EAT WELL
and
STAY WELL

EAT WELL & STAY WELL

REVISED EDITION

Ancel and Margaret Keys

FOREWORD BY

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DOUBLEDAY & COMPANY, INC.
GARDEN CITY, NEW YORK

LIBRARY OF CONGRESS CATALOG CARD NUMBER 63-7186

PRINTED IN THE UNITED STATES OF AMERICA

AUTHORS' PREFACE

The first edition of EAT WELL AND STAY WELL was an attempt to answer—and forestall—a mounting flood of requests, from professional colleagues and the general public, for information about the relationship between coronary heart disease, cholesterol in the blood, and the character of the diet. Besides doing a public service, we hoped thereby, in the long run, to save more time for research. But we did not foresee the consequences, either the gratifying reception of the book or, on the other side of the ledger, the resulting demands for work on foreign editions of the book and on the incorporation of new advances in the present revised edition.

Since 1959 the case for the importance of the diet in regard to arteriosclerosis and heart disease has been much strengthened by a vast amount of research, including our own findings in many lands as well as in the United States. Some skeptics are not silenced, of course, but the climate of responsible opinion has changed.

A major break was the report of "Dietary Fat and Its Relation to Heart Attacks and Strokes" by the Central Committee of the American Heart Association (January 1961, *Circulation*, vol. 23). There were immediate repercussions in the food industry. Vegetable oil producers scrambled to capitalize on this recognition of the problem of diets high in animal fats—and were admonished by the U. S. Food and Drug Administration to avoid extravagant claims for "poly-unsaturated fats." The dairy and meat industries protested loudly—and began to promote new low-fat products. Then, in August 1962, the Council on Foods and Nutrition of the American Medical Association issued a long report on "The Regulation of Dietary Fat" as a "guide to assist the physician who wishes to advise the regulation of dietary fat on the basis that it may be beneficial."

In the meantime, thousands of physicians were already advising the reduction of saturated fats in the diet and millions of Americans were attempting to make such dietary changes, with and without the advice of their physicians. At a large medical meeting in 1961 the majority of physicians present raised their hands when asked, "Who among you has changed the fats in your own diet?" In March 1962 the National Family Opinion Survey reported that, nationwide, 30 per cent of persons queried said they or members of their families had recently altered their diets because of concern about cholesterol. Significantly the Survey found that the percentage of persons who made these diet changes rose with age, income, and education.

It is still not proved by rigorously controlled large-scale experiments on statistically impeccable samples of the American population that the kind of dietary adjustment suggested in this book will actually prevent or lessen the risk of heart attacks. The extraordinary difficulties of such experiments may mean that ultimate, irrefutable proof can never be provided. The U. S. Public Health Service is sponsoring a valiant effort to test these questions with population groups in Boston, Baltimore, Chicago, and Oakland, California, as well as in the Twin Cities of Minnesota. But even if statistically acceptable experiments are feasible—which is certainly questionable—critical evidence can scarcely be at hand before 1970. What are sensible Americans to do about their diets in the interim?

The new advances of knowledge about heart disease, blood chemistry, and the diet, and the translation of these into practical and fully pleasurable menus and recipes have required many changes in detail from the first edition of EAT WELL AND STAY WELL, but the basic concepts are little altered. We urge a somewhat more liberal use of poly-unsaturated oils than before but we are even more insistent on restriction of saturated fats. In practical details we have benefited from suggestions offered by hundreds of leaders in cardiology and nutrition in all parts of the world, including the communist countries.

Space does not allow us to list the names of many colleagues to whom we are so obviously indebted. However, we must at least mention the help of the research teams with which we continue to be associated in Italy (Drs. Vittorio Puddu, Flaminio Fidanza, et al.), Greece (Drs. Christ Aravanis, A. S. Dontas, et al.), Finland (Drs. Martti Karvonen, Esko Orma, et al.), Yugoslavia (Drs. Ratko Buzina, Ivan Mohacek, et al.), the Netherlands (Drs. F. S. P. van Buchem, Louisa Dalderup, et al.), and Japan (Dr. Noboru Kimura, et al.). Major appreciation is due the staff of the Laboratory of Physiological Hygiene here at the University of Minnesota—Drs. Joseph T. Anderson, Henry Blackburn, Francisco Grande, Ernst Simonson, and Henry L. Taylor, and Mr. Ernest Klepetar. Mrs. Nedra Foster and Mrs. Patricia Ashman worked hard on the calculations for nutrients in menus and recipes. We are grateful for the help of Miss Janet Ingerson and her associates on our secretarial staff. As with the first edition, Miss Clara Claasen of Doubleday & Company, Inc., has shepherded the work through publication. Lastly, it is a great pleasure to state that we continue to share adventures of research and travel with our old friend Dr. Paul Dudley White.

Minneapolis, Minnesota
17 August 1962

FOREWORD

A good many years ago my wife and I, while busy with the preparation of the first edition of my book on heart disease at Anacapri in southern Italy, were accustomed to go off for the day to work and to climb the slopes of Monte Solaro or to watch the view from the neighborhood of San Michele or to descend to the Marina Piccola or the Bagni de Augusto, carrying with us for luncheon half a loaf of native bread, a bottle of Capri wine, some cheese, and two oranges. On occasion since that spring of 1929, especially on research expeditions with Dr. and Mrs. Keys during the past few years, we have revived that earlier custom with pleasure and, I am sure, with profit to our health, especially if our epidemiological researches involved also some exploration on foot. On such an expedition to study the health and the ways of life of native populations at Nicotera in Calabria at the toe of Italy and at Herakleion and Castelli on the island of Crete I am now privileged to write a foreword to this book on food by Dr. and Mrs. Keys.

There are many useful volumes on diets of all kinds, low in salt, low in fat, or just low in calories, and there are many books on the science of gastronomy both for cooks and for gourmets, but this volume is unique in that it has been compiled by an authority of many years' experience in the physiology of nutrition and by his wife, expert in the culinary arts as well as in the field of biochemistry. It is a happy blending of the scientific aspects of nutrition, the hazards of overnutrition, and the pleasures of the table.

Two other experiences I would recount as a background for my own interest in a book like this. In the summer of 1932 my wife and I on a vacation abroad and stimulated by a visit to Belley, the home of Brillat-Savarin, cycled for ten days in the valley of the Dordogne in southern France with the help of a *carte gastronomique*, traveling 40 to 50 kilometers each day from one gold-star restaurant to another, enjoying each evening a well-earned

repast for which that countryside was renowned. The other experience was a period of two weeks in 1955 on the island of Sardinia when I quickly acquired a liking for the diet of that region even though it meant a sharp reduction of the richness of the food in fat from our customary 45 per cent of the calories to about 20 per cent. Thus the acquisition of a new habit, though but temporary, was not at all painful.

Section I of this book opens with a concise but comprehensive explanation of the reasons for the need of such a book as this. The presentation of the various kinds of heart disease brings out the compelling challenge of the prime threat to our health and life today, namely serious coronary atherosclerosis and thrombosis.

Chapter 1, The Heart of the Matter, is followed by an extraordinarily readable account of the basic science of nutrition, of the various kinds of fats, of vitamins and minerals in our food, and of fads and fancies, exposing many falsities of current food advertising. The public is in general now well protected by law so far as drugs are concerned but is allowed to remain gullible as to nutrition, largely because of lack of education in the field. This book is a landmark on the way to a better understanding. An important example of this is in the chapter that deals with food for athletes and for invalids.

In Section II the foodstuffs are discussed in detail, again very interestingly and refreshingly. Thus there are chapters on bread, on soup, on salads, on vegetables, on milk and milk products, and on various other items.

In Section III there are valuable menus, for example, one for every day in the week separately for spring, summer, fall, and winter, thus presenting a great variety of dishes. Recipes in Section IV have been obtained from many sources and carefully tested. And finally, there are very important lists of contents of food in calories, protein, and fat, and of drinks, both alcoholic and non-alcoholic, the latter an especially unusual feature.

It is a satisfaction and also a pleasure to recommend both to physicians and to laymen this useful and interesting book.

PAUL DUDLEY WHITE

Herakleion, Crete
23 October 1957

FOREWORD
REVISED EDITION

The second edition of this excellent book continues the high standard of the first edition. Important information from researches on man and animals in laboratory, clinic, and population studies carried out since the original writing of the book have been incorporated, and interesting new recipes have been added. It is again a pleasure and a privilege to recommend this book to both physician and layman to aid in the maintenance of their health as well as in the treatment of disease.

PAUL DUDLEY WHITE

Boston, Massachusetts
13 August 1962

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SECTION I

DIET AND HEALTH

Chapter 1

THE HEART OF THE MATTER

Among the elementary pleasures of life none has more universal appeal at all ages than eating well. In Utopia we would automatically eat well and stay well, but for many of us a short-sighted version of "good eating" runs into the ugly facts of calories and cholesterol. The problem is to join the art of cookery with the science of nutrition, making the old art more sophisticated, extending the new science to focus on the long-range health of the adult.

Civilized living is an intelligent search for durable satisfaction, a nice compromise between the pleasures of the moment and those of the future. So it is with eating; a balance should be struck between first impulse and appreciation of the consequences of such indulgence. The child learns to save room for dessert; the civilized adult knows that the continuance of pleasure, in eating as in other things, demands a measure of restraint. Intelligent concern about calories and cholesterol imposes some limitations on the diet, of course, but avoidance of overeating and discretion about fats in the diet should not mean dull and tasteless meals or perpetual hunger.

There are two questions: How much food or how many calories? And, what kinds of food? We are suitably alarmed and determined to do something about obesity and overweight, in other words about calories. But the fatty substances in our blood and arteries pose an even greater health threat. A sensible approach is to establish a dietary way of life that attacks simultaneously both calorie and cholesterol problems and keeps them under control permanently.

Normally, the appetite is a good guide as to how much to eat but it is betrayed by lack of exercise and is easily seduced by skillful cookery and rich foods. Unfortunately the appetite does

not flag as obesity develops, but every sensible person who is getting fat recognizes the need for some dietary adjustment. The most obvious solution is to eat portions smaller than those prompted by the appetite. A further step in calorie wisdom is to change the character of the diet so that the appetite can better exercise automatic control. This means selecting a bulkier diet with fewer calories per bite, a diet reduced in calorie-laden fats. Such a dietary change has the great advantage that it lowers the level of cholesterol in the blood as well as helping to solve the overweight problem.

During most of human evolution down to recent times only very few people had an opportunity, except on special occasions, to eat too much *and* too richly, so it is natural that we have little instinct to curb an appetite for luxurious eating. Prosperity has produced a new situation where an almost endless supply of all kinds of foods encourages us to eat more and more of the foods formerly limited by scarcity and expense. Moreover, as the need for physical work and therefore that for food calories have decreased in modern society, the diet tends to be adjusted by cutting down on the simple staples; why eat bread when there is plenty of cake and you cannot eat both?

But all this is not pure gain. The pleasure of eating demands hunger, and the delights of rich food pall in everyday use. Most important, the use of softer, sweeter, fatter foods produces a more expensive but not a more healthful diet. In fact, there is much reason to believe that our modern luxurious American diet, rich in calories and saturated fats, is a major health hazard for middle age and the older years.

Certainly our diet is implicated in the fact that we have such a high incidence of obesity and its complications. And we cannot ignore the vast amount of evidence that points to saturated fats in the diet as a major factor in the high frequency of coronary heart disease. We now know that the likelihood of future coronary heart disease rises steeply with the level of cholesterol in the blood. And we know that the level of cholesterol in the blood rises with the amount of saturated fat in the diet. Dietary fat is not the sole determinant, but no other controllable factor in our way of life is so closely implicated.

Not everyone is urged to change his diet. People who are habitually thin, whose family histories are "clean" in regard to heart disease, and who have serum cholesterol values of the order of 200 or less may go their way. Those who are not in that favored category may profit from the dietary suggestions in this book. They are designed for eating pleasure in a dietary pattern capable of endless variation within a framework of basically sound nutrition and moderation. These menus and recipes are not guaranteed to save you from coronary heart disease. But they should keep your blood cholesterol at a more favorable level than an uncontrolled diet and, we trust, will afford new interest in the kitchen and enduring pleasure at the table.

THE EVIDENCE IN OUTLINE

Coronary heart disease is basically a disorder of the coronary arteries. Fifty years have passed since experiments first proved that common human foods can produce serious disease in the arteries of rabbits. Careful research showed that a fatty substance in the blood, cholesterol, is responsible for the effects on the arteries in such animal experiments and that these arterial changes, experimentally produced, are almost identical with those seen in patients dying of coronary heart disease. Recently, fatal coronary heart disease in animals has been produced by diets containing much cholesterol and fat. For years there were doubts about the relevance to man of these animal experiments because the focus was on dietary cholesterol and man is much less sensitive to dietary cholesterol than the rabbits and chickens studied in the laboratory. Only lately has it been realized that in man the amount of cholesterol in the blood is affected by ordinary food fats much more than by dietary cholesterol.

Other complications also delayed acceptance of the theory that the diet is a major factor in the development of coronary heart disease in man. For example, physicians long failed to realize that the first heart attack is usually only a late result of underlying disease in the coronary arteries that began many years earlier. In a given patient it may be difficult to see any relation between his clinical condition and his current blood cholesterol level or his recent dietary history. This is particularly true when comparison is made only with other members of a population who

are generally characterized by a national diet of fatty foods and high blood cholesterol levels. It is now known that, for the most part, the American population taken as "controls" in such comparisons is also afflicted with disease in the arteries in the silent pre-clinical form. The picture is very different when comparison is made between our patients and members of other populations whose diets are low in fats. Our coronary patients with their high fat diets (that is, the usual American rich diet) and high blood cholesterol values stand out like sore thumbs in the world picture. So, too, do many of our "controls."

Further, much was made of the fact that a few individuals, sometimes grouped in families, have very high blood cholesterol levels even though their diets are no different from the average. Such persons were found to be especially susceptible to coronary heart disease, but the point was emphasized that they did not get into trouble simply because of the diets they ate. Fair enough; diet is not the only factor, at least in these rare cases.

But lately, controlled experiments on man, including tests of some of these unfortunate men with naturally high blood cholesterol levels, have conclusively shown that the amount and the kind of fat in the diet have a powerful effect on the blood cholesterol. We can change the diet and predict with fair accuracy what the average response will be in the blood.

These dietary experiments have their counterpart on the grand scale in nature. Many comparisons between populations habitually subsisting on diets differing in fat content show consistent differences in blood cholesterol levels associated with great differences in the frequency of coronary heart disease. In some instances it has been possible to study populations who change their diets; in each case changes in the blood cholesterol and in the frequency of coronary heart disease tended to follow changes in the fat in the diet.

A SUMMARY OF FACTS SUGGESTING PREVENTION BY DIETARY MEANS

The facts leading to the belief that a large measure of prevention of coronary heart disease can be achieved by dietary regulation may be summarized as follows:

1. The frequency of coronary heart disease varies greatly between populations that eat different amounts and kinds of fats. Coronary heart disease is much less common among populations whose diets contain relatively little of the common meat and dairy fats that bulk so large in the current American diet. Such populations are not all starving in "underdeveloped" countries and they may have good health in other respects, too.

2. These differences between populations are not dependent on climate or race. There is a great difference in the frequency of the disease between rich and poor Italians in Naples, between Neapolitans living in Boston and their relatives in Naples, between rich and poor Spaniards in Madrid, between economic classes of people in Guatemala. Japanese in Southern California are like other Californians in the frequency of the disease but are more often affected than their semi-Americanized relatives in Hawaii, who, in turn, have far more coronary heart disease than their common relatives in Japan.

3. These differences between populations are not explained by personal habits such as the habitual use of tobacco or alcohol. Many of the populations who suffer relatively little coronary heart disease contain plenty of men who are heavy smokers or drinkers or both. If tobacco or alcohol have any effect, this does not seem to be primary.

4. Coronary heart disease is much more common in populations in whom the average blood contains large amounts of cholesterol than among those whose blood cholesterol levels are relatively low. Investigations on scores of populations around the world suggest that the frequency of early, severe coronary heart disease in a population is closely proportional to the average serum cholesterol concentration in the population.

5. The serum cholesterol level in man rapidly responds to changes in dietary fat, falling when meat and dairy fats are reduced, rising when they are replaced in the diet, even when calories, proteins, and vitamins are kept constant. Coconut oil is like butterfat in this respect. Olive oil has little or no such effect, while many vegetable oils actually reduce the serum cholesterol level. Fish oil also has a cholesterol-depressing effect.

6. Animals fed diets that raise the cholesterol level in the blood serum develop disease in the coronary arteries, and the ex-

tent of the disease tends to parallel the serum cholesterol level. Fatal heart attacks have been experimentally produced in this way in several animal species, including monkeys.

7. Though only a minority of coronary patients are obese, it is certain that fat people are unusually prone to heart disease. In some populations the fatter people eat the fattest diets and tend to have higher blood cholesterol values. But merely being thin is small protection, and differences in the frequency of obesity fail to explain most of the differences between populations in the frequency of coronary heart disease. These differences in disease susceptibility appear to parallel the *character* of the diet.

8. After a fatty meal the blood cells tend to stick together, and in certain tests the blood clots more readily than before. Moreover, the blood clots formed after a fatty meal are unusually hard to dissolve. These findings suggest that fatty meals may promote coronary thrombosis, i.e., blockage of a coronary artery by a blood clot (thrombus).

9. Populations whose diets are changed in regard to fat content have been reported subsequently to show important differences in the frequency of coronary heart disease. Examples are populations in Norway, Finland, the Netherlands, and Germany during and after World War II, immigrants to Israel, and Japanese moving from Japan to Hawaii to California. No exceptions have been reported.

WHAT WE EAT AND WHY

Ask yourself why you ate what you did last week and you will probably answer that you ate the foods you liked so far as it was convenient to get them. And then you may add that you ate what was "good" for you. Human diets are always compromises between what appeals to our appetites, what foods we have available, and what we think we should eat for strength and health.

All peoples have strong convictions about what foods are "good" for them. The notions of primitive peoples on this point are compounded of the accumulated experience of the tribe, in which observations of short-term effects are prominent, distorted by all sorts of taboos and superstitions. Our own opinions about what

we should or should not eat have the same basis plus the influence of advertising and an increasing reflection of the reports from modern scientific studies on nutrition. We are bombarded with nutritional propaganda which, whether commercial or truly educational by intent, purports to be "scientific." And it unquestionably influences our choice of what we buy and eat.

One thing is certain. Our diets have changed greatly from those of our ancestors and they will continue to evolve, not only because of the growth of nutritional knowledge, but perhaps even more as a result of advancing technology and the related economic pressures it produces. The most obvious influence on our diet is food availability; our current American diet reflects the fact that we now have a superabundance of foods in variety undreamed of not long ago. Great skill and effort go into persuading us that every day should be made a feast day by buying, and eating, more of this and that food once reserved as a treat for the rich.

Sunday dinner is no longer special because only then do we have a big piece of meat; we have Sunday every day. We tend to grow fat on luxurious foods or we attempt to combat obesity by omitting all but the most luxurious items from the table. The fat of the land (literally) is ours, and if we have any doubt about the nutritional virtue of our diet we "play it safe" by gorging on animal proteins and a daily dose of vitamin pills. But how good, actually, is the result?

Gastronomically, one may argue interminably because tastes differ and too often are shaped by one or another variety of snobbery. Certainly the American diet is the most expensive in the world. But now that we can all attain the food heaven of the teen-ager—unlimited fat steaks, French fries, and triple dips of ice cream—many adult Americans obviously are not content, as witness the almost frantic search for more and more exotic foods, the flood of books and articles on foreign cookery. Americans obviously are not satisfied simply with fatter and more expensive foods.

As to health, our current American diet prevents the classical deficiency diseases, but there are plenty of populations whose diets are low in meat and dairy fats and who are not plagued with deficiency diseases either. We praise our American diet be-

cause our children grow bigger than their parents, ignoring the fact that the same trend is apparent in populations all over the world. Anyway, it is naïve to insist that body size is a reliable measure of health in youth, let alone in later life. And our big health problem today is with our adults. Even if we have evolved a fine diet for infants and young children, we must seriously ask whether the same pattern is ideal for older children and adults. The needs of the body, as well as the dangers of disease, are very different after physical growth is completed.

THE WORK OF NUTRITIONISTS

Until lately the main concern of nutritionists has been to discover and correct dietary *deficiencies*, and their advice has been to make sure we get enough, without worrying about excesses, of each of the nutrients they identify as useful in experiments on growing animals. Their most popular measure of nutritional value has been the rate of growth and weight gain of young rats, because the rapidly growing animal is particularly sensitive to dietary lack. Better diets for human infants have resulted from this work, but pediatricians are not sure that the quality of babies, and the adults they are to become, is accurately gauged by the rate of growth. In any case the diet that best adds weight to a baby rat is not necessarily best suited to maintain human health after the years of growth have passed.

Most experimental work on nutrition has necessarily been limited to short-term studies on animals. Laboratory animals and man alike have similar basic nutritional needs, but quantitatively they differ greatly. The human counterpart of a rat diet (or vice versa) is difficult to specify, and it is not easy to decide on optimal proportions of nutrients even for rats beyond the period of early growth. There are special difficulties when we ask about the role of the diet in preventing or promoting the diseases that now pose the most serious problems for human health. Some of these diseases, such as cancer, seem to be remarkably independent of the diet, and others, such as the major human heart diseases, almost never occur spontaneously in the animals used in dietary experiments.

Nevertheless, dietary experiments on animals have produced

some notable findings that have relevance to our concern about adult human health. One is that underfed rats (and other species too) live longer than full-fed animals. Another is that diets that raise the cholesterol in the blood lead to a disease of the arteries which, in man, is basic to coronary heart disease. About cholesterol and atherosclerosis much more will be said later.

Dietary experiments on man are far more troublesome and expensive and can never be carried to the extremes possible with animals. But more and more nutritionists are conducting experiments and observations on man himself. The extension beyond the laboratory experiment is to inquire whether a relationship between the diet and heart disease can be found in human populations. Nutritionists, teamed with heart specialists and other scientists, are seeking out populations that differ in their diets so as to study experiments of nature that cannot be made in their laboratories. We ourselves started such work in 1951 and the results are the main reason for writing this book.

HEART DISEASE

Heart disease accounts for about half of all our deaths in America today. But there are many kinds of heart disease, with different causes, and we are mainly concerned here only with one kind, coronary heart disease. A brief review of the kinds of heart diseases should be helpful.

