and potassium outputs were obtained on both the urine and the stools, furnishing an interesting comparison of the kidneys and intestine as excretory channels. It is not believed that the findings differed especially from the normal, except in that group of cases which suffered from intestinal diarrhea. The average findings in five cases with well-formed stools, 74 to 79 per cent. moisture, and those with diarrheal stools, 79 to 89 per cent. moisture, have been grouped separately in the table below.

Number of Cases.	Moisture Content of Feces, Per Cent.	Fecal Output in Per Cent. of Total Output of Both Urine and Feces.							
		H_2O.	N.	S.	Cl.	P.	Ca.	Mg.	K.
5	76	6	10	10	3	36	90	72	18
9	84	16	15	19	9	33	89	68	27

An inspection of the table shows that in the first group of cases the total nitrogen and total sulfur parallel each other very closely, as probably might be expected from their common origin

[1] Myers and Fine, *Am. Jour. Med. Sc.*, 1913, cxlv, 705.

(protein). With diarrhea sulfur does not appear to be quite as well absorbed as the nitrogen. Although normally very little chloride is eliminated by the intestine, the amount found in the stools may be considerably increased in diarrhea. About one third of the total phosphorus output of the intestine and kidney is found in the stools. The percentage output in the feces of both calcium and magnesium is high, due, as we believe, to the lacto-vegetarian diet, which resulted in a poor absorption of compounds of these elements. As might be anticipated from our knowledge of potassium salts, a very appreciable amount of this element is eliminated in the feces, and diarrhea considerably accentuates this elimination. In general it may be said regarding the intestinal diarrhea, that, although it very definitely reduces the absorption of nitrogen, sulfur, chlorine and potassium, it appears to be almost without influence on the phosphorus, calcium and magnesium.

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The pigment changes in frog larvæ deprived of the epithelial hypophysis.

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It has been known for a considerable time that in the fishes, amphibia and reptilia remarkable changes in color pattern or external appearance occur. It is also generally known that these effects are due to the reciprocal interplay of alterations in at least two great systems of pigment-bearing cells, the bearers of dark pigment (melanophores) and the bearers of various other pigments, many of them metallic lustered (xantholeucophores). To the latter class of pigments the trout owes its silvery appearance.

Somewhat over two years ago the author, followed shortly by B. M. Allen, showed that peculiar silvery frog larvæ were invariably produced when the epithelial portion of the hypophysis was removed in early embryonic stages. For the sake of brevity these individuals were designated "albinos" and are always in conspicuous contrast to the darker, normal specimens. As might