

quiry brings up for consideration the subject of protein metabolism.

When protein foodstuffs are ingested, they are broken up by the proteolytic ferments of the stomach and intestine into amino acids, such as glycocoll, alanin, leucin, tyrosin, etc., which are rapidly absorbed from the chyle. Each protein has its own particular cleavage products, both as regards kind and mass. A particular amino acid may be present in large proportion in one protein and absent in another. For example, glycocoll, which forms 16.5 per cent. of gelatine, is absent in casein, and tyrosin absent in gelatine forms 4.5 of casein. These facts may be readily seen from the following tabulation of cleavage products of proteins:

CLEAVAGE PRODUCTS OF PROTEINS.

| | GELATINE | CASEIN | FIBRIN | SERUM- ALBUMIN | SERUM- GLOBULIN |
|-------------------------------|----------|--------|---------|-------------------|--------------------|
| Glycocoll..... | 16.5 | .0 | 3 | .... | 3.5 |
| Alanin | .8 | .9 | 3.6 | 2.7 | 2.2 |
| Aminovalerianic Acid | 1 | 1 | 1 | present | .... |
| Leucin | 2.1 | 10.5 | 15 | 20 | 18.7 |
| Aspartic Acid.. | .56 | 1.2 | 2 | 3.1 | 2.5 |
| Glutaminic “ .. | .88 | 11 | 8 | 7.7 | 8.5 |
| Phenylalanin... | .4 | 3.2 | 2 | 3.1 | 3.8 |
| Tyrosin | .0 | 4.5 | 3.5 | 2.1 | 2.5 |
| Tryptophane ... | .0 | 1.5 | present | present | .... |
| Prolin..... | 5.1 | 3.1 | “ | 1 | 2.7 |
| Oxyprolin..... | 3 | .25 | .... | .... | .... |
| Serin..... | present | .23 | .... | .6 | .... |
| Lysin..... | 2.7 | 5.8 | 4 | .... | .... |
| Arginin | .4 | 4.8 | .... | .... | .... |
| Histidin | 7.6 | 2.6 | .... | .... | .... |
| Cystin..... | .0 | .06 | .... | 2.3 | .7 |

The fact that gelatine contains 16.5 per cent. of glycocoll and casein none, suggested to me the experiment of determining the influence of protein foodstuffs on the formation of salicyluric acid in patients taking salicylic acid. In the first series of experiments, the patients of average weight, three in number, ill with rheumatism, were taking 60 grains of salicylic acid a day. From the twenty-hours' urine of each patient I separated the salicylic acid and salicyluric acid, first while the patient was on a milk diet, and secondly on a milk, with calf's foot jelly and broths.