Congenital heart disease is the kind you are born with. The heart or its attached great blood vessels develops abnormally and the result is a mechanically defective pump; there are mistakes in "plumbing." Despite great publicity because of spectacular successes in correcting the "plumbing" by surgery, congenital heart disease is not common. It is a small part of our total heart problem. Grossly deficient diets during pregnancy may increase the frequency of abnormalities in the offspring of animals, but there is no evidence that human congenital heart disease can be attributed to the diet of the mother. And, of course, the diet of the patient with such a condition cannot change the defective architecture of the heart.

Heart disease caused by syphilis used to be fairly common but it is becoming extremely rare in America and many other coun-

tries. The conquest of syphilis by antibiotics will soon make this kind of heart disease only a historical curiosity. The diet plays no role in producing syphilitic heart disease; the villain is the infecting spirochete, *Treponema pallidum.*

Rheumatic fever heart disease, which deforms the valves of the heart, is generally believed to be a special kind of reaction to a streptococcal infection. This explains the high hopes for control by prevention and early treatment of streptococcal infections, particularly "strep throats," with penicillin and other antibiotics. The frequency of rheumatic fever, and of new cases of the heart disease it produces, is clearly diminishing, though it still accounts for some 5 per cent of heart deaths in this country. Surgery can repair the deformed heart valves in some cases. There is no good evidence that the diet is important in the production or prevention of the disease.

Hypertension can produce heart disease by constantly overstraining the heart, and this, next to coronary heart disease, is the most common and fatal kind of heart disease in America. It causes some 15 per cent of all heart deaths. In hypertension the arteries of the body are constricted so that only by pumping at a higher pressure can the heart maintain adequate blood flow. The heart muscle tends to grow larger and stronger, just like any other muscle when it is forced to exercise a great deal, but eventually even this compensation may be insufficient. The constant high blood pressure also damages the arteries, particularly in the kidneys, and kidney failure is not uncommonly a complication or even the main cause of disability and death. Finally, high blood pressure can literally "burst" the blood vessels, so hypertensive patients are prone to hemorrhages in the brain and elsewhere.

Sometimes the cause of hypertension can be found in the kidneys or in an overgrowth of a part of the adrenal gland, but the cause of most cases of hypertension is unknown. Obesity is believed to favor its development. Some experts suspect that a high intake of salt in the diet may be involved also, but even if so it would not seem to be a direct and first cause. Whether dietary moderation in the use of salt and avoidance of obesity can do much to prevent hypertension is unknown. But good sense suggests that such simple dietary precautions would be wise.

High blood pressure in the lungs or any impediment of blood

flow through the lungs causes excessive work for the right side of the heart. This is different from general hypertension, where the strain is on the left side of the heart, the side which pumps blood to the body as a whole. The result of strain on the right side of the heart may be the disease called "cor pulmonale." Fortunately, cor pulmonale is not common. There is no indication that a dietary factor is involved as a cause in this type of heart disease.

Finally we come to coronary heart disease, the condition produced by interference with the blood flow in the arteries that supply the heart muscle itself. According to official vital statistics, this one disease accounts for some three-fourths of all heart deaths and is killing Americans at a rate of more than half a million a year. Heart attacks kill nearly twice as many people as die from all cancers and other tumors, the second leading cause of death. Moreover, it is not true, as sometimes imagined, that coronary heart disease is mainly a problem for aged people. Among U.S. white males in 1959, coronary heart disease was blamed for 30 per cent of all deaths *under* the age of 70. Currently, each year heart attacks are killing about 100,000 Americans under the age of 60. Table 1 shows U.S. vital statistics for the year 1959.

TABLE 1

DEATHS IN THE UNITED STATES IN 1959

Cause	*White*		*Negro*	
	Males	*Females*	*Males*	*Females*
All Causes	834,651	626,189	103,126	84,825
All Heart Disease	345,557	239,571	29,098	25,124
Coronary Heart Disease	277,674	166,140	16,891	12,282
List No. 422*	22,075	25,588	2,581	2,461
Hypertensive Heart Disease	23,208	30,729	6,370	7,644
Rheumatic Heart Disease	8,000	8,741	725	749
Cerebro-vascular Disease	79,795	87,866	10,848	12,286

Worse still, in contrast with many of our other health problems, coronary heart disease seems to be increasing, even when we allow for the changing age of the population. But in this black pic-

* This is "other myocardial degeneration," which is generally believed to be mainly a result of coronary insufficiency.

ture there is a growing belief that we can, if we will, reverse the trend. From studies on populations all over the world, and other researches, we believe that coronary heart disease *should* be preventable and that dietary adjustment offers a real hope.

CORONARY HEART DISEASE AND THE DIET

Coronary heart disease is sometimes called arteriosclerotic heart disease because the primary disorder is in the arteries. The heart muscle depends for its nourishment and "breathes" through the coronary arteries that form a crown ("corona") around the heart before they plunge down into the heart muscle to bring fresh blood to every cell. Any interference with this blood supply is dangerous and can be quickly fatal. Such interference can be produced by atherosclerosis, that is, deposits of cholesterol and associated cellular changes in the wall of the artery, or by blood clots (coronary thrombosis) which block the blood passage. These clots or thrombi generally form only in an artery with arteriosclerosis.

The most important point about the diet in this connection is that the fats we eat have a major effect on the amount of cholesterol in the blood, and it is this cholesterol which is deposited in the walls of the arteries. The more common fats in our American diet—meat and dairy fat, margarine and hydrogenated shortenings—tend to raise the blood cholesterol. On the other hand, most common food oils (liquid fats) generally have no such effect or may even work in opposition.

Fats in the diet have another effect that may be related to the production of clots in the arteries. A fatty meal tends to make the blood clot more easily in certain tests. Of course, what happens in the arteries may not be the same as what we see in the test tube, but we wonder whether it may not be wise to play it safe by avoiding fat-loaded meals.

Besides fats, other factors in the diet may influence the blood cholesterol level and the development of coronary heart disease. Most populations that have relatively little coronary disease live on diets that are rather high in leafy vegetables and fruits as well as low in sugar and in meat and dairy fats. Experiments with diets of this kind indicate that some part of their cholesterol-

lowering action cannot be explained solely by the fat in the diet. Trials with pure cellulose (fiber) in the diet had no effect except to stimulate bowel action. But pectin, and perhaps some other complex carbohydrates, produced a slight fall in the serum cholesterol level when added to the diet. Pectin is the substance in fruits and berries that causes the juice to jell. Apples are rich in pectin so this is a new reason for recommending their use in the diet.

ATHEROSCLEROSIS AND ITS RESULTS

Atherosclerosis is a generic term that means "hardening of the arteries," a process formerly thought to be simply the inevitable consequence of aging. In a limited sense this is true, in that as age progresses the tough yet pliable tubes that are the arteries tend to become more rigid and less elastic and, eventually, may become impregnated with "lime" (calcium) deposits until they are stiff and stony. But this kind of hardening of the arteries that affects mainly the middle coat ("media") of the artery wall, though often troublesome in the arms and legs of old people, is not our real concern when we are talking about "arteriosclerotic" or, better, coronary heart disease.

The kind of arteriosclerosis we worry about in the heart has a special name, "atherosclerosis." It involves mainly the inner layer of the arterial wall, the "intima." Calcium deposits are only an inconstant and late feature of the tissue change, and the artery is not necessarily really hard, though there is some loss of elasticity. The name "atherosclerosis" refers to the Greek word *athere,* meaning porridge or gruel, because the inner layer of the artery looks as though it contains bits of porridge. The "porridge" turns out to be a mixture of cholesterol and the ordinary fats of the blood deposited not *on* the wall in direct contact with the lumen but just under the inner surface in the artery wall itself. Such spots are called atheromas, literally "porridge bodies."

Cholesterol is not a true fat but a waxy substance resembling fat in being insoluble in water and easily dissolved in ether and other fat solvents. It is a non-poisonous, chemically rather stable substance that may do its mischief in the arteries simply by its passive physical presence. A deposit in the artery wall of choles-

terol, or anything else for that matter, tends to diminish the lumen through which the blood must flow, but more important is the effect on the adjacent cells. The cells of the artery wall are crowded, so they are ill-nourished; and this condition is accentuated by the tendency for connective tissue to grow and wall off the deposit. Eventually, some of the cells actually die, producing tiny areas of ulceration which are healed by something like scar tissue that still further chokes the normal cells of the wall. Such places in the arteries can grow until the lumen for blood flow is seriously reduced. Perhaps even more dangerous, conditions are set for a local blood clot to form and thus totally occlude the vessel by thrombosis.

These atherosclerotic changes may take place in arteries in several parts of the body, especially in the aorta and its main trunks and in the brain, but in the coronary arteries the result can be most quickly catastrophic because the heart muscle is absolutely dependent on the blood supply through the coronary arteries; if this fails, the muscle is quickly exhausted and it stops working.

It is rare for all the coronary blood supply to be blocked at the same time, but if any one main coronary artery branch is occluded the part of the muscle it supplies is affected at once. At best, the heartbeat is temporarily disordered, some local muscle cells die, and these are gradually replaced by scar tissue; the end result after a few weeks is a scar in the heart, a "healed infarct," and disability can range from being a complete cardiac cripple to having no symptoms at all.

There are three kinds of outcome to the "heart attack" that are worse. The amount of heart muscle affected may be so great that the remainder cannot pump enough blood to prevent serious congestion of the lungs or to supply the elementary needs of the body, particularly of the brain, which is most sensitive to an interruption in blood supply. Or because one part of the heart muscle is dying, the contractions of the rest of the heart become wildly disordered, its rhythm runs away and the entire heart muscle is soon fatally exhausted. Finally, in a small percentage of cases the area where the local muscle cells are dead may give way under the pressure of the blood inside the heart, the heart ruptures and there is massive, uncontrollable hemorrhage inside the body.

These tragic events have their origin in the diseased arterial

wall, and if atherosclerosis could be prevented there would be little cause to worry about coronary heart disease. So what causes atherosclerosis? The full story is as yet unknown, but the facts already available are highly significant. The cholesterol that turns up to such dangerous effect in the artery wall comes from the blood, and other things being equal, judging from animal experiments, the more cholesterol in the blood the more it tends to deposit in the artery. This "hardening" of the arteries proceeds over a long period of time, so the cholesterol concentration in the blood at a given moment is not necessarily very important; more consequential is the average over the months and years.

Since publication of the first edition of *Eat Well and Stay Well* the importance of the cholesterol level in the blood has been shown to be even greater than we had thought. To our own experience of fourteen years of annual examinations of a large group of business and professional men in Minnesota have been added the follow-up findings on larger groups of middle-aged men in Massachusetts (by the U. S. Public Health Service), in New York (by the N. Y. State Department of Health), in California (by Dr. John Chapman and colleagues at the University of California at Los Angeles), and in Illinois (by Dr. Oglesby Paul and colleagues in Chicago).

The results are consistent from all regions. The higher the blood cholesterol level, the greater proved to be the risk of coronary heart disease in the following years. If, on the basis of a single blood cholesterol measurement, we classify men of the same age into two groups, one half of the men with the higher and the other half with the lower values, the finding in the next few years is about three times more attacks among the men with the higher cholesterol values.

In these follow-up studies the division point (median) between the higher and lower cholesterol men was about 230 milligrams per 100 milliliters of serum, but there is actually no particular critical value for the blood cholesterol. A count of 225 is less favorable than one of 200; a count of 280 is associated with a greater risk than one of 250, and so on. Table 2 shows the picture.

TABLE 2

SERUM CHOLESTEROL AND CORONARY RISK

Relative incidence of heart attacks, infarctions, or sudden coronary deaths among "healthy" middle-aged men matched in age, classed according to serum cholesterol level, and followed in Albany, N.Y. (6 years), in Framingham, Mass. (8 years), and Minneapolis–St. Paul, Minn. (14 years). For each area and age group the incidence rate observed among men with cholesterol values under 200 mg. % was taken as 100%. Values listed below are the averages, weighted by number of men in each area and age group, based on 197 cases among 4054 men. In other words, men with cholesterol values over 260 have four times as much risk as those with values under 200.

CHOLESTEROL LEVEL, Mg. %	*HEART ATTACK INCIDENCE*
Under 200	100%
200–219	139%
220–239	192%
240–259	312%
260 or more	400%

These same studies show that definite high blood pressure also carries an increased risk but that overweight alone is much less significant than had been thought. Our surveys on the prevalence of coronary heart disease among 10,000 middle-aged men in the United States and in Europe are in full agreement. Overweight appears to have little importance in any of the populations studied except as it may be associated with high blood pressure. But the blood cholesterol level stands out as being of great significance in all populations.

Of course the cholesterol concentration in the blood, even its average over the years, is not the sole factor in the production of atherosclerosis. Local abnormalities in the structure of the arterial wall or in the way in which the arteries branch may favor the formation of atherosclerosis even if the concentration of cholesterol in the blood is not very high. Such abnormalities may be inherited or may be produced, by causes unknown, during early development. If they are present they increase the danger associated with any given level of cholesterol in the blood. Then, too, a severe degree of atherosclerosis, with much cholesterol deposited in the artery wall, does not always produce coronary heart disease, while on the other hand a single spot in a strategic location may be the site of a fatal clot. None of this lessens the importance of atherosclerosis or the cholesterol in the blood that promotes it.

Finally, people differ in their serum cholesterol levels even on the same diet. There is a general tendency for the level to rise from youth until the fifties or sixties and then to decline at still older ages. This is shown in Table 3. It is interesting that this age trend in the blood has a counterpart in the arteries, where the rate of development of atherosclerosis is similarly related to age, rising from early adulthood until late middle age with not much new atherosclerosis developing thereafter. This suggests that as we get older, dietary control may become increasingly important, at least until the years of old age.

TABLE 3

SERUM CHOLESTEROL AVERAGE

Approximate average values, in mg. %, for white urban Americans in 1960. Values in italics within parentheses are suggested desirable averages attainable on the Eat Well and Stay Well diet.

AGE	*MEN*	*WOMEN*
20–29	200 (*170*)	195 (*170*)
30–39	220 (*180*)	210 (*180*)
40–49	235 (*190*)	225 (*200*)
50–59	240 (*200*)	250 (*210*)
60–69	235 (*200*)	260 (*220*)

Besides this general age trend, there is a great deal of variability among individuals of the same age. If you are 40 years old and living on an ordinary American diet, the chances are that you have a blood serum cholesterol concentration between 220 and 260 milligrams per 100 cubic centimeters, but you may be in the 300-plus class or, on the other hand, among the fortunate few with an average value less than 200. The distribution of serum cholesterol values among clinically healthy American men aged

40 to 50 in Minnesota is given in Table 4. Findings in other parts of the United States are similar.

TABLE 4

SERUM CHOLESTEROL VARIABILITY

Distribution of men aged 40–49 according to serum cholesterol value. Urban men in the North Central United States compared with rural men in Finland, Central Italy, and Kyushu, Japan.

CHOLESTEROL	*PERCENTAGE OF MEN IN*				
(Mg. %)	*U.S.A.*	*Finland*	*Italy*	*Japan*	
Under 200	20%	10%	56%	97%	
200–224	21%	13%	21%	2.6%	
225–249	24%	20%	13%	–	0.4%
250–274	19%	28%	8%	–	
275–299	10%	12%	1%	–	
300 or more	6%	17%	1%	–	
All Values	100%	100%	100%	100%	

The variations shown in Table 4 are not explained simply by differences in the diet. Individuals differ even when the diet is exactly the same, as we have shown in hundreds of controlled experiments on men in a locked metabolic ward. The data in Table 5 are typical. But, as Table 5 shows, the direction of response to the diet is not variable. Reduce saturated fats and replace the calories with carbohydrates and poly-unsaturated fats and the blood cholesterol falls. In general, the serum cholesterol response is related to the intrinsic characteristic of the individual; the person who tends to have a high cholesterol level also tends to be more sensitive to the diet.

TABLE 5

BLOOD CHOLESTEROL RESPONSE TO DIET

Cholesterol values (mg. %) of 12 men, all in calorie balance on the identical diet rich in saturated fats, and again after one month on the same diet but with most of the saturated fat calories replaced by equal calories as carbohydrates and vegetable oil.

Subject	*High Diet*	*Low Diet*	*Change*
CH	390	200	−190
REE	308	234	− 74
CI	300	208	− 92
PR	298	200	− 92
RO	298	222	− 76
REC	267	192	− 74
ER	244	191	− 53
MU	236	184	− 52
LO	223	178	− 45
AL	213	154	− 59
CL	176	151	− 25
SC	174	139	− 35

There is no explanation presently available for most of these individual differences. Both diabetes and thyroid deficiency tend to raise the blood cholesterol while excessive activity of the thyroid sometimes produces unusually low levels. But attempts to regulate the cholesterol with thyroid hormone are both unsuccessful and undesirable unless there is real evidence of thyroid disorder.

So the importance of the diet is not the same for everyone. From cholesterol measurements in the blood of thousands of persons all over the world, we know that not many adult Americans have serum cholesterol values as low as the averages in populations who have relatively low susceptibility to coronary heart disease. But some Americans are in this class and we see no reason why these individuals should change their present diet. Your physician can arrange for a blood analysis and advise you. Of course your serum cholesterol concentration is far from being an infallible indicator of your coronary future. You must not let your life insurance lapse just because your report comes back "cholesterol 180 mg. %." Similarly, the finding of a high value is not necessarily a cause for alarm, although it may properly produce determination to do something about it.

This brings up the thorny question of defining "high" and "low" cholesterol values. The interpretation of your blood analysis should be the responsibility of your personal physician, but Tables 2 and 3 afford guidance. We believe that all values over 250 are too high; values over 300 carry a great risk. For persons

under 30 years of age we believe any value much over 200 is undesirable. In populations in which coronary heart disease is really uncommon not many values over 200 are found even in middle-aged men; perhaps we should set our cholesterol goal at the same low level.

CHOLESTEROL, LIPOPROTEINS OR "GIANT MOLECULES"

Cholesterol is carried in the blood, which is a watery medium, yet it is not soluble in water. Actually, there is little if any plain cholesterol in the blood; it is combined with proteins and fats in so-called "giant molecules"—the lipoproteins—which *are* water-soluble. And this also explains how water-insoluble fats can be carried in solution in the blood. The significant point is that cholesterol is an essential part of the lipoproteins—it is needed to form the combination that puts fats into a water-soluble form. Cholesterol, therefore, is not an abnormal or useless substance in the blood but plays a necessary role in making it possible to transport and use fats in the body.

The whole story of what happens to fats from the time they are eaten until they are burned in the body to provide useful energy is complicated and many details are still unknown, but the main features can be outlined in a rather oversimplified version to show how cholesterol fits into the picture. First, after we eat fats they are absorbed into the blood, causing the plasma (the liquid part of the blood) to turn cloudy or, if there is much fat, opaque and creamy. The plasma at this stage is an emulsion like milk, with countless tiny droplets of fat suspended in it. The fat cannot be used by the cells of the body in this form, and anyway there is a temporary surplus of fuel after a meal. But after a few hours the plasma becomes clear again, not because the fat has been burned up but because the liver has been busy.

Much fat can be stored as such in the liver and this is what happens, temporarily, to a good deal of the fat we absorb. This gets the fat out of the way but it does not solve the problem of utilizing it, of providing the fat as a steady supply of fuel to the tissues all over the body. One answer would be to put fat back into the blood but in solution, not in suspension. And so lipoproteins are formed and released into the blood. The net effect is an increase in the amount of cholesterol in the blood. If there is any shortage of cholesterol, the liver promptly makes as much as needed, and some of the fat, after being broken down part way, can be used for this synthesis of cholesterol. As for the protein needed to make the lipoproteins, this is normally at hand.

Lipoproteins are useful in fat transport in the body but they also create a new problem. The fats in the lipoproteins are valuable fuels, but when they are burned the protein and cholesterol in these lipoprotein molecules remain. The proteins present no problem; they can replace the proteins lost from the cells by "wear and tear," they are readily burned as fuel, and, in any case, they are water-soluble and hence not liable to pile up as deposits. But the cholesterol cannot be so burned and it is a water-insoluble remnant, useless or worse. It is not surprising, then, that some of the cholesterol tends to be deposited in the tissues it finds itself in, particularly in the intima of the arteries.

The liver, which so obligingly makes cholesterol to match the amount of fat to be converted into lipoproteins, also is efficient in disposing of excess cholesterol by excreting it in the bile, both as cholesterol and as bile salts which are made from cholesterol. Aside from the occasional danger of forming gallstones (cholesterol is a major constituent of gallstones) this is a satisfactory means of disposal, but the cholesterol must be in the liver to be handled in this way; cholesterol elsewhere in the body has to be brought back to the liver and this is not easy because, again, of the problem of water insolubility.

But what about the cholesterol in the foods we eat? Egg yolks contain a great deal of cholesterol, and there is some cholesterol associated with all of the animal fats in the diet. Does this pile up in the blood and tend to deposit in the tissues? This readily happens in rabbits and chickens but not in rats or dogs, the difference depending, apparently, on the efficiency of excreting excess cholesterol in the bile. In this respect man resembles rats and dogs far more than rabbits or chickens.

Ordinary American diets contain a daily average of from half a gram to a gram of cholesterol. The addition of another half a gram of cholesterol daily to such diets tends to raise the serum cholesterol by some 15 milligrams per cent; if the count was 250,

the extra cholesterol in the diet may raise the count to 265 on the average. Conversely, if most of the dietary cholesterol is removed from the ordinary U.S. diet the blood level may fall a little. So, though the dietary cholesterol is less important than the true fat in the diet, it should not be completely ignored.

The only dietary sources of cholesterol of real consequence are egg yolks and brains. A medium-sized egg yolk contains about a third of a gram of cholesterol. Added to the daily diet, even a single egg yolk may raise the average blood cholesterol level slightly; whether this is important depends on the intrinsic characteristic of the individual. (See the section on Eggs in Chapter 11.)

Not all of the fats transported around the body are in the form of lipoproteins. Some droplets of plain fat persist in the blood for many hours after absorption, especially after heavy fat meals. Delayed clearing of the blood after meals is often observed in coronary patients, indicating that such people have difficulty in handling fats or, conversely, that people who have difficulty metabolizing fats are apt to develop coronary heart disease. A heavy burden of fat droplets in the blood makes the blood sticky, harder to pump, and the red cells tend to clump together. Altogether, the transport of fat in the blood as an emulsion does not seem to be desirable.

