ported in each group was 4 with the exception of
hempseed in which three experiments were re-
ported and poppy-seed in which 7 experiments
were reported. The subjects reported no laxative
effect in any of the experiments with the excep-
tion of slight disturbances with the capusus fat
which was similar to the disturbances caused by
cocoa butter. The general conclusions are that
these fats should prove valuable for food purposes
and that cojune, hempseed, poppy-seed and pal-
kerne1 oils are very completely assimilated by the
body.

Experiments on the digestibility of entire wheat
flour ground by various processes: C. F. LANGE-
WORTHY AND H. J. DEUEL. (By title.) It seemed
advisable to determine what effect different meth-
ods of milling had on the digestibility of entire
wheat flour so experiments were carried out with
entire wheat flour ground in five different com-
ercial processes. The different methods of mill-
ing used were: (1) A commercial roller mill, (2)
roller mill of the Bureau of Chemistry, (3) burr
stone mill, (4) steel burr mill, and (5) attrition
mill. The experiments were conducted in the
same manner as previous experiments of such a
nature have been carried on by this office. The
flour was incorporated in a ginger bread and fed
with a basal ration of oranges, butter and sugar,
and tea or coffee was used according to the
individual preference. The general results from
these experiments seemed to indicate that the finer
the wheat is ground, the more completely the pro-
tein is absorbed while the percentage of carbohy-
drate absorbed remains nearly constant. Even in
the most finely-ground flour, the protein was only
79 per cent absorbed while in the case of highly-
milled flour (i.e., flour in which the bran has been
removed), it has been found that it is about 88
per cent. digested. In the case of the flour milled
on the stone burr and steel burr mills the digesti-
bility of the carbohydrate was found to be 97
per cent. and 95.5 per cent. digested, respectively.
The protein in each case was 79 per cent. digested.
The digestibility of the flour milled on the attri-
tion mill was 95.5 per cent. for the carbohydrate
and 74.5 per cent. for the protein. With the
commercial sample of roller-milled flour, 94 per cent.
of the carbohydrate was digested and 70 per cent.
of the protein, and with the sample prepared in
the laboratory roller mill, the carbohydrate was
95 per cent. digested and the protein 71 per cent.
Both the samples ground on a roller mill were con-
siderably coarser than those ground on any of the
other three mills. It is expected that a bulletin
will appear shortly giving a summary of these ex-
periments.

Adsorption of fat by fried batter and doughs
and causes of their variations: MINNA C. DENTON
AND EDITH WENDEL. (By title.) The various in-
gredients of the dough exert varying effects upon
fat absorption. The gluten of wheatflour, when
acted on by hot fat of suitable temperature, tends
to form a crust which prevents or hinders fat
penetration; so the stiffer dough absorbs less fat,
other things being equal. Sugar increases fat ab-
sorption very decidedly. Fat present as an
ingredient of the dough, greatly increases the fat
absorption. Egg, if not above 60 per cent. of the
weight of the liquid (as is the case in doughnut
recipes) does not lessen the fat absorption, but
contrary to current opinion seems even to increase
it somewhat. Many details of manipulation exert
the most profound effects upon fat absorption.
Length of time of frying and relative amount of
surface exposed, are two of the most important.
Crust formation is of the greatest importance.
Any manipulation increasing volume (and conse-
quently surface) increases fat absorption. Turn-
ing the cakes repeatedly as they fry increases fat
absorption, because it promotes the exposure of a
soft crust, to the hot fat. The influence of tem-
perature upon fat-absorption (constant time, tem-
perature 150° C. and 200° C.) is variable and de-
pends entirely upon the consistency and ingredi-
ents of the dough. In practical cookery, how-
ever the time would be reduced at the higher tem-
perature and this would lessen fat absorption.
Temperature is important also because of its in-
fluence upon crust formation and upon expansion
of the dough.

CHARLES L. PARSONS,
Secretary