fact explicitly stated by Thomas Graham, but often garbled or misstated.

Where evaporation can take place at the exterior surfaces of the mass through which diffusion is occurring, there is a marked tendency for non-volatile solutes to accumulate at such surfaces.[2] Some possible consequences of this movement of diffusible substances in agricultural operations have been pointed out, for plant food is carried with diffusion streams.[3]

Since many of the operations whereby foods are prepared for consumption involve the evaporation of water from exposed surfaces (*e.g.*, the baking of bread, ripening of fruits), it is obvious that various solutes may be separated or segregated to a greater or lesser extent in the process. This led me to include in a paper written several years ago, but still unpublished, a few remarks on "Skins and Crusts," epitomized below.

In discussing with Mr. Robert Whymper a paper he is about to read before a joint meeting of several chemical societies in New York (April 14), it developed that his experimental results dealing with the processing of cacao beans, illustrated this principle of diffusion. We therefore decided to entitle the paper: "The Movement of Diffusible Substances in Food Products. I. Preparation of Cacao," with the expectation that it will be the first of a series of papers dealing with this aspect of food and their preparation.

Apart from the question of economy, skins and crusts are commonly reputed to be "healthy." Children and adults are often urged to eat the skins of baked potatoes, for example. So far as I know, there have been no precise determinations as to what extent salts, vitamins and other diffusible substances accumulate in or near the surface layers of bread, potatoes, and the like; but it seems extremely likely that cooking would result in some marked degree segregation of solutes, which would tend to persist for some time after the cessation of active surface evaporation.

Bechhold showed that plaster of Paris "bricks," soaked in copper sulfate solution and then dried, had practically all the copper salt at or near their exposed surfaces, although when wet they were blue clear through. The slow accumulation of salts at the exposed surfaces of ordinary building bricks is known to every one, for it so often constitutes an eyesore. Mr. Whymper has called my attention to the fact that genuine mummy wheat from Egyptian tombs contains on the average only about 0.7 per cent. of salts, whereas the usual average for wheat today is about 2 per cent. Some old samples from Rothamsted Experimental Station (Harpenden, Herts., England) showed the following:

Sample of wheat dating from					1852	0.90 %	salts
"	"	"	"	"	1853	0.83 %	"
"	"	"	"	"	1854	1.14 %	"

Presumably, as moisture is absorbed and given up by the wheat kernel, there is a slow accumulation of salts on the exterior, and much of this extruded salt falls or is rubbed off, thus decreasing the content remaining in the grain itself.[4]

A study must be made of many of the common practises of the kitchen, which are generally based on sound scientific foundations, even though this be unknown to cooks or to scientists. Vegetable soups (*minestra*), and "pot likker (popular in the South), contain valuable solutes, and braised or steamed vegetable would seem to be more desirable than vegetable drained from the water in which it was boiled; for this water, thrown into the sink, contains salts, vitamins and other valuable extractives.

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A LOUSE FEEDING ON THE BLOOD OF ITS HOST

THAT any Mallophagan can actively remove blood from its host and thus warrant consideration as a possible vector or intermediate host of organisms causing avian disease has been extensively denied.

This writer, while recently studying poultry lice at Cornell University, observed individuals of *Menopon stramineum* Nitzsch. running about on the skin of a white fowl and showing a pigmented substance in the crop, indicative of blood. That this was not obtained from clots from accidental injuries to the host was strongly suggested by the finding of an individual, showing blood in the alimentary tract, with mandibles deeply sunken in the quill of a young feather from which the dermal papilla, bearing blood vessels, had not yet withdrawn. On the removal of the louse blood flowed from the wound. The injury appeared as if two holes, one for each mandible, had been pierced in the quill and then the partition separating them cut out. Examination of the quill showed many scars of the same type of wound as the one from which the louse had been removed. The unfolding barbs showed still older scars, suggesting that this type of feeding was habitual. The louse and feather were removed and preserved.

Similar observations by others working with poultry lice are awaited with interest.

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[2] H. Bechhold, *Kolloid Zeitschrift*, 27: 299, 1920; W. Kraus, *ibid.*, 28: 161, 1921.

[3] Jerome Alexander, SCIENCE, *loc. cit.*, and 56: 196, 1922.

[4] R. Whymper, "Knowledge," 36: 85–138, 1913.