Another way of transporting fat in the blood involves a partial breakdown of the fat molecule. The true fats consist of fatty acids combined with a little glycerol, commonly known as glycerine, three molecules of fatty acids being joined with one of glycerol to form a fat molecule, a "triglyceride." The first step in the breakdown of the fat is to release the fatty acids. The glycerol, which is water-soluble, is an acceptable fuel, and the fatty acids are taken up by the cells to be burned for energy or heat. These unattached fatty acids, called NEFA (short for non-esterified fatty acids) are released from the body fat stores (adipose tissues) as a source of energy between meals and especially during fasting. NEFA are found in the blood only in very low concentration but, because they are so quickly taken up by the tissues for fuel, a good deal of the fat we burn is carried as NEFA. There is no reason to implicate NEFA in the development of atherosclerosis.

All this complication may be bewildering, though actually we have, as promised, only given a summary of part of a complex picture that still holds many puzzles for the biochemist. But it should be clear enough that there is a real connection between dietary fats and cholesterol in the blood, and that we are not dealing with pure speculation or a complete mystery. Further, it is obvious that cholesterol and lipoproteins are not independent substances; cholesterol is a major and essential ingredient in the lipoproteins.

There are several kinds of lipoproteins, differing in size, density, and their content of cholesterol. "Beta" lipoprotein has a higher concentration of cholesterol in it than the "alpha" type and is the dangerous type in regard to depositing cholesterol in the arteries. Most of the blood cholesterol is in the beta lipoprotein fraction and it is this fraction that is readily affected by the diet.

Biochemists have had many arguments about which method of blood analysis best reveals the threat of future coronary heart disease. We can measure the total fats, the triglycerides, the total cholesterol, or the total lipoproteins in the blood; we can estimate the lipoprotein fractions separately or the cholesterol in the separate fractions. And for each of these measurements there are several different methods which yield similar but not identical results. Which method is most likely to single out the persons who are in the greatest danger and, therefore, in most need of such prophylactic and corrective measures as can be applied? After a vast deal of heated debate, it now appears that several of these methods that are most passionately espoused differ relatively little in their predictive value. They all have high statistical value in comparing groups of coronary patients with "controls"; no particular measurement, or even all methods put together, is very reliable in predicting the fate of an individual. Personally, we are inclined to think that the measurement of cholesterol in the beta lipoprotein fraction of the blood serum is a little more informative than the others. But this complicated procedure is at most only a trifle better than the simple total cholesterol measurement. The expensive measurement of the "atherogenic index" with the ultracentrifuge has been highly touted by some commercial laboratories, but extensive trials fail to show that it is any more useful than the simple serum cholesterol measurement.

Possibly the measurement of the plain fat (triglyceride) in the blood serum in addition to serum cholesterol would be useful, but the significance of this measurement has not yet been proved in follow-up studies. It has the serious handicap that the measurement is difficult and is meaningless unless it is made on blood drawn in the fasting state, twelve hours after a meal. The cholesterol measurement can be made at any time; it is not sensitive to a preceding meal.

BILE AND THE EXCRETION OF CHOLESTEROL

The amount of cholesterol in the blood (and in the body as a whole) is the resultant, the net balance of income and outgo, of cholesterol made in the body (plus any absorbed from the diet) minus the cholesterol eliminated. So we must ask, what happens to cholesterol once it is in the body? How do we get rid of an excess? Theoretically, cholesterol could pile up by failure to eliminate it just as well as by excessive synthesis of it in the liver. Interference with the excretion of cholesterol, as in some forms of liver and gall-bladder disease, is known to raise the blood cholesterol level.

And it now appears that a major effect of the fats in the diet is exercised by their influence on the elimination of cholesterol. The body does not destroy cholesterol by "burning" it; the resistance of cholesterol to such destruction is a main reason it creates problems. But the body can, and normally does, get rid of cholesterol by way of the bile and so out in the stools.

Bile is made by the liver and flows from the gall bladder into the upper part of the intestine. It contains cholesterol and bile salts, or bile acids, which are made in the liver from cholesterol by modifying the molecule. But cholesterol removed in bile, either as such or after conversion to bile salts, is not a net loss because some of the cholesterol and bile salts are reabsorbed further down in the intestine and only a part is finally excreted.

Experiments on human beings as well as on animals seem to explain much of the effect of diet fats as follows: Eating saturated fats reduces the net loss, via the stools, of cholesterol and the related compounds made from it. If we switch over to eating poly-unsaturated fats, such as in most vegetable oils, the amount

of cholesterol and bile salts in the stools is increased. In the meantime the liver, confronted with this rapid withdrawal of cholesterol from it, may speed the manufacture of cholesterol but this compensation is incomplete and the result is a net loss. So there is less cholesterol to go into the blood and the blood cholesterol level falls.

Why the biliary system should respond differently to different fats is unknown. Perhaps the main action is an effect of diet fat on the absorption of cholesterol and bile salts in the lower intestine. We are reminded of the fact that, in general, people whose lower intestines do a poor job of absorbing fatty materials tend to have particularly low blood cholesterol levels. This is the picture in patients who have had a substantial part of the intestines removed by surgery or who suffer from protracted dysentery from almost any cause. Surgeons *could* probably keep your serum cholesterol low by removing a considerable part of your intestine. We think a wise diet is easier and much safer!

MEN VERSUS WOMEN

Every day we read about prominent men dying of a "heart attack" in the prime of life; such news items about women are not at all common. Why? Well, of course men are more in the news than women anyway, but the fact is that over most of the life span coronary heart disease is much less of a threat to women than to men. This is clear from the vital statistics in Table 1, though these may exaggerate the true disparity between the sexes in susceptibility to the disease. Until lately the idea that women are relatively immune was so firmly entrenched that some doctors were reluctant to make the diagnosis of a "man's disease" in a woman. But better diagnostic methods are changing the picture. In the United States, at ages 40 to 50 the death rate from heart attacks is nearly six times higher among men than among women; in the fifties the ratio is less than four to one, in the sixties it is about two to one, and in the seventies and eighties the ratio approaches equality for the two sexes. The picture is much the same in other countries with a heavy burden of coronary heart disease—England, Finland, Australia.

In countries where the disease is less prevalent, such as Italy

and Japan, for example, the difference between the sexes is much less. In Italy the ratio is only two to one in the forties; in Japan it is still lower. These data indicate that the main trouble in countries such as the United States is a greatly excessive frequency of coronary heart disease among relatively young men. Our mode of life has a smaller adverse effect on women, especially before the menopause.

But mortality is not all of the story and we must consider morbidity as well, the number of men and women who are ill with coronary heart disease. Women tend to die less suddenly and to survive longer with this disease. Recently we organized surveys in six general hospitals in Minneapolis and St. Paul, Minnesota, and found that 104 out of a total of 564 medical patients were in the hospital because of coronary heart disease. Thirty-one per cent of the men patients had coronary heart disease; 21 per cent of the women patients were so diagnosed. But the female patients tended to be older. The main difference between men and women in this regard is that, on the average, women tend to show clinical signs of the disease some eight or ten years later than the men. Again it appears that the real problem is not so much why women are less affected but why there is such an excessive and early incidence of the disease among men in some countries.

The difference between men and women in this respect is puzzling when we observe that the serum cholesterol levels in men and women do not differ much until the fifties and beyond, and then women actually tend to have higher levels than do men. But when the serum cholesterol is separated into the alpha and beta lipoproteins there is a difference. Women have more of their blood cholesterol in the alpha fraction and less in the beta lipoprotein and it is the latter that worries us.

The sex hormones are involved in this different distribution of the serum cholesterol as well as in the sex difference in susceptibility to coronary heart disease. Women who have had their ovaries removed surgically seem to be much more susceptible to the disease than ordinary women, while castrated men are reported to be relatively protected. This is one more reason why doctors are increasingly anxious to avoid castrating women or, if they

must, they urge continuing replacement therapy with female sex hormones.

The converse, castrating men to protect them from coronary heart disease, is not attractive, but attempts have been made to confer the protection of the female by giving female sex hormones to men who have had heart attacks. Such treatment does change the blood chemical pattern towards the more favorable female type—higher alpha and lower beta lipoprotein cholesterol —but at grave cost. In order to produce such changes in the blood the dosage of female sex hormones must be so high as to be feminizing; breasts enlarge and become tender, libido and virility are lost, and other distressing physical and emotional side effects intervene. In the studies reported so far there is no proof that the progress of the coronary heart disease has been stopped by the sex hormone treatment. However, a research team in California is encouraged by clinical trials.

If we pursue the idea of the ill effects of saturated fats in the diet, we conclude that young women dispose of them more safely than do men. Certainly men and women differ in regard to fat in general. The female child has a much greater fat content in the body than does the male child and this difference persists throughout most of life. And, though women tend to deposit adipose tissue more than do men, the deposition of cholesterol and other lipids in the arteries is less marked.

TENSION, EMOTION, AND HEART DISEASE

Many people, including not a few physicians, have a ready explanation for the fact that coronary heart disease is now a veritable plague among the world's most prosperous peoples. They say it is all the result of modern "tension" which presses most heavily on just those peoples (meaning us) who prove to be so susceptible to the disease. Men of "substance" and "responsibility" are said to be especially vulnerable, and attention is called to the newspaper accounts of the business and political leaders who are stricken in apparent good physical health.

Such men are viewed as sacrificing their hearts in their dedication to the affairs of state and the rigors of the business world, victims on the altar of the executive desk. Promotion to high au-

thority is the signal for family and friends to advise, "Take it easy." The devoted wife presents her husband with a new armchair, more like a bed or a cradle, to indicate her concern. Where men of responsibility gather there are apt to be discussions about the relative merits of sedatives, tranquilizers, and psychiatrists, all in the belief that in modern life to be a leader (or merely ambitious to be one) means "tension" and tension is the road to the heart attack.

Data on the frequency of heart attacks among men in different occupations provide little support for the idea that the risk rises with occupational responsibility. In the largest study of this kind, on the employees of the du Pont Company, the *lowest* rate of heart attacks was among the highest salaried executives. Of course the answer might be simply that the effect of the job on the man is not measured by the size of his salary check. In another study in the New York area it appeared that among men who had heart attacks there was an unduly large percentage of "moonlighters," that is, men who carried more than one job.

Most of the talk about "tension" is unsupported by scientific fact. This does not prove that the tension theory is wrong, but it does reinforce our resistance to sage nonsense about taking life "easy" to protect the heart. We object to loose talk about "tension" because it encourages smug self-pity, a distorted sense of values, and diverts attention from more reasonable consideration in physiological terms of a great health problem that menaces *all* Americans, not only the captains and would-be captains of enterprise. When electrocardiographs and skilled cardiologists were less available to the general public, the diagnosis of coronary heart disease was socially stratified; rich men of affairs seemed to be more susceptible—or more able to afford the disease and its diagnosis. More critical inquiry today reveals the fallacies in the conclusions drawn from older statistics.

It is true that in many areas of the world there are great differences among economic classes in the frequency of coronary disease, and this is not merely a reflection of varying diagnosis. We have personally observed this in Spain, Italy, Greece, and South Africa. On the other hand, in the United States, Norway, and Finland, where we and others have examined this question lately, such differences are much smaller or even non-existent. Business

owners, professional men, clerks in routine jobs, and mechanics in Oslo show no appreciable differences in the frequency of heart attacks; the coronary mortality rate at given ages in Chicago is reported to be the same, or higher, among laborers than among executives; coronary heart disease among poor Finnish farmers living a simple life in the country is not noticeably less, and perhaps may be more, than among the white-collar class living under the stresses of Helsinki. We cannot believe that "tension" applies to all classes in the United States, in Oslo, and in Finland but only to the economically privileged in Madrid and Naples and Athens and Cape Town.

Aside from absence of evidence for these supposed emotional differences, a simple and very different explanation is at hand when the diets are considered. In Oslo and in Finland all classes have much the same diet, but in Spain, Italy, and Greece the diets of the rich and poor differ greatly. We found these facts about the diet were clearly reflected in our measurements of body fat and of serum cholesterol in these populations. In the United States the dietary differences between rich and poor are largely in items of embellishment rather than in how often we eat meat or butter or ice cream. This fact too is indicated in the failure to find differences in body fat or serum cholesterol among socioeconomic classes in our country. We are so prosperous that all classes are susceptible to coronary heart disease.

WORRY, ANXIETY, AND FEAR

Worry, anxiety, fear, the drive of competition, the pressures of society are and always have been part and parcel of human nature in all communities. Perhaps tension-producing factors are greater in big cities and are augmented by noise, traffic hazards, and the like. This idea could be offered to explain why coronary heart disease is often more frequent in cities than in rural areas in many countries. But why, then, do we find so many heart attacks in rural Finland, so few in the big cities of Japan, where life is fiercely competitive, noisy, and beset, seemingly beyond endurance, with all possible assaults on the sense of security; where life, in short, is ultra-tense?

Proponents of the theory that psychological pressures produce

heart disease assume that, in contrast with populations exhibiting an excessive incidence of heart disease as in America, people in other areas are blessed with a philosophy that allows them to keep relaxed and placid when subject to stressful situations. No one who has actually lived and worked in communities all over the world is likely to agree. Do we fly into rages and get excited? If so, what about the southern Italian? Do we boil inwardly while concealing our true emotions? In this respect we do not hold a candle to the Japanese and Finns, who, incidentally, represent opposite extremes in the tendency to develop coronary heart disease.

The real difficulty with this theory and the questions it concerns is the absence of any scientific measure of tension; there is not even an agreed objective definition of it. It is not surprising that arguments about the effects of this unmeasured, undefined tension take on the character of medieval debates on the fine points of theology—there is no end and no result.

There is some basis for the popular tradition, so long expressed in literature, that the heart is the seat or at least the receptacle of emotions. We do sometimes have sensations in the general region of the heart, associated with intense feelings of love or sorrow, of joy or hate, or, above all, of fear. But the subjective recognition of the anatomical origin of internal feelings in man is notoriously imprecise, and the human heart is suspiciously close to the stomach anatomically (the stomach is *not* low down in the belly); both the origin and the significance of such sensations are unknown.

Sudden, violent emotions of fear or rage can produce changes in the rate and force of the heart's action, and extreme excitement, usually associated with violent responses of the muscles, may even effect blood clotting. These are brief and temporary responses to unusually powerful stimuli, and they bear little or no relation to chronic anxiety, stress, or tension. Moreover, though extreme emotional excitement may be harmful to a heart already seriously diseased, there is no good evidence that it has a lasting and injurious effect on an otherwise normal heart.

In Russia, where medical views are strongly influenced by deductions from Marxist dialectical materialism, it is widely held that both hypertension and coronary heart disease are primarily psychogenic in origin. The best evidence is offered from experiments at the monkey colony at Sukhumi on the Black Sea. Baboons, subjected to severe, prolonged psychic stresses involving sexual frustration and demotion in the baboon "society," are said to develop hypertension and even to have heart attacks (myocardial infarcts). When we visited Sukhumi we were fascinated with the colony and the hours spent in discussions with the senior staff. But we failed to see a single baboon, dead or alive, with unequivocal signs of coronary heart disease. And we discovered that there were no data on the nutrient composition of the diet fed to the baboons now or in the past.

STRESS AND CHOLESTEROL

Recently it has been reported that a period of "stress" of some days or weeks may be associated with a moderate rise in the level of cholesterol in the blood. Measurements have been made during a period of ordinary emotional life and again when life was disrupted by long hours of intense work—university students at final examination time, accountants during the income tax season, and so on. In none of these studies was there real control to assure constancy of the diet, exercise, or the use of alcohol and tobacco, so it is not possible to conclude that the stress alone actually caused the blood cholesterol to rise. But one interpretation of these findings is that stress may tend to promote coronary heart disease through the indirect route of blood cholesterol. Experiments on animals with better controls have produced inconsistent results but the situations were not really comparable.

A significant feature of these recent reports is the tacit acceptance of the view that elevation of the blood cholesterol is bad or dangerous. But it should be noted that whether a person is under such emotional stress or not, reduction in the saturated fats and substitution of some poly-unsaturated fat in the diet will certainly cause the cholesterol to fall. The moral may be that people under stress should be particularly careful about their diet.

POSSIBLE EFFECTS OF EMOTION

Categorical denials are dangerous in science. There is no objective evidence in man or animals that prolonged tension or emo-

tional strain, or any number of periods of emotional excitement, can induce atherosclerosis or cause the blood to clot in the arteries. But emotions can certainly alter our way of life, reduce us to immobility or fire us to extreme exercise, shut off all desire for food, or, by a curious perversity, lead us to seek solace by gorging. Emotions may even persuade our appetites to favor some kinds of foods over others or alter our sense of values so that we are unresponsive to the sensible signals of a normal physiology telling us when we should eat or exercise or rest or stop doing these things. By such a pathway we can conceive of tension and emotion having an indirect effect on the development of coronary heart disease.

It may seem to be altogether beyond comprehension why there is such frequent acceptance of the theory that tension and emotional stress can cause coronary heart disease, but a leading British physician, Dr. W. Melville Arnott, pointed out that this is really not so strange. The patient, stricken out of the blue, asks himself and his doctor, why? No obvious physical explanation being at hand, patient and doctor alike are driven to consider the intangible world of the spirit and the psyche. In most cases it is no use trying to suggest physical overexertion; very likely the unhappy patient has really not had any heavy exercise since boyhood. Nor, contrary to popular notion, is it often that the attack followed an emotional crisis. But the theory of tension is providential; without explaining anything it puts the blame where it is most acceptable to all concerned. It suggests that the patient's trouble is the unjust reward of unremitting devotion to his responsibilities and the commendable pursuit of high ambitions—all of which is to say that he has been living in a state of stress, partly self-made (but laudable), partly occasioned by the high-pressure times we live in. The fact that this is only a plausible string of words does not make it the less acceptable. In dire illness we are particularly attracted to egocentric conceits, and this theory not only panders to the self-pity of the patient; it pleases the family and appeals to the physician. The doctor is relieved to have recourse to such a well-received theory that also suggests the kind of advice he can give without risk—"Take it easy, relax!"

By the same token it is understandable why there is often surprising resistance to the explanation that the diet, perhaps

abetted by lack of exercise, probably played a major role in developing the disease that finally disclosed itself in the heart attack. To put it baldly, few patients like to think their sad state is the result of years of soft living, indulging in a taste for overrich food and physical indolence.

EXERCISE

The idea that coronary heart disease may be blamed on too much physical exercise never had many adherents and has long since been abandoned. Sometimes, perhaps, an unusual bout of exertion is associated with the precipitation of a dramatic heart episode, but it is universally agreed that in such cases the basic disease was well established previously. Much more to the fore recently is the theory that *lack* of physical exercise promotes the disease. We are inclined to believe that the sedentary life is bad for the arteries and that exercise may have some prophylactic influence. But the evidence is far from clear and it gets mixed up with the dietary problem.

In general, farmers and rural folk are less prone to coronary heart disease than their urban counterparts, and it has been proposed that this is a result of the more vigorous life of the countryman. However, a high level of physical activity is not, by itself, necessarily protective. The incidence of heart attacks and sudden death is remarkably high in rural Finland, where the average level of physical activity is as high as any place in the world. These Finns also have the highest serum cholesterol values we have found anywhere in the world.

The high serum cholesterol level in the rural Finns would be expected to lead to many heart attacks. And their high serum cholesterol level, in turn, is accounted for by their remarkably high intake of butterfat in the diet. The rural Finns are unusual among farmers in having such a high intake of saturated fats. In most areas of the world rural populations eat diets relatively low in fats, a fact shown by the statistics of the Food and Agriculture Organization of the United Nations. Analysis of the effects of exercise on heart disease is complicated because in most societies the men who do hard physical work also differ in their diet from those in sedentary or light work.

The modern idea that lack of exercise promotes the development of coronary heart disease received a major boost from England, where Dr. J. N. Morris found that the London bus drivers, who sit at their work all day, are more prone to heart attacks than the conductors who climb up and down the stairs of the double-decker buses to collect fares. Dr. Morris suggested that the difference in heart attacks was caused by lack of exercise. Subsequently, however, it was found that the drivers are fatter than the conductors when they first start to work; the fatter men ask for the more sedentary jobs. Moreover, the drivers are not only fatter; they tend to have higher blood pressures and serum cholesterol values than the conductors. It is not possible to say what are the relative contributions of exercise and diet to these differences.

Research in the United States so far has not resolved this question about the value of exercise in the prevention of heart disease. A large-scale study on railroad employees directed by our colleague, Dr. Henry Longstreet Taylor, indicates that men in the more sedentary jobs are somewhat more prone to die from coronary heart disease than men in the more active jobs, e.g., clerks as compared with switchmen and section (maintenance) workers. But it is not yet possible to conclude that the physical activity itself is responsible. Our own surveys in each of several European countries show an even greater advantage for the more active men, men incidentally who do harder physical work than any of the groups studied in the United States. But these differences in physical activity in European men are associated with differences in the diet and the average blood cholesterol level.

Experiments on animals show that regular, vigorous exercise promotes development of a rich network of coronary arteries; the result is a heart that is better able to carry on if one coronary artery is artificially blocked. It should be pointed out that the animal experiments involved a great deal of exercise continued for long periods in young animals. It is problematical whether something of the same sort of result would obtain in man, particularly with a lower level of exercise begun later in life.

In any case, we are not impressed by businessmen who think they get a lot of exercise because they frequently walk from one desk to another and have a round or two of golf on pleasant weekends. Their wives frequently are much more active physically.

We wish everyone could be persuaded—and be given an opportunity—to spend at least an hour a day walking around outside.

The coronary heart patient will, of course, be guided by his physician in the matter of exercise. By and large the best modern thinking on that score is to encourage as much exercise as can be tolerated and to provide a program of increasing exercise somewhat like, on a lower level, the retraining of an athlete who has allowed himself to get out of condition. The heart muscle, even if it has a small scar in it, can be strengthened by exercise in the same way as any other muscle.

ALCOHOL

Wines and other alcoholic beverages as a part of the diet are discussed in Chapter 16. Here we are concerned about the general question of alcohol and heart disease. Alcohol is of interest because of its effect on the nervous system, because it provides calories, and because it may affect the cholesterol level in the blood.

Alcohol is not really a stimulant; it actually depresses the nervous system and thereby may help the overly tense person to relax. Many doctors advise some of their cardiac patients to take an occasional drink for this reason. Alcohol also depresses sensitivity to pain but this is not always an unmixed blessing for the heart patient. The pain of angina pectoris may be a useful warning that protects the coronary patient from dangerous overexertion.

