termined chemically and spectrophotometrically on each fraction obtained from distilling the methyl esters prepared from the fats. Close agreement was obtained between the percentages of unsaturated components found in distilled and non-distilled samples. Methyl esters of cheese fats were prepared without prior distillation of steam-volatile acids; no separation of saturated and unsaturated components was made on any sample. Fatty acid components were also converted to percent of each fatty acid in each food.

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Fatty Acid Contents of Several Food Products[1]

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IN connection with a program for determining the fatty acid contents of certain processed foods (1), the fats of several foods which had undergone only relatively mild processing were also analyzed. These slightly processed foods were rolled oats, whole white corn meal, roasted peanuts, peanut butter, and walnuts. Also included in the program were Crisco shortening and raw peanuts.

The amount of each fatty acid constituent in each food is reported in Table I as the percentage by weight in the food.

The analytical methods used were essentially those previously described (1). The extracted fats were converted to their methyl esters by methanolysis, the methyl esters fractionally distilled, and the fractions analyzed chemically and spectrophotometrically.

The handling of these samples differed from that of the samples already reported principally in details of the distillation procedure. Bumping was prevented by means of a fine nitrogen capillary, except in the case of the corn oil and walnut oil esters. The distillations, other than these same two samples, were carried out intermittently nearly to the end of the C_{18} plateau. The remaining high-boiling components were then (except in the case of corn oil esters) distilled through a small vapor take-off column. The exceptions noted were treated by the refined procedures reported in the previous paper: a magnetic stirrer was utilized to prevent bumping, and fractionation was completed in a single continuous distillation.

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TABLE I

Fatty Acids in Foods
(weight percentage)

	Saturated					Unsaturated				
	C_{14}	C_{16}	C_{18}	C_{20} and Above	Total Saturated	Monoene	Diene	Triene	Tetraene	Total Unsaturated
Cornmeal (3.77% Fat)	.....	0.33	0.05	0.07	0.4(5)	1.39	1.74	0.02	.....	3.1(5)
Crisco (100.0% Fat)	0.56	14.1	6.3	1.62	22.5(8)	61.18	11.64	0.20	.....	73.0(2)
Peanut Butter (51.65% Fat)	0.54	5.84	2.9	4.0	13.2(8)	18.8	17.3	.....	.....	36.1(0)
Raw Peanuts (50.25% Fat)	0.5	5.9	3.3	5.0	14.7(0)	17.4	15.94	.....	.....	33.3(4)
Roasted Peanuts (51.3% Fat)	0.4	5.9	2.3	2.8	11.4(0)	21.8	15.84	.....	.....	37.6(4)
Rolled Oats (5.92% Fat)	0.02	0.76	0.24	0.26	1.2(8)	1.88	2.42	0.07	0.01[1]	4.3(8)
Walnuts (66.8% Fat)	0.29	3.49	1.86	.....	5.6(4)	10.63	38.90	8.66	0.03[1]	58.1(6)

NOTE: Figures in parentheses are not significant.

[1] Probably due to autoxidation products of linolenic acid (2).