The relevance of alcohol to obesity is obvious when we realize that alcohol provides almost twice as many calories as an equal weight of sugar, calories that have essentially the same fattening effect as calories from any other source. A couple of cocktails will provide more calories than an ordinary sandwich. Moreover, within limits, alcohol increases the appetite. It is not surprising, then, that weight control may be a problem in the cocktails-every-night sector of the business and professional class in spite of moderation in food at the dinner table.

But the chronic drunkard is more apt to be thin than fat because alcohol, in large amounts, spoils the appetite and eventually deranges the digestion to the point that food has little appeal. Chronic alcoholics on Skid Row have been reported to be less

prone to atherosclerosis and coronary heart disease than "normal" persons, but even if this is true the "protection" is probably the result of semistarvation.

The well-fed alcoholic, on the other hand, may run an extra risk. The person who has delirium tremens at the end of a heavy drinking spree often has extremely high blood cholesterol values. Experiments with dogs show that the blood cholesterol invariably rises when they are chronically drunk, and the increase is particularly striking if the diet is high in fats. So with alcohol, as with all items of the diet, we urge moderation for both heart patients and those who hope to avoid being heart patients.

DRUGS AND SPECIAL ANTI-CHOLESTEROL AGENTS

Physicians now have available many potent drugs for the management of heart disease—drugs to strengthen the action of the heart muscle (e.g., digitalis and related compounds), to help keep the heart beat regular (e.g., quinidine), to relieve the acute pain of angina pectoris (e.g., nitroglycerine), to lessen the tendency of the blood to clot (e.g., heparin and dicumarol), to help the body get rid of the excess water that collects in heart failure (the diuretics), antibiotics to reduce the danger of rheumatic fever, and a wide variety of drugs to reduce the blood pressure. All of these can be valuable and even life-saving when properly prescribed for suitable patients; none should be used except on the advice and under the control of a physician.

Lately physicians, their patients, and many clinically healthy people are hopefully asking about drugs for the control of the cholesterol in the blood. And pharmaceutical manufacturers are anxious to oblige. For a time various vitamin preparations and so-called "lipotropic agents" were promoted and many are still on the market. Lecithin, choline, inositol, pyridoxine (vitamin B_6) were particularly touted. But all of these are increasingly hard to sell in the face of uniformly negative reports from properly controlled investigations. Now two new approaches are offered.

The first is suggested by a central point made in this book, namely that while saturated fats raise the serum cholesterol level,

some liquid oils, those rich in poly-unsaturated fatty acids, tend to depress it. So why not seek out the most highly unsaturated of such oils, dress them up a bit, and sell them through the high-profit drug trade for the control of the blood cholesterol? Soon after the word about the diet fat-cholesterol story began to get around, many pharmaceutical firms were in the business, adding some vitamins or "lipotropes," or color or flavor, making emulsions, and offering fancy packages to the public at a price many times what the essential ingredient, the oil, would bring otherwise.

The favorite of the oils used in this way is safflower oil because it is very low in saturated fats (5 to 10 per cent) and very high in poly-unsaturated fats (up to 80 per cent). The seed oils of the poppy, passion fruit, and sunflower have much the same composition and action but have not been so popular with the drug houses. These preparations are not dangerous and, when used in fairly generous amounts, at least an ounce (30 cubic centimeters) daily, will generally have some effect in lowering the blood cholesterol. But safflower and these other oils are full of calories (9 calories per gram or over 200 in a fluid ounce) so eventually the diet must be adjusted also. Besides, we object to selling a simple food item as a drug at a great differential in cost to the consumer. In any case, these poly-unsaturated fat materials, whether taken as a drug or as a food, offer no cure but, at best, a method of help to manage the blood cholesterol level; you must keep on taking them indefinitely to maintain any benefit. We think it far better to incorporate such materials in the regular diet.

The second new approach is the use of real drugs. The first of these is niacin (nicotinic acid), in very large amounts, currently prescribed for many patients. The vitamin effect of niacin (the "anti-pellagra vitamin") is achieved with a few milligrams a day, which will be provided by any good diet. But if thousands of milligrams of niacin are ingested daily the serum cholesterol generally declines and stays reduced so long as the dosage is maintained (usually 3 to 10 grams every day). How this effect is produced is unknown. Curiously, niacin amide ("nicotinamide"), which is equally potent as a vitamin, has no effect on the cholesterol level. This is a pity, for niacin in a dose of the order of 50

milligrams or more causes a violent flushing and itching of the skin whereas niacin amide does not. The flush and itch usually last less than an hour after taking niacin, and in most patients this highly unpleasant reaction is reduced or even ceases after a few weeks of dosage. But there are some cases of more alarming side effects, and there are increasing reports that this treatment may be less safe than thought at first. Some special preparations of nicotinic acid are also on the market but we do not know any to recommend.

Chemists have worked feverishly to capture a potentially rich market in drugs for the control of the blood cholesterol, mainly by interfering with its production in the body. Only one such drug, triparanol (MER/29), has been allowed to have general usage but grave doubts have arisen about this. Triparanol lowers the cholesterol level in many patients but it now appears that a related compound, desmosterol, may then accumulate in the body instead. Further, serious side effects may result—loss of hair and changes in its color and texture, rash, itching and severe scaling of the skin, cataracts in the eyes, interference with function of the adrenal glands, and various other adverse effects. The producers of MER/29 finally (1962) complied with the insistence of the U. S. Food and Drug Administration and sent out a warning to the medical profession about these adverse effects and withdrew the drug from the market.

No drug preparation, or even diet, *cures* high blood cholesterol. At best, the cholesterol level may be controlled as long as the drug or diet regimen is maintained. So when considering possible control by drugs we must ask, will this be safe to use every day, for years, for life? We much doubt that any drug that really interferes with the body chemistry of cholesterol will be safe to use indefinitely. We think that if a diet naturally results in a high blood cholesterol level, the body produces this result as a part of its adjustment to that diet; to disrupt this adjustment artificially by drugs may lead to trouble.

SALT AND HEART DISEASE

Is salt in the diet bad for the heart? This question is often asked because it has been suggested that a high salt intake may promote high blood pressure and because many heart patients are advised by their doctors to eat a low salt diet.

Salt restriction is important for the patient with heart failure because it helps to control edema. In heart failure the heart is sluggish in moving the blood along from the veins to the arteries with the result that a back pressure builds up and fluid tends to accumulate in the body. This waterlogging (edema) is both distressing and a serious complication. The extra weight of the edema fluid, which may range from 20 to 60 pounds or more, means that every movement of the body demands excessive work from an already overburdened heart. Fluid in the lungs interferes with respiration and the patient may literally drown from edema of the lungs.

Edema fluid is a dilute salt solution, like the other fluids of the body, and cannot be formed unless both salt and water are available. Preventing edema by water restriction is difficult and extremely disagreeable for the patient. But salt restriction, though not very pleasant, can be effective; without salt, the kidneys, if they are in reasonably good shape, get rid of excess water because the kidneys strive to maintain a constant salt concentration in the blood.

In the normal person there is no back pressure in the blood to push fluid into the tissues, and the kidneys readily control the salt concentration of the blood over a wide range of both salt and water intake. The situation is very different from that in the heart patient who is in or near heart failure. There is no reason to argue that because salt restriction is good in heart failure it, therefore, may help *prevent* heart disease.

Salt restriction is also sometimes employed in the treatment of hypertension, even though there is no sign of heart failure. The rice-fruit diet is one form of this salt restriction treatment. This is a rather heroic measure because anything short of true salt starvation is ineffective; the salt restriction must be extreme. Special foods and methods of cooking are required, and even with the greatest efforts this treatment is often unsuccessful in controlling severe hypertension. Obviously this is a special treatment for special patients; the fact that it sometimes works does not justify the claim that a high salt diet causes hypertension or that a low salt intake will help prevent the disease.

Arguments against a high salt intake for persons who have neither heart failure nor hypertension are based mostly on the observation that enormous salt doses given to rats may damage the kidneys and result in hypertension. But human diets never approach the salt loading used in such experiments, and it is questionable whether these animal experiments are relevant to human diets. As in other problems of heart disease, reasoning from artificial extremes in animal experiments may be misleading.

Still, it is interesting to note that persons who habitually salt everything are reported to have, on the average, somewhat higher blood pressures than do those who taste first and then decide whether or not to add salt. No difference between these types of people in the incidence of actual hypertension has been proved, however. In Japan, where the amount of salt in the diet is high —apparently much higher than in the United States—the incidence of hypertensive disease is also high. Many doctors in Japan blame the salt in the Japanese diet, but there is no real evidence that it is actually the reason for so much hypertension in Japan.

The conclusion from all this, we think, is that real salt restriction should not be attempted except on the advice and under the supervision of a physician but that moderation in salt use is sensible for everyone. Incidentally, "salt" here means not only common salt, that is, sodium chloride, but also flavorings such as sodium glutamate which derive their salty taste from the sodium in them. Sodium glutamate, sold under several trade names ("Ac'cent," "Ajinomoto," etc.), is a useful adjunct to cooking but must be considered to be much the same as ordinary salt for the patient with hypertension or heart failure. The main flavor in soy sauce (*"shoyu,"* "soya sauce," etc.) is that of sodium glutamate.

Some people naturally crave more salt than the average, but excessive salt use is often the result of attempting to put taste satisfaction into otherwise tasteless food. After a while dousing everything with salt may become a habit, just like putting butter on everything. In both cases the answer to prevent and correct bad eating habits is in better cookery.

In summary, here is our best advice:

See your doctor regularly; do not worry but decide to Eat Well and Stay Well, and—

1. If you are fat, reduce.

2. Restrict use of fats in dairy products and in ordinary meats.
3. Use vegetable oils in cookery, not as medicine.
4. Avoid hydrogenated products but if you insist on a spread, use the newer margarines.
5. Avoid heavy use of salt and sugar.
6. Favor fish, shellfish, poultry, fresh vegetables, fruits, non-fat milk products.
7. Do not depend on the drugstore or vitamin peddlers for a good diet.
8. Be sensible about cigarettes, alcohol, excitement, business strain.
9. Get plenty of exercise, with recreation and work out-of-doors.
10. Learn more about cookery and have fun without saturation.

Chapter 2

BASIC NUTRITION

The elements of good general nutrition must not be neglected in our concern about fat food, fat people, and the art of cookery. A brief summary of basic nutritional facts, oriented toward the purposes of this book, is provided here. Though we have tried to provide automatic assurance of attaining general nutritional excellence in the recommendations and menus in this book, nothing takes the place of understanding. If you wish more details, the References at the end of this book are recommended.

Since the art of cookery and the science of nutrition emphasize different values and for the most part appeal to different temperaments, a happy marriage of the two will not come about until cooks and gourmets on the one hand and nutritionists on the other admit that neither of their specialties alone is enough for the truly civilized man. There is more than a little antagonism between White Coat in the laboratory, whose best efforts sometimes threaten to end up only as an ideal mixture for growing rats, and White Hat in the kitchen, who is sometimes irresponsible about health and whose delightful concoctions may put blubber on our bodies and clog our arteries.

The triumphs of nutrition consist in discovering the chemical entities in foods and the way in which they are converted into fuel for energy and into the very substance of our bodies. "*Mann ist was er isst,*" "Man is what he eats," as Goethe said, and the universal acceptance of this aphorism means that, as with the oracles of Delphi, each of us can interpret it to fit his personal bent. Man is a good deal more than a collection of chemicals, and life is more than a sequence of anabolism (growth), metabolic steady state, and catabolism (breakdown). But unless the collection of chemicals is nicely balanced and the metabolism so well ordered as to be unobtrusive, we are not free for the cerebral and

aesthetic pursuits in which we can be contemptuous of unadorned nutrients. The continuance of life in at least a reasonable state of health is prerequisite to the cultivation of any of the arts, including cookery.

Given an abundant supply of natural foods in great variety, human instinct would undoubtedly select a pretty good diet were it not for man's irrepressible ingenuity. With great skill he invents ways of storing and preparing foods that make for convenience and economy but sometimes involve loss of nutritional values as well as changes in flavor. And, let us face it, a good deal of the art of cookery goes into the solution of the problem of persuading people to eat more than they need or want. Finally, the diets we might naturally select are distorted by a host of customs and ideas that once may have made some sense but now bear no relation to either nutritional or gustatory values.

Religious taboos cling to us, though Americans suffer less from them than do East Indians, South Sea Islanders, and many other peoples. Far more pernicious are the universal habits of measuring food value in terms of food expense and of equating luxury in foods with the least effort in chewing and swallowing them. Last but not least, our modern diets may overly reflect the commercial interests of food processors whose advertising copywriters are sometimes more persuasive than accurate.

CALORIES

The calorie, which is a dirty word in some families, is simply a measure of heat energy. The energy value of the food we eat is either stored as body fat for later conversion, or it is burned in the body—"metabolized" is the technical word—to produce heat and muscular work which is calculated as heat. The basic nutrients used in this way are carbohydrates, fats, and proteins, represented in their purest forms in ordinary foods by the examples of sugar and cornstarch, by lard and salad oil, and by cottage cheese and egg white, respectively.

In the dried form, free of water, carbohydrates and proteins supply about four calories per gram (114 calories per ounce) while the same weight of fats supplies about nine calories (256

calories per ounce). Weight for weight, olive oil or lard supply somewhat more calories than coal and slightly fewer than fuel oil when they are burned in a suitable furnace. The special feature about foods is that the body can burn them.

Since most of the carbohydrate we eat is in the form of potatoes, bread, and other cereal products in which water accounts for a good deal of the weight, the addition to such foods of even modest amounts of fats and oils, which contain little or no water, greatly increases the calorie content. Take a medium-sized baked potato (⅓ pound), add three pats of butter (¾ ounce), and the calories go up 250 per cent (125 + 188 = 313 calories).

Most so-called "protein foods" are actually low carbohydrate foods and their main calorie content is in fats, not proteins. The fat calories are more than double the protein calories in whole milk and in whole eggs; three fourths of the calories in hamburger steak are fat calories. The more of these "high protein" foods we use and the more we add fats and oils to our diets, the more concentrated in calories become our diets. To some extent this is offset by the high satiety value of fats. If you would be "filled up" by a half pound of carbohydrate, you probably would reach the same level of satiety with a good deal less than half a pound of fat.

Calories are in bad repute lately, but most of the history of mankind has been a struggle to get *enough* calories and many of the world's peoples could use more than they get. Besides, calorie satisfaction is the only pleasure to be had daily at every age from birth to the end of old age. (To this solitary universal pleasure a cynical philosopher could add the pleasure of excretion!) The real difficulty is that sedentary modern life reduces calorie expenditure to such a low level that even indulgence in a modest degree of calorie satisfaction may lead to obesity.

Obesity is discussed in a separate chapter. Here it is enough to note that obesity is always the result of taking in more food calories than the calories expended as work and heat. In terms of energy, a calorie is a calorie, equally capable of inducing obesity, no matter what the source, but proteins, fats, and carbohydrates, the three components of our food energy, are physiologically very different in other respects.

PROTEINS

Proteins are good (although expensive) sources of calories, but they have another great nutritional value not shared by carbohydrates or fats. Protein is the real living stuff of the body; an abundance of it is necessary for growth. Even in the adult the protein in the body does not stay still, it is continuously being broken down and built up again, and a little is lost along the way. The minimal protein loss in this way, which must be made up by protein in the diet, is not much more than an ounce a day for the average adult, but to be on the safe side it is advisable to eat twice this amount (as protein, not merely as high protein food).

All proteins are not equivalent for this purpose, and those from animal sources—from meat, eggs, milk, and fish—tend to be most efficient. However, a good mixture of vegetable proteins does very well, and you could certainly get along with no meat or fish at all if necessary. But in that case it would be wise to use plenty of skim milk and cottage cheese. Very few adults in this country are protein-starved and only rarely is there any need or excuse for buying special protein or amino acid supplements. Consult your physician in case of doubt.

CARBOHYDRATES

Traditionally, carbohydrates are the great source of calories and for many of the world's populations 60 to 75 per cent of the food calories are in this form. In the European and American dietary tradition, too, carbohydrates were formerly much more important than they are now. But at present the U. S. Armed Forces, for example, get barely 40 per cent of their calories from carbohydrates, and the whole population has gone almost as far in the replacement of carbohydrates by fats in the diet.

Among the carbohydrates in the American diet, the proportion of sugars to starches has increased in modern times; we eat more sugar and much less starch than formerly. We do not object to sugar within reason but this is scarcely a change for the better, in spite of the propaganda about the "quick energy" value of sugar. Besides the suspicion that sugar promotes tooth decay (dental

caries), sugar is a highly refined chemical which carries *only* calories, and none of the protein, vitamins, and minerals that most other foods provide in some measure.

As for different kinds of sugars, there is little nutritional difference. Brown sugar provides a microscopic bit of minerals and tastes different because some caramel from processing persists. Glucose (dextrose) is no more quick to provide energy than ordinary household cane or beet sugar (sucrose), but it is less sweet.

Pure starches (for example, cornstarch) are like sugar in providing only "empty" calories, but the "starchy" foods we eat—potatoes, breads, spaghetti—are by no means only calories. Potatoes provide significant amounts of vitamin C and of nicotinic acid, while the whole-grain cereals provide many water-soluble vitamins as well as proteins. The rather low opinion in which starchy foods are often held is not justified, we think, and the idea that starchy foods make people fat is a misconception. Some starchy foods are rather concentrated sources of calories—but far less so than fats—and getting fat is basically simply a matter of calories.

FATS

Fats are by far the most concentrated sources of calories and so are prized by men doing hard physical work in cold weather when there is a problem of sheer bulk of food to swallow in order to supply their high calorie need. Fats tend to be slowly digested so they have good "staying power," which is important if you are an explorer on an arctic trail. They also tend to be associated with fat-soluble vitamins as well as carrying "essential" fatty acids, but otherwise their nutritional virtue is simply as calories.

Many people like the taste of fats and the greasy sensation they make in the mouth. But perhaps the main reason most fats are eaten is that they soften foods and are very useful in cookery. These values can be achieved by intelligent cookery with much less fat than is customarily used, as will be seen in our menus and recipes. Different fats have different cooking properties, but we are now learning that oils can be used instead of solid fats with excellent results in most situations. Extremely low fat diets—less than 15 per cent calories from fats—are disagreeable for most Americans but can be fully satisfactory nutritionally.

Fortunately it is unnecessary to go to such extremes for blood cholesterol control if the fats are properly chosen. Around 25 per cent fat calories, with 30 as the upper limit, is suitable, provided that not more than about one fourth of the fatty acids are of the saturated type (see Chapter 3). This means an allowance of 6 to 7 per cent of calories from saturated fatty acids or about 12 to 14 per cent of calories from the sum of meat and dairy fats, since saturated fatty acids make up about 50 per cent of these fats.

VITAMINS

Vitamins are accessory nutrients, chemical compounds necessary for the body and its metabolism, that the body cannot make for itself but must obtain from foods. In spite of the fact that a good diet will supply all you need, a vast business has been built up on the fears and wishful thinking of a nutritionally gullible public. Fortunately, excesses of vitamins seem to be harmless except for those in the fat-soluble group, and even these become toxic only at huge dosage levels. A big serving of polar-bear liver can be quite poisonous, a fact long known to the Eskimos and only lately understood by the biochemists. The toxic action results from the enormous concentration of vitamin A in it. Otherwise, even the vitamin crank who buys out the pill counter seldom runs any risk unless his enthusiasm centers on the fat-soluble group. Great excess of vitamin D can be harmful too.

Most of the vitamins are water-soluble, and this results in serious losses of them when foods are cooked for a long time in large quantities of water. But this is only part of the reason for using minimal water and short cooking times for vegetables; the result tastes better. Another pernicious custom in vegetable cookery is the addition of baking soda, which tends to destroy some vitamins without any compensating virtue we know of. The cook who boils the peas for forty minutes in a quart of water with soda added should be indicted for assault and battery on the taste as well as for negligent nutricide.

We defy anyone but a metabolic freak to suffer from vitamin deficiency while following the admonitions and menus in this book. As far as possible we have emphasized foods that are good sources of vitamins and have provided cooking methods that con-

serve them. The menus offer a great variety of foodstuffs, and a diet of such varied food alone is a guarantee that you will get not only all you need of the known vitamins but also those still to be discovered and not yet stocked in the drugstore. Finally, the reduction in the "empty calories" of fats and oils means replacing those calories with foods that offer more than calories and greasiness. In other words, you do not need to know much about vitamins to get an abundance of them. But the notes below may clarify a few points.

FAT-SOLUBLE VITAMINS

The fat-soluble vitamins, A, D, and E, are stored in the body for a long time, so it is unnecessary to insist that these be supplied liberally every day or even every week. For adults the most important of these is vitamin A. But a diet *devoid* of A (which is not easy to devise) produces no sign of harm for many months if you have been well nourished previously. Years ago people were frightened into buying vitamin A concentrates because they did not see very well in the dark or had frequent colds. Research has de-emphasized these ideas. Vitamin A deficiency to the point of night blindness is certainly very rare in this country. As for warding off colds and other infections with vitamin A, we wish the Federal Trade Commission would do more to stop advertising this claim.

Vitamin A as such is supplied in liver and sea foods and we advise you to eat fish and sea foods not less than once a week and liver several times a month. But your diet will also provide, in the bright-colored fresh vegetables we recommend so highly, large quantities of carotene which is converted into vitamin A in the body. Severe vitamin A deficiency *can* cause dry skin but if your skin is dry it is highly unlikely that you will benefit from more A; get some moisture into the house, rub a little lanolin cream into your skin. The next step is a visit to your physician, not to the drugstore. As for night vision, try avoiding bright lights before you go out in the dark.

Vitamin D prevents rickets, and rickets is an affliction of childhood when the bones are developing. Whether adults need any vitamin D is not known, but if it is really needed there are three

good sources at hand. Fish and sea foods are the most abundant natural source. Vitamin D is added to milk and vitamin D skim milk is more common than the plain variety; we can get no other in our neighborhood. Finally, probably the most truly natural source of vitamin D is that made in your own body when your skin gets a little sunshine. Small amounts of D are provided in meats also.

Vitamin E has been the subject of more nonsensical claims than most vitamins—which is saying a lot. With great labor you can devise, for animals, a diet devoid of vitamin E, and if you maintain rabbits on this long enough they have muscular disorders and become sterile. The latter point was seized on hopefully by some would-be exploiters but, alas!, dosing with vitamin E and wheatgerm oil seems to be only one more futile gesture in the age-old search for fertility and virility.

Vitamin E has not been shown to be necessary for man, probably because all human diets contain more than enough for minimal needs. One small but vocal clinic in a nearby country has made a lot of noise about the use of vitamin E in a variety of ailments including coronary heart disease. They have dispensed enormous amounts of E but so far have convincingly demonstrated only their own monomania to medical scientists. If you are concerned about vitamin E, note that the cooking and salad oils we recommend, such as corn oil and cottonseed oil, are loaded with it. Eat as we suggest and you will get several times more vitamin E than you did on your old diet.

VITAMIN K

Vitamin K, the anti-hemorrhagic factor, is a vitamin in the sense that it needs to be supplied from outside the body in certain uncommon disease states. Vitamin K is present in many foods, notably in spinach, cabbage, pork, and soybeans, but equally important may be the fact that this vitamin is synthesized by bacteria naturally in the digestive tract. Doctors sometimes prescribe vitamin K for pregnant women just before time for delivery as a precautionary measure. Another use for vitamin K is to counter overdosage of anti-coagulant drugs, but here again vitamin K is for your doctor, not you, to worry about.

THE ESSENTIAL FATTY ACIDS

Small amounts of certain poly-unsaturated fatty acids are needed in the diet to assure full health. Linoleic acid, which is abundant in most natural vegetable oils, is the most talked about of these "essential" fatty acids. There is some evidence that the need for linoleic acid is increased when the diet is high in saturated fatty acids and cholesterol. Though human requirements are unknown, we suggest, to be on the safe side, that not less than 2 per cent of the diet calories should be supplied by linoleic acid. This means around 5 to 7 grams in the usual U.S. adult diet. Actually, it is difficult to devise a varied diet that approaches this low level. The Eat Well and Stay Well diet, using vegetable oils in preference to the saturated fats, far more liberally supplies the essential fatty acids than do more customary American diets.

THE B VITAMINS AND ASCORBIC ACID

The water-soluble vitamins include the members of the B complex and ascorbic acid, or vitamin C. Such concern as we have in America about vitamin deficiency is most legitimately directed toward this group. Being water-soluble, they are readily leached out of foods by prolonged cooking in a super-abundance of water, and they are lost if you then discard the liquor.

Besides this inexcusable method of losing the vitamins (and minerals), some of the water-soluble vitamins are destroyed by prolonged cooking, particularly thiamine (vitamin B_1) and ascorbic acid (vitamin C) in alkaline media. We have already condemned the addition of baking soda, which is alkaline, in cooking vegetables. Copper and iron pots also hasten the destruction of vitamin C, though we have not been impressed by the seriousness of this in our own experiments, which were carried to indecent lengths for good cookery. We even tried adding copper "Chore Balls" to the cooking vegetables without destroying very much vitamin C when we were attempting to devise nearly vitamin-free diets for dietary experiments.

Thiamine (B_1) is probably the most critical of the vitamins. A diet devoid of this vitamin produces trouble in man in a few

days, the first signs being loss of appetite, nausea, and apathy. Fortunately a varied diet of natural foods with a good supply of vegetables and some lean meat or whole-grain cereal takes care of ordinary needs. Organ meats (heart, liver, kidney) are excellent sources, and among muscle meats pork is better than beef. All of the legumes (beans, peas, lentils) are rich sources, as are the whole grains. A principal virtue of enriched flour and bread is the thiamine added to replace that removed in refining wheat.

Niacin (or nicotinic acid, the anti-pellagra vitamin) is widely distributed in foods—in meats, fish, nuts, poultry, and most fruits and vegetables. Monotonous diets in which corn meal is the major item can lead to the triad, "dermatitis, diarrhea, and dementia," that is to say, pellagra, because of niacin deficiency. This old plague of the South disappeared as soon as a greater variety of food was ushered in with the improved economic situation in our southern states. The niacin added to enriched bread and flour helps to keep the possibility of deficiency remote.

Nicotinic acid and its amide, nicotinamide, are equivalent in vitamin effect; either may be used to combat pellagra. Nicotinic acid, but *not* nicotinamide, in heroic doses many times that needed for the vitamin effect, has a special effect on the blood cholesterol level. This is discussed in Chapter 1 under DRUGS.

Other vitamins in the B complex are important too, but their abundance in all varied diets of natural foods, especially in such a diet as recommended in this book, robs them of practical interest for ordinary people. Perhaps riboflavin, sometimes called vitamin G, or B_2, is an exception deserving a comment, because it was once the subject of "scare" articles in the popular press. First estimates of the amount of riboflavin needed to assure coverage of all ordinary human needs were unduly high, and tentative recommendations for a good dietary allowance were still higher. Dietary surveys indicated that many people were not getting as much riboflavin as provided in these super-generous recommendations, but the excitement about this riboflavin "deficiency" in millions of Americans was deflated by more accurate studies of the "requirements." Riboflavin is abundant in whole grains, meats, poultry, eggs (both whites and yolks), and practically all vegetable leaves and stems. Skim milk, liver, and kidney are very rich sources of riboflavin.

VITAMIN C (ASCORBIC ACID)

A striking change in the American diet in modern times has been the increase in vitamin C or ascorbic acid. Not so long ago our main sources of this vitamin were potatoes and cabbages; what northern Europeans did for their ascorbic acid before the potato was introduced from America in the sixteenth century is a mystery. The tomato (another food unknown before the discovery of America) is a very fine source of vitamin C, but only in quite recent times have we been eating many tomatoes. The development of a year-round supply of citrus fruits, and especially the adoption of them and their juices as the standard way to start the day at breakfast and the much increased popularity of tomatoes, has meant a vast increase in our consumption of vitamin C.

This is all to the good. Our menus are strong on the side of ascorbic acid. We advocate oranges as between-meal snacks and for dessert, as well as the use of citrus fruit at breakfast. Grapefruit, too, serves to begin *and* end meals. We also suggest fresh tomatoes for midmorning or midafternoon refreshment. The small yellow Peruvian or "plum" tomatoes are excellent for this purpose, and they happen to be extraordinarily high in ascorbic acid. Green peppers, too, are another very rich source of vitamin C.

But frankly, our emphasis on citrus fruits and tomatoes is not only because of their ascorbic acid content. We insist that these are extremely good foods, a perennial delight to the cook and the consumer, be he a plain eater or a fastidious gourmet.

You would think the citrus producers would be content to see the demand for their wares so much increased, but they tend to gild the lily with unjustified claims about warding off or treating colds with citrus products. Legal challenge to the extravagances in these advertisements is overdue.

Some years ago Russian doctors proposed that very large doses of ascorbic acid—500 to 1000 mg. daily, or 10 to 20 times ordinary needs—might be useful to reduce blood cholesterol and the development of atherosclerosis. We have tested this carefully in a large metabolic ward and found no cholesterol effect, nor have other investigators confirmed the Russian idea.

MINERALS

The minerals in foods are important, of course, but they are not apt to be critical for adults living on the kinds of foods and menus recommended in this book. Calcium for bones and iron for blood will not be lacking, phosphorus is not a problem anyway, and the diet we propose is unusually rich in potassium. As for iodine, our liberal use of sea foods provides more iodine than in most diets. In any case we presume that iodized salt will be routinely used in the wise household.

Sodium, which we get mainly in ordinary table salt, poses interesting questions which were discussed in Chapter 1. The main problem is too much salt. We need not worry about a deficiency even in hot weather, when we lose salt in sweat, so long as we eat and salt "to taste." Most heat fatigue and heat cramps result from drinking too little water. Salt tablets are needed only when you stop eating because of the heat and foolishly decide to live on beer, highballs, and soft drinks.

Heavy salting of food is usually an attempt at compensation for otherwise flavorless cookery. Ten grams, or a third of an ounce, of salt (as sodium chloride) daily should suffice for any situation, including hot weather, and less than that would be a good general rule. Taste before you salt, and remember that soy sauce is about 10 per cent salt and that sodium glutamate ("Ac'cent," "Ajinomoto," "MSG") counts the same as ordinary salt but has more flavor.

Some years ago it was suggested that lack of magnesium in the diet may raise the cholesterol in the blood and promote atherosclerosis. More careful researches fail to confirm this idea. In any case, the diets in this book are unusually high in magnesium.

Modern food and beverage technology, particularly canning foods, adds tiny amounts of certain metals—tin, copper, zinc, cadmium—to the diet. Do these metals contribute to our plague of heart disease? The theory seems to be far-fetched and there is no real evidence of an effect, good or bad. But it should be noted that, for other reasons, we advocate a maximum of fresh foods, so if our advice is followed you may forget about these metals and their possible effects.

Chapter 3

FATS AND OILS

The purpose of this book is not merely to provide a guide to good eating and sound nutrition with control of calories and total fats; almost equally important is the proper selection of the kinds of fats to eat.

If you only want practical advice without worrying about the reasons involved, it may be enough to observe the following:

1. All food fats and oils have about the same calorie value but they differ in their effects on the blood and on the arteries. The fats that are most liquid at ordinary temperatures are usually most acceptable in this respect. These are generally "unsaturated" fats. The hard fats, whether of animal or vegetable origin, are the ones to be most carefully restricted. These are the "saturated" fats.

2. Among the fats to be favored are cottonseed oil, corn oil, sunflower seed oil, safflower seed oil, sesame oil, and the fats in fish and sea food. Most, but not all, natural fats of vegetable origin are in this class.

3. Among the fats to be used with discretion in the diet are dairy fats (in butter, milk, cheese, etc.), beef, pork, and lamb fats, lard, coconut oil, margarines, solid shortenings, and the fat in chocolate.

4. In an intermediate position are olive oil and peanut oil and, rather less desirable, egg and poultry fat. The oils in nuts range from "intermediate" to "good" in respect to the effect on the blood cholesterol.

5. Large amounts of fats of any kind in the diet are to be avoided because of their high calorie density—far more calories per mouthful than you get in any other kind of food—and their immediate effect on the blood. For several hours after a fatty

meal, the blood is "sticky" and its clotting property is altered. It is suspected this sets the stage for possible thrombosis or clotting in the blood vessels.

6. Special oil preparations in fancy packages, for use in salads and cooking or to be taken before or with meals, are being promoted for "protection against heart and artery disease." None of these is recommended as being more desirable than the common corn and cottonseed oils available at far lower cost at every grocer's shop.

7. Trade names of oils and oil preparations containing the syllable "saff" generally refer to safflower seed oil. This is a highly unsaturated oil containing lots of the "essential" fatty acid, linoleic acid, but it is not significantly different in effect on blood cholesterol from more common vegetable oils such as corn oil.

8. Read the labels on the food products you buy. "Hydrogenated" or "Improved by Hydrogenation" simply means that the natural oil has been treated to make it less liquid, thereby destroying most of the essential fatty acid and converting the oil to a more saturated fat that is less desirable in regard to blood cholesterol than the natural material.

9. The new types of margarines and shortenings that are advertised as being "rich in poly-unsaturates" are preferable to the older types, but they are far from equaling the natural oils in respect to effects on the blood cholesterol. Further, hydrogenation tends to produce some "unnatural" fatty acids that may be much less desirable than their natural counterparts.

10. The idea that only butter or lard can be used for some types of cooking is a myth from the days before refined oils other than olive oil were widely available. But one-to-one substitution does not work, and cooking times and processes require adjustment. Our recipes are thus adjusted and other recipes are to be had from the companies selling oils.

11. Heating oils, as in ordinary cooking, or a reasonable re-use of frying oils does not make them dangerous. But never use a rancid or off-flavor fat or oil. Your nose is more sensitive than most chemical tests.

MORE ABOUT FATS

In Chapter 1 we discussed fats in connection with blood cholesterol and the development of atherosclerosis. We observed that ordinary food fats are triglycerides, that is, combinations of three fatty acid molecules with one molecule of glycerol. The latter amounts to less than 10 per cent of the whole in most fats, and the differences between various fats depend entirely on the fatty acids involved.

Edible fats are divided into those that are more or less solid at room temperature, called simply "fats," and the "oils" that are liquid under the same conditions. They are all insoluble in water but dissolve in the "fat solvents" (ether, gasoline, alcohol, chloroform), and they all yield about nine calories per gram (4100 per pound) when they are burned, either in the body or in an oil lamp.

The fatty acids differ from one another in the length of the chain of carbon atoms in them and in their "saturation." The fatty acids in foods range from butyric acid, with only four carbons in the chain, to those with chain lengths as long as 24 or more carbons, but very few food fats contain appreciable amounts of fatty acids with chains of more than 18 carbon atoms. In general, the longer the chain length the higher the melting point, and there may be a tendency for the speed of digestion to decrease as the melting point goes up.

The blood cholesterol concentration is greatly affected by the degree of saturation of the fatty acid, that is, the extent to which the carbons in the chain are loaded with hydrogen atoms. The saturated fatty acids raise the cholesterol in the blood, and the carbons in these fatty acids are fully saturated with attached hydrogens. Fatty acids with one double bond, called mono-enes, have one point of unsaturation, one place in the chain where two carbons are doubly joined, so that each of these carbons could take on one more hydrogen atom. Oleic acid, which makes up most of olive oil, is the main mono-ene, and it has little or no effect on blood cholesterol. Linoleic acid is the main example of a fatty acid with two double bonds, and this poly-ene, or polyunsaturated fatty acid, which is abundant in many fats of vegetable origin, tends to depress the blood cholesterol. Linolenic acid, prominent in linseed oil, has three double bonds, arachidonic acid has four, and the fatty acids in fish oils contain up to six or more double bonds. All of these poly-enes seem to act like linoleic acid in regard to cholesterol.

The more double bonds, the more liquid is the fat; conversely, the more saturated, the more solid is the fat. But if the chain length is short enough, even fully saturated fats can be liquid. This explains why coconut oil is liquid though it is almost completely saturated; a large proportion of the fatty acids in coconut oil have only 12 or fewer carbons in the chains. Similarly, fish oils contain chains of more than 20 carbons but these have many double bonds and the result is a liquid oil.

HYDROGENATION

Double bonds are points of instability in the molecule, so polyunsaturated fats tend to oxidize and become rancid more easily than the saturated fats. This is one reason why food processors like to hydrogenate their oils, treating them with hydrogen so as to force hydrogen atoms to fill the points of unsaturation. The result is a fat that keeps longer.

The other reason for hydrogenation is to convert a liquid oil into a solid fat. Solid fat can be used as a spread and hence can be offered as a butter substitute (margarine). Equally or even more important is the fact that hydrogenated vegetable fats can be made to resemble butter or lard in baking properties so as to be substituted in equal amounts in recipes. Since vegetable fats can be produced much more cheaply than lard or butter, the economic advantage of hydrogenation for shortenings is obvious.

Experimentation with cookery, however, shows that liquid oils can be used practically as well as, and for some purposes better than, solid shortenings by adjusting the recipes. Moreover, better oil-refining methods, attention to marketing oils when they are fresh, and the use of refrigeration have combined to reduce the problem of oil rancidity, so part of the advantage of hydrogenation is disappearing.

Commercial hydrogenation does not saturate all of the double bonds. Some of the oleic acid is converted to a completely satu-

rated fatty acid, but the main change is usually the conversion of most of the linoleic acid to a mono-ene, that is, only one of the two double bonds is saturated. But this does not mean merely changing linoleic to oleic acid; a substantial part of the mono-ene formed is not oleic acid but an isomer, elaidic acid, with the same number of atoms but differently arranged. Moreover, some of the linoleic acid does not lose either of its double bonds but these are rearranged to make isomers with somewhat different properties.

In the natural fatty acids such as linoleic and oleic acid, the molecule bends back on itself at the point of a double bond; this is called the "cis" structure. In the other arrangement, the "trans" structure, the molecule is not bent at the point of the double bond and these "unnatural" trans isomers tend to be formed in hydrogenation. In the diet these trans isomers are not poisonous, but they do have an adverse effect upon the growth of young animals and, of more concern here, they influence the cholesterol and other fatty substances in the blood.

When fats containing these unnatural isomers are substituted in the human diet for equal amounts of natural fats containing exactly the same proportions of saturated, mono-ene and poly-unsaturated fatty acids, the blood cholesterol level tends to rise. While this is undesirable, the cholesterol effect is small and by itself might not worry us. But these unnatural isomers also have a much larger effect in raising the level of the plain fat (triglyceride) in the blood. Some medical scientists believe that the triglycerides in the blood, independently of cholesterol, promote coronary heart disease.

Unfortunately, there is no regulation about the amount of these unnatural isomers in hydrogenated products nor even a requirement that the amount be declared on the label. In fact, many producers do not even know the detailed chemical composition of the fats they sell. Technically, it should be possible to produce margarines and cooking fats with a minimum of unnatural isomers. For example, a part of the oil could be completely hydrogenated to saturated fatty acids and the resulting product could be blended with natural oils to the desired consistency. We hope to see such products in the market some day.

THE NEW MARGARINES AND SHORTENINGS

Since publication of the first edition of *Eat Well and Stay Well* the commercial processors of fats and oils have seen the light and put their chemists to work. New margarines and shortenings are the result, extensively advertised as being "rich in poly-unsaturates," "made from pure corn oil," and so on. The first of the new margarines was sold only in drugstores at a dollar a pound. But this modest drugstore business is lost in the rush to the supermarkets for a dozen or more new margarines, tailored to the demand for lower saturation in our food fats, offered at a price not much more than asked for the older types. The biggest-selling shortening too has been changed in composition to provide a less unfavorable ratio of saturates to poly-unsaturates; other manufacturers are sure to get on the band wagon.

The U. S. Food and Drug Administration curbed the enthusiasm of advertising copywriters in claiming direct benefit to the heart from highly unsaturated vegetable oils, so the people in the fats business are being cautious in their elaborate advertising of these new products. But the fact is that in regard to effect on the blood cholesterol the new margarines and shortenings are definitely superior to the older types. However, in this respect none of the new products is as good as the liquid vegetable oils from which they are made. Further, these new products, like the older types, contain substantial amounts of unnatural isomers and therefore may be expected to elevate the fats in the blood. Finally, the new margarines and shortenings are just as high in calories as other fats and oils, so the dieter should watch out.

The new margarines and shortenings contain an increased proportion of oil and decreased solid fat. This means that, as with oil cookery in general, they should not be substituted one-for-one in recipes that call for butter or solid fat. Usually less will be needed, perhaps three fourths of a measure where a full measure of solid fat is called for.

"ESSENTIAL" FATTY ACIDS

Experiments with growing rats have shown that a diet rigidly freed of all fats produces a variety of disorders that can be cured

with very small amounts of certain poly-unsaturated fatty acids; linoleic and arachidonic acids are called "essential" fatty acids for that reason. Many studies on man, including prolonged studies on infants, show that at most only very small amounts of these fatty acids are essential. The actual amount of these essential fatty acids needed in the human diet is not known, but the best estimates suggest that 1 to 2 per cent of the total calories should be provided by linoleic acid to be on the safe side. It has been suggested, further, that the need for essential fatty acids is increased if the diet is very rich in saturated fatty acids and cholesterol.

So we should include some vegetable oil in the diet to provide an abundance of linoleic acid to cover "essential" needs. On the other hand, there is some evidence that very large amounts of these poly-unsaturated fatty acids in the diet also may cause trouble.

The possible dangers of both under- and over-dosage of essential fatty acids may be forgotten if the menus and general dietary plan of this book are followed. The safety zone is to provide between 2 and 10 per cent of the diet calories from linoleic acid. With a 2300 calorie diet this means 5 to 25 grams of linoleic acid daily, the equivalent of a teaspoon to two tablespoons of corn oil if this were the only source in the diet.

Some years ago the theory was put forth that atherosclerosis may be caused by a deficiency of essential (linoleic) fatty acid in the diet. Extensive research has thoroughly disposed of this speculation. Our own studies around the world show that all populations have a modest dietary intake of essential fatty acids —from about 2 to 6 per cent of the calories—and that neither the cholesterol level in the blood nor the frequency of atherosclerosis and coronary heart disease is related to the amount of linoleic acid in the diets of populations.

CHOLESTEROL AND PLANT STEROLS

Cholesterol, the chief reason for writing this book, is a greasy or waxy substance, essentially tasteless and odorless, insoluble in water but easily dissolved in fat solvents such as ether and gasoline. Cholesterol is not a fat at all but is found associated with the true fats in the animal body. Chemically, cholesterol is an unsaturated monohydric alcohol belonging to the family of sterols which includes such biologically diverse but chemically related compounds as the sex and adrenal hormones, one form of vitamin D, the poison of toad skin, the active ingredient in the heart stimulant, digitalis, and the bile acids.

Cholesterol amounts to 5 or more per cent of solids in the brain and nervous tissue, where it is thought it may act as an electrical insulator and where, in any case, it is effectively isolated from the cholesterol in the blood and in the arteries. Cholesterol is also prominent in the adrenal glands, where it may be a supply of material for the manufacture of the adrenal hormones, and it is a main ingredient of gallstones. All in all, cholesterol is an important and remarkable substance quite apart from its unfortunate tendency to be deposited in the walls of arteries, thereby producing atherosclerosis.

Cholesterol is produced in the human body, chiefly in the liver, and by all animal species, apparently, but it does not occur at all in the vegetable kingdom. Plants, however, produce some chemically related sterols, the phytosterols, which include sitosterol and stigmasterol. These phytosterols can be concentrated from various sources, including soybean oil, and several preparations of them are sold for the purpose of controlling the cholesterol level in the blood, the idea being that these sterols, which are not themselves readily absorbed, will inhibit the absorption of cholesterol by a kind of competition in the intestine.

Dietary cholesterol (in egg yolks, butter, and meat fats) is not entirely absorbed in any case, and that which is absorbed does not have much effect on the blood cholesterol level because of regulation by the liver. But, as noted in Chapter 1, this compensation is not perfect, so dietary cholesterol should not be ignored completely.

If large amounts (15 to 30 grams or ½ to 1 ounce) of the plant sterols are ingested daily, the blood cholesterol frequently falls slightly. But is this useful? The preparations are expensive, any effect they may have requires uninterrupted dosage, and the cholesterol change is generally trivial.

All in all we do not advocate daily phytosterol dosage in the hope that it will prevent coronary heart disease. Research with such substances and with other possible competitors to cholesterol

should continue. In the meantime, we think commercial propaganda should be curbed.

HEATING OF FATS

When fats are subjected to very prolonged heating at high temperature they tend to oxidize and break down. They become offensive to both mouth and nose and would not be eaten voluntarily. But at this inedible stage they can be fed to growing rats, and the result, not so surprising, is that the rats fail to grow well. These experiments, using large amounts of oils super-heated for several days with oxygen blowing through them, have given rise to loose talk and speculation about the dangers of fats subjected to heating in ordinary cooking. The fact is that there is no evidence that such cooking damage can occur without being immediately and disgustingly perceptible to the taste, unless all odors and flavors are drowned by strong spices or condiments. When a fat becomes rancid or otherwise distasteful, it should be discarded, of course. This will happen long before reaching anything like the stage of spoilage of the oils fed to the poor rats.

Chapter 4

OVERWEIGHT AND OBESITY

The urge to reduce is most commonly based on the wish to be more attractive, and this is true of men almost as much as of women. Another common reason for reducing is that it is uncomfortable to be fat. These immediate personal considerations are apt to be more persuasive than talk about possible health problems in the future, but if you are fat, reducing offers three motives: You will look better, feel better, and have a better health prospect.

The general dietary plan presented in this book is easily applicable to the overweight problem. A diet limited in fat content, with severe restriction on butterfat and the common meat fats, is one of the best ways of keeping the calories under control for the long pull. Moreover, the dietary tables and menus in this book allow easy and accurate calorie counting.

We emphasize the "long pull" because, unless you stay reduced, a reducing diet may be worse, biochemically as well as psychologically, than no effort at all. This is one of the reasons why we deplore all bizarre reducing diets that would be intolerable for a lifetime. Are you prepared to give up eating and substitute gulps of "Metrecal" (or the like) forever? Are you happy to face the prospect of fat meat for every meal, month after month, year after year? Do you really think that you can take appetite-killing drugs for the rest of your life? If not, let us see if we can help you.

The overweight person who has heart disease or high blood pressure *must* reduce. If the blood pressure is up, reducing will usually lower it, and in some cases that is all it takes to control the situation. And if heart disease is present, it is essential to lower the strain on the heart.

Overweight puts a strain on the heart because for a larger body

mass the heart has to work harder to provide more blood circulation. Not only is there more tissue demanding blood supply, the energy cost of every movement is increased in overweight. The work cost of a given movement, and therefore the requirement for circulation, is roughly proportional to the weight to be moved. And in real obesity the extra cost of work is further increased because of inefficiency. Arms do not swing freely because fat gets in the way; legs must move in circles in walking because the thighs are too fat to pass each other naturally. The result is an unduly high energy expenditure for every movement and an extra demand for circulation by the heart. Finally, fat is a heat insulator, so fat people have a hard time getting rid of their body heat. This, too, puts a load on the heart, especially in hot weather.

DOES OBESITY CAUSE HEART DISEASE?

Obesity is bad for the damaged and incompetent heart. But does overweight damage the normal heart? In other words, if you are obese but otherwise normal, will reducing protect you against coronary heart disease in the future?

Life insurance experience indicates that the likelihood of surviving another twenty years after taking out a policy is considerably lessened if you are greatly overweight. But there are some questions. For example, are insurance policyholders who pay extra premiums solely because of overweight really representative of all overweights? Certainly it is still possible to ask whether the kind of people who get fat and stay fat may not tend to be the kind of people who would be prone to have a high mortality even if they were not fat.

Then there is the question of the cause of death that produces the extra mortality among overweight policyholders. Kidney disease, diabetes, appendicitis, "strokes," gall-bladder disease, and accidental death are unduly common among people who are greatly overweight. For coronary heart disease, our present main worry, the insurance evidence is not so clear, and studies on patients with this disease show a surprising lack of evidence that overweight plays a preponderant role in causing their trouble. These clinical studies show that the majority of coronary patients are not and never were overweight and that overweight is almost

as common among the healthy members of the same age in the community as among the patients. At most, overweight cannot be blamed as being more than a part of the reason for the great amount of coronary disease in the United States.

The best evidence on the influence of overweight on the risk of future heart disease comes from careful periodic re-examinations of men in Massachusetts (U. S. Public Health Service), in New York (N. Y. State Department of Health), in California (University of California at Los Angeles), and in the Twin Cities (our own group at the University of Minnesota). All of these studies agree that among middle-aged men the presence of overweight alone, without hypertension or elevated blood cholesterol, has little influence on the risk of future heart attacks.

Curiously, obese patients have a *lower* mortality than thin or "normal" patients during the critical first month after a heart attack (infarct) and they show better survival in five- and ten-year follow-up studies. Possibly the immediate (drop-dead) mortality is less favorable among the obese but there are no data on these cases who do not live long enough to get to a hospital. The relatively good, long-time survival of patients who were overweight when they first had a heart attack may reflect the fact that fat coronary patients can lower the burden on their damaged hearts by losing weight, whereas the thin patients have no such possibility.

Overweight and obesity are not identical, but all of the researches reported so far on mortality have been concerned with overweight and not with fatness itself. Conceivably, the overweight caused by heavy bones, large muscles, and a broad skeletal frame may be more importantly associated with a bad health prognosis than is the result of simple overeating. Several investigators have reported that their coronary patients were not fat but tended to be of the muscular, "mesomorphic," type.

Finally, it must be obvious that when overweight is caused by overeating, the kind of diet involved may have the greatest influence on the health prospects. We remember Jack Sprat, who could eat no fat, and his wife who loved it. Do fat people generally eat a high fat diet? In some population samples, at least, the fat people are found to be those who eat a diet with a higher percentage of fat in it than the average.

We conclude that it is unknown whether plain overeating, that is, simple calorie excess, causes or promotes heart disease in general or coronary heart disease in particular. Obesity is common in Italy, but coronary heart disease is relatively rare; in England, coronary heart disease is almost as prevalent as in the United States, but obesity is much less frequent than here or in Italy. But in Italy even the fat people eat a diet much lower in fat than we or the English eat.

We have no doubt, however, that obesity is a hazard to health in other directions, and nothing that is said above about heart disease is a defense of fat people. If you are fat, you should reduce.

ARE YOU OBESE?

OBESITY VERSUS OVERWEIGHT

Weight measurements do not necessarily give good estimates of body fatness or obesity. The height-weight tables used to decide whether or not you are overweight are of several types but all have serious defects. Most of the tables are based on measurements made sixty or more years ago on people as "customarily dressed," including shoes, in the style of the gay nineties. Many years later some actuary got the bright idea that part of the variation in weight recorded among persons of the same age and height might reflect different skeletal types. So separate tabulations according to "frame size" or "skeletal type" were invented out of thin air; nobody then or since measured or even estimated the frame size or type of the insurance applicants.

The Metropolitan Life Insurance Company has popularized tables, first labeled "ideal weight" but now more modestly called "desirable weight," that purport to set weight standards for health. The weights listed are, in essence, simply the averages for persons about 25 years old, the idea being that we should not, as most of us do, gain weight as we get older. The frame-size breakdown in these tables, too, has no basis in measurement.

From the latest available data (1959) we have developed the averages for weight given in Table 6. Roughly two thirds of Americans, at least those who have life insurance examinations,

are within 20 pounds, plus or minus, of the averages in Table 6. And something like 15 per cent are more than 25 pounds heavier than these averages.

TABLE 6 A–MEN

WEIGHT, HEIGHT, AND AGE

Weights of white men in the United States and Canada, modified from the 1959 "Build and Blood Pressure Study" of the Society of Actuaries (Chicago), data on Canadians (1955 *Canad. Med. Assoc. J.*, vol. 72, p. 13), and measurements on U.S. railroad employees by the Division of Physiological Hygiene, School of Public Health, University of Minnesota. Values are in pounds for men without shoes and clothed only in undergarments. About two thirds of American men are estimated to be within 20 pounds of the weights given below.

Height, inches	*Age 20–29 ("Ideal")*	30–39	40–49	50–59	60–69
63	132	139	142	143	140
64	136	143	146	147	144
65	139	147	150	151	148
66	142	151	155	156	153
67	146	155	159	160	157
68	150	159	163	164	162
69	154	164	168	169	167
70	158	168	172	174	172
71	163	173	177	179	177
72	168	177	181	183	182
73	172	182	186	188	187
74	176	187	191	193	192
75	180	193	197	199	198

TABLE 6 B—WOMEN

WEIGHT, HEIGHT, AND AGE

Weights of white women in the United States and Canada, modified from the 1959 "Build and Blood Pressure Study" of the Society of Actuaries (Chicago) and data on Canadians (1955 *Canad. Med. Assoc. J.*, vol. 72, p. 13). Values are in pounds for women without shoes and clothed only in undergarments. About two thirds of American women are estimated to be within 20 pounds of the weights given below.

Height, inches	*Ages 20–29 ("Ideal")*	30–39	40–49	50–59	60–69
59	111	120	127	130	131
60	114	123	130	133	134
61	117	126	133	137	138
62	120	129	137	141	142
63	124	132	140	145	146
64	128	136	144	149	150
65	131	139	148	153	154
66	135	143	152	157	158
67	139	147	156	161	162
68	143	151	161	166	*
69	148	156	166	171	*
70	153	161	171	177	*

But what do these tables have to do with obesity, that is with body fatness and the result of overeating and under-exercising? If you are 40 pounds overweight according to Table 6, you are probably overfat as well—but you do not have to weigh yourself to discover it. You can decide better than the scales simply by looking at yourself unclothed, and by pinching up your skin here and there. What you pinch in a skin fold *is* pretty much pure fat, so be guided therefrom! This is an old and reliable method of judging the fatness of animals and it was used in estimating the fatness of slaves for thousands of years.

* Too few cases.

With special calipers the actual thickness of the layer of fat under the skin can be measured. About half of the total fat of the human body is right under the skin where it can be got at, at least in certain parts of the body. A good place to choose for estimation is the skin of the back of the arm about halfway between the elbow and the tip of the shoulder. Another good spot is on the back over the tip of the scapula (shoulder blade), but this is not so easily accessible. Table 7 gives arm skin-fold values corresponding roughly to "very thin" and to "very fat." For a man, an arm skin fold much over half an inch thick is too fat; for a woman in the twenties an inch is too much, while for women of 40 to 50 we might, reluctantly, approve of a little more, say up to 1¼ inches. It should be noted that the distribution of fat differs in individuals and that some people with thin arm skin folds are too fat in the middle and lower parts of the body.

TABLE 7

JUDGING OBESITY

Judging relative obesity from the thickness of the skin fold over the back of the upper arm, midway between tips of elbow and shoulder, as measured with calipers under pressure of 10 grams per square millimeter. Values are in millimeters (1 inch = 25.4 mm.). Note that these measurements are double the thickness of the skin and subcutaneous fat and that the true skin is only about 1 millimeter thick.

Sex and Age	*Very Thin, Less than:*	*Very Fat, More than:*
Men aged 20–29	4 mm.	14 mm.
" " 30–39	5 "	17 "
" " 40–49	6 "	19 "
" " 50–59	6 "	20 "
Women aged 20–29	8 "	23 "
" " 30–39	9 "	30 "
" " 40–49	9 "	35 "
" " 50–59	8 "	33 "

Skin-fold and other true fat measurements show that body weight conceals the extent of increasing fatness as you grow older. If you still weigh what you did in college, do not boast

that you are as lean as ever; you have probably exchanged a good deal of muscle for fat. Sedentary people average more fat per pound of weight than do people who do physical work. Many an office worker of "normal" weight is overly fat.

Changes in the body weight are very revealing. Your body weight may be a poor measure of absolute fatness, but it is an excellent way of following the progress of your reducing program as well as of finding where you are, relatively, from month to month and year to year.

CAUSES OF OBESITY

Basically, all obesity is caused by eating more than your energy expenditure warrants. You may get fat because you eat more and more without changing your activity, or because you maintain the same old diet but reduce your activity.

In most cases of the garden variety of obesity the history runs to a common pattern. The young man or woman, who perhaps was never inclined to be a bean pole anyway, finishes school, gets married, takes a steady job, stops the exuberant activity of youth, and gradually becomes more and more sedentary and economical of muscular effort. But the change in the diet does not keep pace with the changed energy output. Greater economic freedom means more luxurious meals and a change to more and more fat in the diet. Bread is reduced, meaning a loss of a couple of hundred calories a day, but the meat portion rises and thus fat calories are substituted for carbohydrate.

Thus from age 25, when the last bit of "growth" (really only the final calcification of a few bones) has stopped, to age 35, there may be a gain of 20 or 25 pounds. By age 45 the weight is up 40 or 50 pounds since college days and the problem of obesity is obvious. If this is your story you are an easy case, and a little understanding plus a good deal of determination will put and keep you more or less in line, perhaps 10 or 15 pounds heavier than you ought to be, but not a real problem. The person who was already grossly overweight at age 18 and who got fatter and fatter with the passage of the years is a tougher case but still salvageable.

Everyone must know by now that neither endocrine disorders

nor peculiarities in the absorption of food are primarily involved in obesity. Some few unfortunate persons do have endocrine or neurological disorders that make them constantly hungry or insensitive to a filled stomach, but these are rare, repeat, rare indeed.

As for "super-efficient" digestion and absorption, this is a hoary myth. Everyone, or almost everyone, digests and absorbs foods at around 95 per cent completeness and efficiency, and no one does any better. The only direction of abnormality is *poor* efficiency, a situation that exists in a few people who have gastrointestinal disorders and who are usually full of complaints of diarrhea, weakness, and the inability to maintain weight.

The cause of obesity is too much food, too little exercise, or both. So we find ourselves asking about some obese patients why they eat so much, while with others the question is why they are so remarkably indolent. The remainder, perhaps the majority, are those who both eat too well and exercise too little.

To some extent these tendencies are inherited, but the rule of "like father, like son" is not always simply an expression of genetic inheritance. Custom within the family plays a considerable role in many cases. It is not surprising that the normal child in a household where others eat a great deal and who is served large portions emulates his parents. Social custom operates on a population as well as on a family scale. If a population is characterized by a dietary pattern of an endless supply of rich, fatty food the result can be predicted: frequent cases of obesity. Similarly, habits of physical activity can be developed as well as being inborn.

The rage to reduce weight (or fatness) is a phenomenon of our time and place. Abhorrence of obesity is not instinctive and universal. In many societies, now and in the past, fatness is admired as a sign of health and wealth. Not many years ago our own life insurance companies charged extra premiums to the thin, not to the fat person as now. Among the Bantu in South Africa we discovered that a native doctor should be fat, grotesquely fat if possible, if he is to be sought after in his profession. His business card will be adorned with a personal photograph, naked from the waist up, to show that he is healthy and economically successful.

In America, and among the more prosperous segments of society in most populations of the world, to be fat is just too easy in

the midst of the plethora of rich, fatty food in which we wallow. It is said that a third of our adults are trying to reduce, another third ought to do so, and the rest of us are only saved by dyspepsia and ulcers. The only consolation is the fact that the suicide rate is lower among fat people than in the general population.

What does this mean? The monstrously fat person usually is a welter of emotional problems, but the frequency of obesity in the United States does not, we think, reflect a national neurosis. Our high incidence of ordinary obesity is a natural result of an overrich and fat dietary pattern in our traditional cultural dream of luxury, of the circumstance of having all of this kind of food anyone could eat within the average economic reach, and of our technological triumph in finding ways to keep our society and industry running merrily with almost no one doing much more than pushing buttons.

"Who needs muscles?" demanded advertisements some years ago. The ingenious pursuit of non-exertion is the route to the least attractive form of obesity, with flabby muscles, rolls of fat, and prolapsed bellies. If such people are prone to disease of the heart muscle as well as atrophy of the voluntary muscles, it may be asked how much of this is due to calorie imbalance, how much to the long-time effect of the feeble circulation that goes with avoidance of effort.

PSYCHOLOGICAL ASPECTS OF OBESITY AND REDUCING

Psychological factors are involved in most cases of gross obesity. This does not necessarily mean any serious emotional problem. People often overeat from boredom and in a subconscious substitution of eating pleasure for other satisfactions. Some men overeat to express appreciation of their wives' efforts in the kitchen. Some women overeat for the same reason—having prepared a good meal they feel they ought to compliment their own cooking—or they set an example to encourage their children to "clean the plate." Much overeating is an automatic result of the fact that entertaining and being entertained too often centers on eating because people cannot think of other things to do.

Many people overeat because it often relieves tensions and promotes sleep. It is difficult to concentrate on your worries while eating a good meal, and a full stomach has a tranquilizing and soporific effect. Some overeating is promoted by the subconscious mental association between eating and health. We all know that sick people often cannot eat and we often use the expression, "You are not eating. Don't you feel well?" Years of childhood conditioning frequently have their effect on the attitude toward eating later in life. Hidden in memory is the echo of the admonition, "Eat up. You want to be strong, don't you? You don't want to be sick, do you? Eat up!"

All these are common psychological reasons why people get fat. More bizarre and warped emotional bases are not as common, we think, as some of the psychiatrists would have us believe. Cases are reported of women whose obesity, suddenly developing after marriage or childbirth, is related to a vague sense that if they stay fat they will not become pregnant or, in other cases, to a wish "to restore the part of me I lost." More often, we believe, the woman gets fat after delivery because she simply continues habits acquired in pregnancy, eating much and exercising little Some men overeat because they feel that somehow they are more consequential when they are big and bulky. Such causes of overeating may qualify as neuroses but they are not alarming.

Of course serious mental disease is generally identified with abnormal behavior, and obsessive eating is an abnormal behavior. But true psychosis seldom has this expression. The opposite reaction is the rule; refusal to eat and excessive thinness are seen far more often than obesity in mental hospitals. Overeating is sometimes a protection for emotionally unbalanced people who otherwise would exhibit other and more disturbing abnormalities.

This latter situation is sometimes revealed when a reducing diet is instituted. Occasionally the reducer may become greatly depressed and withdrawn, and may substitute fantasy for unfilled emotional needs formerly covered in part by the less dangerous substitution of food. In the worst cases suicidal tendencies may appear.

All of this sounds alarming and suggests that the obese person should be turned over to the psychiatrist. In a few cases this is desirable, but the great majority of would-be reducers do not need, and are probably better off without, such attention. Every

reducer has psychological problems to overcome (who doesn't?), but if these are recognized and understood, both successful weight loss and maintenance or improvement of emotional stability can be hoped for. The family physician can usually help a great deal.

SO YOU ARE GOING TO REDUCE

The first step toward successful reducing is a clear realization as to why you want to reduce, coupled with a firm resolution to go through what may be an ordeal at times. The question should be asked, why and how did you get so fat? If you were not always fat, you must have changed your manner of life—diet or exercise, or both—so as to put you in your present state. Did you begin to eat different foods, have more frequent snacks, take larger portions? Did you slacken off on exercise, give up sports, take to using the car when you might readily have walked?

Your problem is to reverse the process that made you fat, and a real change in your mode of life will be involved. Successful reducing is not simply a question of eating a special diet for a few weeks or months. You want to lose your excess fat and not regain it, so when you start on your program you should be prepared to give up some of your former habits forever. You must be psychologically ready for successful reducing, so think it through before you get involved in a half-hearted attempt which may do your self-esteem and will power real harm if you fail.

The next chapter, Scientific Reducing, covers the problem of choosing a reducing diet and all the mechanics of reducing. Here we are concerned with generalities and the crucial question of psychological understanding. You *can* reduce and keep yourself from getting fat again, but your will power needs help.

A chart of your actual weight each week and the target weights for future weeks is a goad and a challenge besides assuring that you do not let yourself slide off into failure because you lose track of how you are doing. Going to your physician is helpful, not only for the good advice he can give, but even more so because you will have to answer his questions and you will feel like a fool to pay his fees and accomplish nothing. Have a good heart-to-heart consultation, plus a physical examination, first, and then make a

regular series of appointments for the future. Get the office nurse to put these down and promise to pester you to keep the appointments that will put you on the spot.

Tell your family what you are going to do and enlist their help. They must know that their determination to help may be under a strain if, as you may, you begin to deprecate the whole idea or become cross and morose. They should be sympathetic but also tough with you. During a rigid reducing program there are apt to be times when the dispositions of everyone involved are not all sweetness and light.

Reinforcement of your determination may be gained by joining a group of fellow reducers who meet regularly with a little weighing-in ceremony. Such clubs—"Fatties Anonymous" is a favorite name—exist in many places. In one city several hundred women are pledged to wear a special ornament whenever they backslide and gain weight. The ornament is in the form of a pink pig!

A "crash" program of reducing by eating almost nothing for a time is psychologically easier for some people. The use of very strange diets also appeals by being dramatic and somehow seeming to enhance the importance of the dieter and his plight. Ego satisfaction is always important. Such programs may be used as a *part* of the long-term plan, but permanent success must include a good maintenance plan of diet and exercise.

We repeat, you *can* reduce and keep your new figure. This may not solve all your personal problems, but you will certainly be more attractive and you will feel better. And with the diets we advocate we think your prospects of staying out of the cardiac clinic will be improved.

EXERCISE OR DIET?

It is fashionable to deprecate exercise as a means of reducing, the argument being that an hour of vigorous exercise is only the equivalent of a few hundred calories and when you are through your appetite is stimulated for more calories than you have burned up. We disagree. You will feel better, emotionally and physically, than if you try to do the whole reducing job by dietary

reduction alone. Besides, you will have less trouble with sagging skin where the fat used to be.

The advice of Hippocrates, some 2400 years old, is not bad. "Fat people who want to reduce should take exercise on an empty stomach and sit down to table while still out of breath." The appetite stimulation of exercise does not go to work at once and the immediate effect of vigorous exercise is actually a depressant to the appetite.

Careful studies of the habitual diets of fat people show that in most cases the food intake is not really very large. The trouble is often mainly on the energy expenditure side, too little physical activity to burn up a normal or even a subnormal diet. We have observed reducing with and without increased exercise, and the results are impressive. For obese university students we provided a reducing diet of 1200 calories daily, and for some of them we added a program of walking for two hours a day at 3½ miles per hour on a slight incline. The students who had no special exercise program lost an average of three pounds a week; those who walked averaged a loss of five pounds a week, improved their fitness, and suffered no more from hunger than did the non-exercisers.

Almost any form of exercise is useful, but very short periods, even if the exercise is violent, do not count for many calories. A few bends and push-ups in the morning will help to keep you limber but do not justify an extra slice of toast for breakfast. Of course, if you have long been inactive you should not attempt too ambitious an exercise program at the start. Exercise to pleasant fatigue, not to exhaustion and breathlessness. But increase your exercise as you get stronger.

Chapter 5

SCIENTIFIC REDUCING

Reducing takes time and effort, so it should be properly planned. With only common sense, some understanding of the calorie value of foods, and the information given in the previous chapter, it is possible to reduce successfully. But a scientific program, adjusted to the needs of the individual, is safer, more sure, and more efficient.

You can devise your own program of scientific reducing, merely obtaining medical advice as to advisability and a little help if you have questions about the computations. Developing your own reducing program is psychologically important and assures that you will be fully aware of what is involved in carrying out the program. The section below, Body Calories and Their Expenditure, explains the scientific basis for your program, and a later section, Practical Reducing Programs, shows how to apply these principles.

To start with, it is necessary to decide how much weight should be lost; then the problem is to discover how many calories in the diet will keep the weight constant, and to estimate the diet change needed to cause the desired weight loss in a specified time. The amount of food calories that holds the present body weight constant, neither gaining nor losing, is the *calorie balance*. Eating less than this amount produces a *calorie deficit*, which is made up by burning body fat. The weight loss is proportional to the calorie deficit.

First, set a realistic target—how much weight to lose in a given period. In order to plan the diet that will do this, you must estimate your present *calorie balance*, your present diet on which you are neither gaining nor losing. A *calorie deficit*, which will be made up by burning body fat, will result from eating less, or expending more energy, or both, and the fat you lose will be

proportional to your calorie deficit. And, with some ups and downs because of temporary variations in body water, your weight will follow suit.

"CALORIES DON'T COUNT" AND OTHER DREAMS

Before going into details on the business of calories and reducing, we must clear the ground. Would-be reducers long for an escape from the sad facts of calories; they dream of shedding weight while eating their favorite foods to repletion at every meal. Since a scientific "breakthrough" is announced almost every day, why not a miracle that will allow unlimited self-indulgence without the penalty of the ugly haunch, paunch, and jowl?

We cannot abolish the human frailty of wishful thinking, but we can try to help the many people who are honestly confused by propaganda for "revolutionary" new concepts of diet and proclamations that "calories don't count." Calories and the law of the conservation of energy were not invented by nutritionists to plague the obese; they are basic to physics and chemistry; they apply to the human body just as to any other machine. You will lose weight—and fat—on any kind of diet so long as the energy value of the food you eat is less than the energy you expend. And this is the *only* way you can reduce.

The late Dr. A. W. Pennington, confronted by overweight executives devoted to the expensive steaks their positions afforded, proposed that they eat all the fat meat they wanted so long as they used no salt or condiments *and* refrained from all sugar, dessert, and such plebeian foods as bread and potatoes. And he prescribed a half hour walk to start the day. On this regimen some men lost weight, eating three six-ounce steaks a day (less than 2,000 calories); and Pennington, who seemed incapable of measuring anything, thought he had repealed the law of the conservation of energy.

Pennington's "Holiday Diet" was almost forgotten by 1956, when our old friend Vilhjalmur Stefansson extolled, in *The Fat of the Land* (Macmillan, New York), fat foods and the Eskimo way of life he had learned in the arctic. This, in turn, stimulated an English medical writer, Dr. Richard Mackarness, to produce a book, *Eat Fat and Grow Slim* (Doubleday, New York), which brought things up to date by adding fish and vegetable oil to the all-meat diet. This was an answer to the cholesterol problem posed by the dominance of saturated fat in the executive-Eskimo diet of Pennington and Stefansson.

Like his predecessors, Mackarness, also no medical scientist, offered no scientific evidence, but he wrote well and his cartoons of imaginary biochemical processes are amusing though they have nothing to do with scientific reality. Unfortunately, the notions and propaganda of *Eat Fat and Grow Slim* were taken over by an obstetrician, Dr. Herman Taller, who hit the publishing jack pot with a crude mélange of misinformation and fatuous claims entitled *Calories Don't Count* (Simon and Schuster, New York), reputed to have been ghostwritten by a free-lance sports writer.

In the field of popular success with published nonsense on diet and health, Dr. Taller supplanted Dr. D. C. Jarvis' *Folk Medicine* (Holt, Rinehart and Winston, New York) and, like Jarvis, he is troubled with seizures of his book by the government. The executive secretary of the American Medical Association Committee on Foods and Nutrition, Dr. Philip L. White, wrote in the official journal of the Association (March 10, 1962) that *Calories Don't Count* "is a grave injustice to the intelligent public and can only result in considerable damage to the prestige of the medical profession of which Dr. Taller is a member."

All this wild talk about fatty diets by non-nutritionists has been answered by solid scientific experiments in Denmark and England as well as in the United States. The foregone result obtained: a calorie is indeed a calorie; over any length of time the weight loss on a reducing diet depends on the number of calories and not on whether they are in the form of meat or fat or potatoes or "Metrecal."

If you are willing to eat nothing but unsalted meat dripping with fat, you will probably lose appetite and weight. In comparison with "Metrecal" and the like, this solution for the reducer is perhaps less dreary—and a lot more expensive.

BODY CALORIES AND THEIR EXPENDITURE

A pound of *pure* animal fat, including human body fat, represents about 4100 calories, but adipose tissue, the form in which it accumulates in the body, averages 15 per cent water and about 5 per cent protein and other non-fat materials. This "blubber" you want to be rid of averages about 3370 calories per pound.

Reducing by dieting is not exactly the same as having a surgeon cut out some of your fat deposits. When you change weight by changing the diet, what you lose is not merely adipose tissue. Your blood volume shrinks a little and there is a reduction in the tissues that one way or another "support" the adipose tissue. The final result is that a pound of body weight change corresponds to about 3200 calories of energy stored in the body.

At this point it would be easy to make some assumptions and a few flourishes of arithmetic purporting to arrive at an accurate estimate of your present calorie expenditure from your height, weight, and occupation. We want to make it easy but we do not believe you can look up the basal metabolism corresponding to your height and weight in a table, add 50 per cent for "activity" (housewife or desk worker), and arrive at a very reliable estimate for your present calorie balance point. Even with a measurement of basal metabolism the computation is highly uncertain, as we shall see.

Moreover, the translation of food calories into body weight calories is not entirely straightforward when the body weight changes. A common error in such calculations is illustrated by the example of the extra slice of bread so popular with lecturers and writers of articles on the problem of obesity. The argument goes like this. Suppose you add a single slice of bread (65 calories) to your daily ration. In a year this adds up to $65 \times 365 = 23{,}725$ calories so, at 3200 calories to the pound, you will gain 7.4 pounds. The joker in this example is revealed when you ask what will happen in 20 years. Obviously, you are supposed to gain $20 \times 7.4 = 148$ pounds!

What actually happens is that when you change your diet but otherwise keep your mode of life constant, your calorie expenditure tends to follow suit and your weight change turns out to be smaller than you would expect from an elementary calculation. As the new diet is continued, you approach and eventually reach a new balance point of no further weight change. This has been demonstrated time after time under rigidly controlled conditions and it is not hard to see why it must be so.

THE THREE WAYS OF SPENDING CALORIES

Your calorie expenditure consists of three items: 1. basal metabolism (the cost of merely resting quietly with an empty stomach), 2. muscular activity, and 3. specific dynamic action (the energy cost of digesting and using your food, which averages about 10 per cent of the calorie value of the food you eat). All three of these are changed, and they all change in the same direction, when you change your diet.

First, and most obvious, is the change in specific dynamic action (S.D.A.). If you are in balance at 2500 calories, neither gaining nor losing weight, and go on a diet of 1500 calories daily, your deficit is not 1000 calories a day. When you were eating 2500 calories daily about 250 calories went into S.D.A.; at 1500 calories of food daily the S.D.A. is 150 and your deficit is 900, not 1000, calories a day.

Next, consider physical activity. This accounts for anything from about 20 per cent to over 60 per cent of the total calorie expenditure, a fair average being perhaps 40 per cent for urban Americans who are candidates for weight reduction. Table 8 lists typical calorie costs for various activities.

TABLE 8

CALORIES AND PHYSICAL ACTIVITY

Relative hourly calorie cost of different activities, taking the calorie cost of average sleep as 100 per cent. These are rough average estimates for ordinary adults.

Activity	*Calories as % of Sleep*
Sleep	100
Writing or sewing, seated	140
Driving car	160

Activity	*Calories as % of Sleep*
Factory bench work (standing)	250
Slow walk (2 to 2½ miles per hour)	310
Kneading bread dough	310
Washing windows and floors	350
Hanging out and taking in laundry	370
Polishing floor by hand	450
Brisk walking (3 to 3½ miles per hour)	460
Digging and weeding in garden	550
Horseback riding, trot	680
Skiing, moderate speed on level	780

Older works on the diet often give tables of the calorie needs of people in different occupations—so many calories for a housewife, so many for a carpenter, and so on. These are almost useless for the dieter because of the great variation between individuals and between the actual energy costs of different versions of the same job. Persons of the same sex, age, weight, and occupation may easily differ by over 500 calories a day in their calorie needs or balance points. It must be remembered that with a 40-hour week only 15 per cent of the week is taken up by the occupation. Moreover, progressive mechanization is greatly changing the cost of work on the job.

Most of the calories spent for physical activity go into the cost of moving the body (and its extremities). And the cost of moving the body depends on its weight, that is, the weight to be moved. If a 200-pound man walks up stairs to a vertical height of 100 feet, he does 200 × 100 = 20,000 foot-pounds of work. If he carries a 50-pound box up the stairs, he is lifting himself plus the box, so he does (200 + 50) × 100 = 25,000 foot-pounds; thus even in carrying fairly heavy loads most of the energy cost is in moving the body.

Obviously, then, if the body weight is changed, the energy (calorie) cost of activity is changed. If the body weight drops 25 per cent, say from 200 to 150 pounds, the calorie cost of a one-hour walk at three miles per hour is decreased by almost exactly 25 per cent. Activity that formerly cost the 200-pounder 1000 calories amounts only to about 750 calories when his weight is 150 pounds.

Finally, consider the basal metabolism. It, too, is reduced when the body size is reduced, not quite in simple proportion to the weight loss, but still by an appreciable amount. Let us take an average example. For a 35-year-old person who should weigh about 130 pounds but weighs 220 pounds, a change in weight to 180 pounds, or a loss of 40 pounds, caused a decrease in basal metabolism of the order of 200 to 240 calories a day. This must be allowed for in calculating the weight change to be expected from continuing the diet. A reasonable allowance is to subtract from your calorie deficit 50 to 60 calories per day for the basal metabolism change resulting from each 10 pounds of weight lost.

Incidentally, the basal metabolism values in the standard tables used by most doctors are now known to be too high by around 7 to 10 per cent. The tabular values reflect the apprehension and lack of relaxation of the hospital patient who, for the first time, is connected to a lot of strange apparatus and is told to relax and breathe normally.

CRUDE AND TRUE CALORIE DEFICITS

Suppose you weigh 200 pounds; your present balance point is 2400 calories and your basal metabolism amounts to 1600 calories daily. You select a 1400-calorie diet so the crude deficit is 1000 calories a day. The true calorie deficit turns out to be 900 at the start, because of the change in specific dynamic action; this becomes less when you actually lose some weight. When 20 pounds of the original 200 have been lost, the energy expenditure has dropped by about 110 calories for basal metabolism and 80 for activity, just because of the reduction in the body mass. At this stage the real deficit provided by the 1000-calorie diet is only 900 − 110 − 80 = 710 calories daily. By the time another 20 pounds are lost the daily deficit, still on the same 1400-calorie diet, is only 520 calories.

In the Minnesota Starvation Experiment during World War II, our 32 young men volunteers came into calorie balance at 1570 calories, whereas six months earlier, when they started the starvation diet, they needed 3490 calories a day to hold weight constant. This is an extreme case of adaptation by men who were not fat to begin with but who lost a fourth of their original body

weight. Besides the economy resulting from lowered basal metabolism and only three fourths as much body weight to move around, they saved much energy by avoiding all surplus movement, in spite of being on a supervised regimen of ostensibly constant activity. The reduction of calorie expenditure by the fat person on a reducing diet is less than in these volunteers, fortunately, but the reducer must be careful not to reduce his activity. The temptation must be resisted to say you are weakened by the diet and therefore *must* have more rest than usual.

All this sounds discouraging, but actually it is fortunate that these are the facts of life. Without this automatic adjustment the world would be full of circus freaks, cadaverously thin and monstrously fat. This phenomenon explains why, in times of famine or war and its prison camps, everyone does not starve to death in a hurry. It complicates reducing, but in spite of it you *can* lose weight successfully.

But how, it may be asked, does it happen that obviously incorrect schemes of predicting weight loss sometimes give the right answer? The answer is, first, that the predictions do not often really come very close except when the diet is adjusted as the program is continued. Ordinarily, the patient is given a diet and a chart with the weight predicted week by week. If the weight does not follow the chart the patient is accused of cheating. It is not surprising that everyone who runs an obesity clinic on this basis says that most would-be reducers are liars.

The more attentive and kindly diet supervisor watches what is happening on the chart and revises the "activity factor" so as to come up with a "corrected" computation for the diet prescription. And the sensible patient watches the weight chart and "interprets," that is to say changes, the diet prescription accordingly. Either the diet or the chart is really being adjusted to the weight response so it automatically manages to get somewhere close to the predictions.

In this way everyone is happy, the weight gets lost, and the diet supervisor is convinced that this is a good demonstration of how well "theory" works out in practice. We do not object much except about the latter conclusion and all the mumbo jumbo attached. We prefer to be honestly empirical after learning the hard way by 20 years of dietary experiments in which patients

were locked up, every item of food was carefully measured, and the activity was precisely controlled. We *know* that people differ, not only in basal metabolic rate but even more so in the movements they make and energy they expend.

PRACTICAL REDUCING PROGRAMS

If you plan to lose more than a few pounds, consult a physician to make sure your program is desirable and safe. Besides, this will commit you psychologically and will reinforce your will power.

At this stage you have four main alternatives. You may try the "Metrecal" idea; stop eating altogether and periodically swallow the stuff from the can at the level of 900 calories a day, plus, let us say, some orange juice and coffee. But you can't live that way for long and you must learn a little about calories to prepare for the day of return to real food.

Or you can try the executive-Eskimo diet in spite of our remarks about *Calories Don't Count.* If you lose weight steadily and are happy with the diet, we do not object. But, again, remember that once you get reduced we want you to stay that way and you will never be able to eat lots of meat *and* ice cream and cake.

Our suggestion for most people who are bored with the scientific problem of reducing is simply to start on the 1400-calorie menus in this book or the equivalent and make sure you get more exercise than before. If you are not obviously losing weight in a few weeks, reduce the calories still further. If your will power holds out, you will reduce and stay reduced by this trial and error method, even without careful calorie counting. But you must always stay away (or better *run* away) from calorie-rich foods and meals.

Finally, you can be scientific about your reducing program and adopt the scheme given below. The first step is to estimate your present calorie balance point. For most people this is just about what they are now eating, so a fair estimate can be made from measurement of the present diet or of any good diet that holds weight steady over a period of several weeks.

THE CALORIE BALANCE POINT

The simplest and least reliable way of estimating the present calorie balance point requires only information about the patient's age, sex, present body weight, and occupation. It is assumed that the basal metabolism is not far from normal and that the activity of the patient is similar to that of other obese persons in the same occupation and cultural environment.

Table 9 (for men) and Table 10 (for women) provide crude estimates based on these assumptions for obese people 20 to 60 years old in relatively sedentary occupations. For patients who spend most of the time in bed and have no more than a minimum of very light activity, 20 per cent should be deducted from the tabular figures. For people whose activity is more than relatively sedentary, more calories should be added of course. A 10 per cent addition to the tabular figures would be appropriate for the people whose jobs require them to stand and walk about slowly all day or for persons who do some gardening or other light activity outside of their regular occupation. Add 20 per cent for carpenters and builders generally, or for very industrious housewives.

TABLE 9

CALORIE BALANCE (Constant Weight), OBESE MEN

Crude preliminary estimate of daily calorie expenditure of obese men maintaining constant weight in a relatively sedentary occupation (e.g., businessman, teacher, watchman).

Weight, Pounds	*Age 20*	*Age 30*	*Age 40*	*Age 50*	*Age 60*
140	2480	2360	2240	2140	2040
160	2660	2530	2410	2310	2200
180	2830	2700	2570	2450	2350
200	2990	2850	2730	2600	2480
220	3140	2990	2850	2720	2600
240	3280	3130	2970	2830	2710
260	3410	3250	3090	2940	2810
280	3530	3370	3210	3040	2910
300	3640	3470	3310	3150	3010
320	3750	3570	3410	3250	3110

TABLE 10

CALORIE BALANCE (Constant Weight), OBESE WOMEN

Crude preliminary estimate of daily calorie expenditure of obese women maintaining constant weight in a relatively sedentary occupation (e.g., office worker, teacher, housewife with only minor housework).

Weight, Pounds	*Age 20*	*Age 30*	*Age 40*	*Age 50*	*Age 60*
100	1700	1630	1570	1510	1450
120	1850	1770	1700	1630	1570
140	2000	1910	1840	1760	1690
160	2140	2050	1970	1880	1810
180	2280	2180	2090	2010	1930
200	2410	2300	2210	2130	2050
220	2540	2420	2320	2240	2160
240	2660	2540	2430	2350	2270
260	2750	2630	2540	2450	2370
280	2860	2740	2640	2550	2470

The proof of the accuracy of the estimate made with the help of Tables 9 and 10 is what happens to the body weight on a measured reducing diet. If the weight change does not correspond with the prediction from the calorie deficit, the estimate of the balance point was wrong and should be changed accordingly. The calorie difference between the present balance point and the reducing diet is the crude calorie deficit. The true or effective calorie deficits corresponding to various present calorie balance points and reducing diets are given in Table 11. The weight losses predicted from these calorie deficits are given in Table 12.

Actual measurement of the foods that hold your weight constant provides the best estimate of your calorie balance point. For this you need bathroom and kitchen scales for weighing yourself and your food, and a diary to record what you eat and weigh.

TABLE 11

CALORIE DEFICIT ON REDUCING DIETS

NO CHANGE IN ACTIVITY

The diet on which your weight is now constant is your "Present Diet." The table gives the true daily calorie deficit, initially, when you change to the reducing diets indicated at the tops of the columns.

Present Diet, Daily Calories	*Calorie Deficit on Diets of:*			
	1000 Cal.	*1400 Cal.*	*1800 Cal.*	*2300 Cal.*
1200	180	—	—	—
1400	360	—	—	—
1600	540	180	—	—
1800	720	360	—	—
2000	900	540	180	—
2200	1080	720	360	—
2400	1260	900	540	90
2600	1440	1080	720	270
2800	1620	1260	900	450
3000	1800	1440	1080	630
3200	1980	1620	1260	810
3400	*	1800	1440	990
3600	*	1980	1620	1170
3800	*	*	1800	1350
4000	*	*	1980	1530

The patient, at home, tries *not* to change the accustomed diet and activity but measures every item of food and drink. *Every* item that provides calories, including alcoholic beverages, must be recorded. The tables at the end of this book will enable you to translate the amounts of food into calories. The body weight is recorded from time to time to make sure it is constant, at least to within a pound or two. At the end of 14 days all calories eaten are added up and the sum is divided by 14. The result is as good an estimate of your present calorie balance point as you are likely

* Deficits over 2000 calories daily are seldom desirable.

TABLE 12

WEIGHT LOSS PREDICTED FROM CALORIE DEFICIT

This table gives the pounds of weight loss in 30, 60, and 90 days predicted from the calorie deficit at the start of the diet with no change in activity.

Daily Calorie Deficit	*Weight Loss in:*		
	30 days	*60 days*	*90 days*
90	0.8	1.5	2.2
180	1.7	3.3	4.7
270	2.5	4.8	6.9
360	3.4	6.5	9.3
450	4.2	8.0	11.5
540	5.1	9.7	13.9
630	5.9	11.2	16.1
720	6.8	12.9	18.5
810	7.6	14.5	20.8
900	8.5	16.1	23.7
990	9.3	17.7	25.3
1080	10.1	19.3	27.6
1170	11.0	20.9	29.9
1260	11.8	22.5	32.2
1350	12.7	24.2	34.6
1440	13.5	25.7	36.8
1530	14.3	27.3	39.1
1620	15.2	29.0	41.5
1800	16.9	32.2	46.1
1980	18.6	35.4	50.7

to get by any practical method. It is a good idea to have the computations checked by a dietitian or a doctor experienced with diet questions.

Alternatively, and better in some respects, start your program by changing to one of the diets for which menus are given in this book. The balance point is estimated on this diet, with such adjustment of food as is needed to maintain weight constant, and the reducing diet is developed from that point. This two-stage

diet correction may be easier and has the advantage that right from the outset your diet is improved in quality.

In other words, either the 1800- or the 2300-calorie series of menus is your basic diet, and you add calories in easy-to-count form as needed to find the point where the body weight seems to be stable. If you gain weight on 1800 calories daily, subtract food items from the 1800-calorie menus.

The start, then, is simply to hazard a very rough guess at your present (constant weight maintenance) calorie use using Table 9 or 10. Suppose this preliminary estimate is balanced at 2500 calories daily. Now live exclusively on the 2300-calorie menus in this book, but add 200 calories daily of whatever kind of food you like. Watch the body weight and appetite and adjust the calories in the diet accordingly. What you actually eat is recorded for each day, of course. If you really eat the full 2300-calorie menu plus two slices of bread and a tablespoonful of marmalade and nothing else, the day's entry is simply:

Menu	2300 Calories
2 slices bread at 65	130 Calories
1 tablespoon marmalade	55 Calories
TOTAL	2485 Calories

After your weight has proved to be steady (several weeks), add up all the calories eaten, divide by the number of days, and the result is the calorie balance point.

REDUCING PLAN FOR A TARGET WEIGHT

As soon as the calorie balance has been obtained by any method, it is possible to estimate how low the reducing diet should be to reach the target weight in a given period of time. A weight loss target of six to ten pounds a month is suitable except in extreme obesity. A good deal of weight may be lost in a "crash" program, but more often than not the weight is regained in the next six months because you never learned to live on something like a normal diet. A relatively slow reduction program is not only safer; it also allows establishment of a new eating pattern and attitude toward food. A series of 90-day reducing periods will be needed in cases of extreme obesity.

In this book detailed menus are given for 1000-, 1400-, 1800-, and 2300-calorie diets, and these, plus the tables of calorie values of foods, make it easy to provide any level of the diet above 1000 calories daily. It is rarely desirable to go below 1000 calories. If the calorie balance point is indicated to be of the order of 1400 calories or below, choose the 1000-calorie diet and increase the daily exercise. Table 11 gives the daily calorie deficits produced at the start of the program by diets of 1000, 1400, 1800, and 2300 calories when these replace the pre-reduction diet ("Present Diet") given in the left-hand column of the table. Deficits over 2000 calories daily are seldom desirable and should always be under careful medical supervision.

If the physical activity of the reducer is not changed, these calorie deficits are estimated to produce, on the average, the 30-day, 60-day, and 90-day weight losses given in Table 12. As weight is lost, the actual calorie deficits will decrease, but allowance has been made for this change in calculating the predicted weight losses.

EXERCISE IN THE REDUCING PROGRAM

Earlier in this chapter the calorie cost of physical activity was discussed. Table 13 shows the calorie cost of walking. The inclusion of increased exercise and physical activity in the reducing program is advisable, both to help lose weight and to make a stronger and, we think, healthier body. A daily quota of an hour of fairly brisk walking or busy work in the garden is desirable. This is to be substituted for time previously spent in a sedentary occupation, such as looking at TV, and not for a more active part of everyday life such as the regular housework. Bicycling is even better than walking, and swimming or tennis count about twice as much. Table 14 gives estimates of the calorie equivalent and 30-day, 60-day, and 90-day weight losses reckoned solely for such increased activity. Double these values for twice as much time spent at them if you can actually keep up the pace. Or reduce by 50 per cent if the time is halved.

TABLE 13

CALORIE COST OF WALKING

Net hourly cost of walking (calories per hour during walking, less the calorie cost per hour of reclining quietly), for adults of 100, 150, and 200 pounds body weight. These are rough averages for walking on a good surface on the level and on 5 and 10 per cent grades.

Walking Speed	*Grade*	*Body Weight, Pounds*		
		100	*150*	*200*
2 miles per hour	Level	90	130	190
" " " "	5%	140	210	280
" " " "	10%	200	300	400
3 " " "	Level	130	200	260
" " " "	5%	200	300	400
4 " " "	Level	200	300	400

TABLE 14

CALORIE COST AND WEIGHT LOSS FROM EXERCISE

This table gives the daily *extra* calorie expenditure, and the corresponding 30-day, 60-day, and 90-day weight losses, resulting from substituting exercise for sedentary activity:

One hour daily of steady walking, *or*
3/4 " " " bicycling, *or*
1/2 " " " swimming or tennis.

	Your Weight in Pounds:				
Daily Calorie Cost	*130* *240*	*160* *300*	*190* *360*	*225* *420*	*250* *470*
30-day weight loss, lbs.	2.2	2.8	3.4	3.9	4.4
60-day " " "	4.4	5.5	6.5	7.7	8.6
90-day* " " "	6.5	8.1	9.6	11.3	12.7

Table 15 gives the total 90-day weight loss estimated for given initial calorie deficits (as in Table 12), plus the exercise effect corresponding to Table 14. Note that in both Tables 14 and 15

* In computing the 90-day weight losses allowance was made for the decrease in calorie cost resulting from progressive weight reduction from the exercise alone.

the initial body weight affects the result and that the influence of changing calorie expenditure because of changing weight in the 90-day diet period has been provided for in the computation.

A good exercise program will increase the muscle mass in the body, particularly if more exercise than called for in Tables 14 and 15 is involved. If you are soft and fat we should like to see you gain a pound of muscle for every five pounds of fat you lose. It is preferable to lose 60 pounds of "obesity tissue," and gain 10 pounds of muscle, than simply to continue being sedentary and lose 50 pounds.

TABLE 15

TOTAL WEIGHT LOSS IN 90 DAYS FROM EXERCISE AND DIET

This table gives the predicted weight loss, in pounds, in a 90-day program of reducing the daily diet by the calories indicated in the left-hand column *and* maintaining extra daily exercise corresponding to one hour of steady walking. The total weight loss varies according to the initial weight as shown.

Calorie Reduction in Your Daily Diet	*Your Initial Body Weight (lbs.):* *130*	*160*	*190*	*225*	*250*
400	17.0	18.6	20.1	21.8	23.4
600	21.8	23.4	24.9	26.6	28.2
800	27.1	28.7	30.2	31.9	33.5
1000	*	33.6	35.1	36.8	38.4
1200	*	*	40.3	42.0	43.6
1400	*	*	*	47.2	48.8

Such an exchange of muscle for fat has a calorie equivalent, of course. A pound of muscle in the body has an energy equivalent of about 400 calories, so the exchange of a pound of muscle for a pound of "obesity tissue," the kind of fat tissue you lose when you are dieting, means a difference of about 3200 − 400 = 2800 calories. If 50 pounds are lost by plain dieting, the energy equivalent is 160,000 calories. If 10 pounds of muscle are gained and there is a net loss of 50 pounds in body weight, there is a loss of (60 × 3200) − (10 × 400) = 188,000 calories from the body stores.

* A weight loss of more than 20 per cent of the original body weight in 90 days is seldom advisable.

CHOICE OF FOODS FOR THE REDUCER

The reducer should not be denied the pleasure of eating—but "enough is as good as a feast"! A period of weight reduction is actually a fine opportunity to learn new things about foods and cookery, about the delights of flavors and textures that are often drowned in a greasy monotony of too much to eat of the wrong kind of food.

When calories are restricted and rich foods are allowed only in very small quantity, concentrate on quality and on foods that offer large bulk but few calories. Buy the finest fruits and vegetables in the market and splurge on expensive sea foods, and such things as Rock Cornish game hens, smoked turkey, pheasant, mushrooms, and venison.

Many fantastic diets and foods have been urged upon those who should reduce. One recurrent idea is to devise a diet consisting only of two or three items of food, good enough in reasonable amount together with other foods but quickly becoming repugnant when they become the whole meal day after day. Once upon a time it was lamb chops and pineapple. Then it was bananas and skim milk.

The biggest commercial success was the "Metrecal" idea, in essence packaging the kind of nutrient mixture we use in controlled experiments with animals and to fatten patients who can't, or won't, eat regular food. Nutritionally, such mixtures of casein, sugar, vitamins, minerals, and a little oil are safe and suitable for a time if you want to forget about eating. The craze for the 900-calorie can is abating and now the butchers and safflower-oil vendors are profiting. But we have already disposed of the notion that calories don't count.

The idea that drugs or indigestible food imitations are desirable or necessary to help the dieter is widely promoted by commercial interests. All manner of expensive preparations are to be had with and without a doctor's prescription. Some drugs produce a sort of incipient nausea. The "anorexigenic" drugs, such as the amphetamines and their relatives, depress the appetite by disorganizing the nervous system—and they may produce either general depression or extreme irritability and impulsive behavior as well as inhibiting hunger.

Reducing preparations that contain "no drugs" mainly consist of various indigestible bran and cellulose mixtures that provide no calories but bloat the stomach so you feel stuffed. A little bran may be useful to prevent constipation, but more than you can possibly need for this purpose is readily available at the grocer's in the form of various breakfast foods. As for simply filling the stomach, there are plenty of real foods that will do this and add very few calories.

Some doctors prescribe one or another of these drugstore preparations in desperation about lack of co-operation, and undoubtedly there are some patients whose serious need for reduction, combined with an unfortunate personal psychology, will call for such measures. But unless your doctor really urges you to use these, stay away from them. In any case, never use any drugstore preparation that promises reduction and does not specify, in terms you understand, exactly what it contains.

The modern reducer should be grateful for the great variety of low-calorie vegetables and fruits now to be had at all seasons in the United States. These, and seasonings and flavorings, never so varied and easily available before, offer unlimited opportunities and satisfactions in taste and bulk at least. Saccharin and other sugar substitutes (e.g., "Sucaryl") allow all the zero-calorie sweetness you wish. Monosodium glutamate, "Ajinomoto," "MSG," "Ac'cent" (they are all the same) give meat flavor without calories. Garlic, citrus juices, peppers and peppery preparations (e.g., "Tabasco"), as well as the usual herbs and spices, take on new meaning when you seek food satisfactions based on bland vegetables.

Many fresh vegetables are essentially unrestricted for the dieter because they only run from 20 to 30 calories per whole cupful.

Asparagus	Cucumbers	Pimentos
Beans, green or wax	Endive	Radishes
Bean sprouts	Escarole	Sauerkraut
Beet greens	Kale	Spinach
Broccoli	Lettuce	Summer squash
Cauliflower	Mushrooms	Water cress
Celery	Parsley	Zucchini squash
Chard	Peppers	

Almost as negligible in calorie value (40 to 60 calories per cup) are:

Bamboo shoots	Fennel (Finocchio)	Onions (green)
Beets	Kohlrabi	Parsnips
Carrots	Leeks	Tomatoes
Eggplant	Okra	Turnips

Many other vegetables and fruits are not much richer in calories. In almost all reducing diets you can have practically all the berries, melons, grapes, peaches, and other ordinary *fresh* fruits that a reasonable person would like. Canned and frozen fruits, unless they are special "dietetic" packs, are usually much higher in calories because they contain added sugar.

PROTEINS, VITAMINS, WATER, AND SALT IN THE REDUCING DIET

Among many false notions about reducing diets is the idea that the reducer must get a large amount of protein in the diet. Fortunately, research on emergency diets and "survival" rations, with controlled experiments on human beings, conducted on behalf of the Armed Forces during World War II and after, has disposed of many exaggerated notions. We approve of generous amounts of protein in all diets and of super-amounts in the diets of *some* types of hospital patients. But the attempt to maintain a 100 per cent "margin of safety" of protein in reducing diets leads to the absurdity that skim milk and dry cottage cheese must be included in practically every meal and there is very little scope for variety.

Actual measurement of the protein intake and excretion shows what happens in the body. Dietary protein is important because it is needed for growth and to replace protein which is constantly being broken down in the cells of the body. But protein can also be used as a fuel like carbohydrate. Any surplus protein in the diet is disposed of in this way, the nitrogen in the protein being excreted by the kidneys in the form of urea. When the diet is very low in calories, the protein in it cannot be used for the growth and repair of the body cells because it is burned to provide calories. If you are on a diet of only 1000 calories but you are expending 2500 calories daily, practically all of the protein in your diet will be used in this way and your net protein balance will be about the same no matter what proportion of your diet is made up of protein.

Our menus are relatively high in protein so as to adhere to the general pattern of good diets when calories are adequate and to take care of situations where the reducing diets are used at calorie deficits where diet protein may spare body protein. Besides, most people like diets that are fairly high in protein.

Similarly, the diets we recommend are rich in vitamins, though this is rarely a critical matter for the reducer. Vitamin pills are unnecessary unless you reduce on strange and monotonous diets.

Restriction of drinking water and fluids in the diet is sometimes suggested for the reducer but this is stupid and potentially dangerous advice. A quick fall in body weight can be more easily produced by laxatives and diuretic drugs. Severe salt limitation will do the same thing because the kidneys then excrete water so that the salt concentration in the body stays constant. It is easy to push the weight up or down a few pounds by changing the salt intake. But such temporary effects in body water are merely misleading. The reducer's problem is to lose body fat and that means calories.

Chapter 6

YOUR ENERGY AND YOUR DIET

Like everyone else, you probably want more energy. Even young people complain that they are not *absolutely* tireless, and the rest of us wish we could regain the vigor we once had, so naturally we are receptive to almost any theory that promises to help us avoid fatigue. Though we may be too intelligent nowadays to be taken in by preposterous claims for fancy tonics and nostrums, it is not unreasonable to hope that a better diet can give us more vivacity and endurance. But you must not expect miracles, nor be impressed by commercial propaganda about "hidden hunger" and what vitamins can do for you.

The science of nutrition *can* produce miracles. Nothing could be more spectacular than the transformation of the weak and apathetic victims of severe thiamine (vitamin B_1) deficiency within a few days, or even hours, after the administration of the vitamin they lack. Nothing is more striking than to compare a severely malnourished infant with a well-fed baby. But very few of us are in such a deplorable state of nutrition that we resemble the beriberi patient, who is not often seen in America except among severe alcoholics on strange diets. In any case, if you *really* feel wretched and think you are far below par in energy, you should consult a competent physician to check for undiscovered disease as well as the remote possibility that you are suffering from serious nutritional deficiencies.

Now, presuming that you are not specifically ill but are simply, like many of us, tired as the busy day wears on and perhaps unable to muster energy to be the life of the party in the evening, then what can be done about it? More particularly, what can your diet do about it?

FATIGUE AND NUTRITIONAL FAULTS

In modern American life the fatigue many of us feel is probably more often of psychological than of physiological origin. Hurry, frustration, worry, and boredom steal our energy and leave us tired. On the physiological side, bad posture, ill-fitting shoes, overheated rooms, and lack of fresh air and physical exercise probably contribute to tired feelings among Americans at least as often as dietary faults.

For the moment we are concerned with what dietary faults may be involved. Fatigue and lack of energy are common complaints of people who are badly nourished from lack of food, from overeating, or from specific dietary deficiencies. Are you in one of these categories?

TEMPORARY FOOD SHORTAGE OR SURPLUS

Let us consider first the most obvious dietary cause of lack of energy—lack of food. Everyone knows that missing a meal or eating very little for a few meals robs you of energy at the time unless you happen to be very excited. Part of this temporary reduction in energy is due to a shortage of sugar in the blood, sugar that is a ready fuel to be used by the working muscles. The body has plenty of stored fuel but the cash in hand, so to speak, is depleted, although there is an ample reserve in the bank. When you get excited the reserves are mobilized, the blood sugar rises, and you do not observe the same fatigue.

You can temporarily correct, in part, the result of missing a proper meal by eating almost any kind of a snack; even such enemies of balanced diets as a sweet drink or a bit of candy will do. Although such a "shot in the arm" may give a quick response, it also tends to be followed by a quick letdown. It is much better to eat proper foods and to adjust your eating habits to avoid these low periods. If in need of a snack, take a piece of fruit, a sandwich, a bowl of soup, some real food, even though it is only a small portion. The fact that such snacks take a little more time than gulping a soft drink or chewing a candy bar as you work is

all to the good. Much of the refreshment from the "pause that refreshes" comes from the pause itself.

A very low sugar point during the day usually reflects a bad meal habit, a breakfast or lunch that is simply inadequate, without enough calories or with too large a proportion in free sugars and simple starches so that your blood sugar shoots way up and then, naturally, overshoots the mark coming down. Coffee or fruit juice alone for breakfast is not enough. If time or appetite prevents your taking more, eat a more substantial second breakfast later.

Excessively large meals also rob you of energy. Too much of your blood supply is busy trying to digest and absorb your food, blood is diverted from the brain, and you are sleepy and sluggish.

OBESITY AND EMACIATION

If you are overly fat or excessively thin your energy is apt to have a low evaporation point. Excess weight takes extra energy to move it around. On the other hand, the very thin person may have too little fuel stored in the body to keep the machinery running for hours at a time without rest and recharging.

Obesity should be corrected if present. Do not be surprised if your energy is diminished while you are actively losing weight on a reducing diet. When you get to the desired weight and maintain a new balance you will find new energy.

But suppose you are too thin. If you are thin and you have no energy, try gaining a few pounds—it usually is not too difficult—and see if you do not gain vigor as well. If you have always been thin, it is probably of no importance, but no harm will be done by consulting your physician. On the other hand, if you are losing weight without any good reason, you should see your doctor at once.

THE DISTRIBUTION OF YOUR MEALS

We have already mentioned the breakfast problem. For most people, getting some real food energy three times a day is a minimal requirement—not met by microscopic breakfasts and lunches followed by a huge dinner. The same total amount of food more evenly distributed throughout the day avoids overloading the

blood with fat and may even lower the cholesterol level. There is something to be said for a program of five meals a day such as used to be customary in some parts of Europe, but unless you are doing an unusual amount of physical work this means five *small* meals. It is desirable to distribute daily food to avoid great ups and downs. But whether you eat three or four or five meals a day, make sure that each is an occasion for a little quiet relaxation. The proper distribution of meals and rest can do much to keep your average energy level high.

THE KIND OF FOOD TO EAT

The kind of food you eat is at least as important as when you eat it. It is not true, as was sometimes taught, that we must get our energy from carbohydrates. You get energy as fuel from all the major nutrients—proteins, fats, and carbohydrates—and you need the vitamins contained in good foods to convert the food energy into your own bodily energy.

Protein foods, besides providing energy at an even rate, are necessary for general well-being in other ways, and they tend to be associated with generous supplies of many of the vitamins. The chief reason for not advocating a diet made up mainly of so-called protein foods is that most of them are actually very high fat foods. And this book is dedicated to help people who are determined to avoid excess fat.

A balanced diet is needed, with as generous a supply of protein as you can get without overloading on fat at the same time. Skim milk and cottage cheese are wonderful foods in this respect. For meat, choose lean cuts, trim and discard the fat, and control your appetite for gravies and sauces rich in fats and oils. You will, of course, be sparing of "empty calories"—the refined sugars and fats and oils that provide only calories for you without giving other nutrient values.

A balanced diet is needed to give you energy, plenty of proteins and vitamins in natural foods, a minimum of the refined sugars and fats and oils, just enough calories to keep you at the right weight, and a maximum of eating pleasure to help you relax and renew your psychological as well as physical energy. In short, we think the menus and dietary scheme of this book will do everything possible that diet can do for your energy.

Chapter 7

ATHLETES AND INVALIDS

This book is concerned with the diet for normal adults and some who are not so normal—fat people, coronary patients, and those special candidates for coronary heart disease who have high blood cholesterol values. But what about athletes and invalids and sick people other than coronary patients?

INVALIDS AND NON-CORONARY PATIENTS

Sick people should have the dietary advice of a physician who considers their individual peculiarities, but a diet low in saturated fats, and with total fats within the bounds of moderation, is suitable for most patients. The diet advisable for a particular patient may be soft or liquid or free of purines or low in residue; the selection of foods and the methods of preparation can be tailored to the patient and still keep to the pattern of no more than 30 per cent of calories from fats, less than 10 per cent from saturated fats.

In most diets prescribed for patients who are not in hospitals, little attention is paid to total fat and still less to the fatty acids in the diet. Restriction of dietary fat is most often recommended if fat is mentioned at all. A really low fat diet is advised for patients with pancreatitis and gall-bladder disease. The same was true until recently in practically all kinds of liver disease. The current trend puts more emphasis on abundant proteins and carbohydrates for liver patients; doctors do not advise high fat diets for such patients. Low fat diets are usually advised for patients with gout and sprue.

Hospital diets are, of course, more carefully prescribed, but, again, little attention is paid to the type of fat in the diet. It is interesting to make computations on hospital diets. Usually when

a high protein diet is prescribed it also turns out to be a high fat diet, not because the doctor wants a fatty diet, but because forcing proteins with large amounts of meat, milk, and eggs usually provides more fat than protein calories.

In three important conditions the use of high fat diets is, or used to be, commonly advised: Emaciation and wasting illnesses, tuberculosis, and peptic (stomach or duodenal) ulcer. In addition, we should say something about diabetes and epilepsy. The only one of these conditions where a high fat diet is clearly necessary is that of the emaciated patient who finds it difficult to eat enough calories.

EMACIATION AND INABILITY TO EAT

For emaciated patients fat is nutritionally desirable simply as a concentrated source of calories. This explains the old custom of feeding these patients much cream, butter, and eggs, that is, soft foods high in calories and agreeable in flavor. In feeding patients who have no appetite or who swallow with difficulty, the diet is dictated by expediency—what the patient will accept and tolerate. Good nursing is an essential part of the dietary prescription. Vegetable oils for such patients have been little tried except recently in emulsions which can be fed by tube or injected intravenously; these evoke enthusiastic reports from physicians treating cancer patients, persons who have been severely burned, and all sorts of surgical patients.

ULCER PATIENTS

The Sippy diet, proposed in 1915, was long a favorite for ulcer patients. The idea was to counteract the acidity in the stomach by keeping it more or less constantly filled, or coated, with a soft food. So half cream-half milk was given every hour except during sleep, and frequent feedings were given of soft-boiled eggs, cooked cereal with cream, and cream soups. The Sippy diet is less frequently used now because gastric acidity can be effectively controlled in other ways and surgery takes care of many patients formerly doomed to living on cream and milk. A glass of milk between meals is still often advised for ulcer patients; we see no

serious objection to this but we suggest that the patient should try a "filled" milk with 2 per cent butterfat and 10 to 12 per cent non-fat solids. Better still would be synthetic "milk" or "cream" made from skim milk and vegetable oil but such preparations cannot be sold legally in many areas.

But what about patients managed by the old-fashioned Sippy regimen—are their arteries damaged by the high intake of saturated fat? A number of studies have reported that these patients are, indeed, unduly prone to have heart attacks. It is conceivable that the kind of people who get ulcers are also the kind of people who are prone to develop coronary heart disease, Sippy diet or not. But a recent co-operative research in the United States and England found that only ulcer patients who had received the milk-cream treatment had an excessive frequency of myocardial infarcts. The hospitals in both countries showed the same picture —several times more scars in the hearts of Sippy-diet treated patients than in ulcer patients of the same age and type treated without milk and cream.

TUBERCULOSIS

Tuberculosis traditionally is associated with emaciation, and emphasis in treatment used to be on "feeding up" the patient. The modern view is that treatment of the disease itself is much more important; as the tuberculosis itself improves, appetite picks up and the nutritional state tends to be remedied spontaneously. There is no indication that a high fat diet is desirable to combat the tubercular process. Tuberculosis patients are often fed a diet high in saturated fats simply because that is an easy way to offer calories which will be taken easily. Eggnogs, ice cream, and the like are convenient, but the equivalent of these can be supplied with other ingredients.

As in emaciation in general, the use of vegetable oils in the diet for tuberculosis patients should be considered. Excellent "milk shakes" are easily made by high-speed stirring (Waring Blendor) of the oil with skim milk, to which dry skim milk or an egg may be added if extra protein is desired. Flavorings and sugar are added to taste. A smooth and relatively stable emulsion can be made with a homogenizer using these ingredients; the product may be stored in a refrigerator for convenient use.

DIABETES

In the effort to control blood sugar in diabetes, dietary management used to be concentrated on restriction of sugar and on secondary restriction of carbohydrates as providers of sugar. This meant either starving the patients on a diet too low in calories or giving them a high fat diet. Many diabetic patients were maintained on high fat diets in the pre-insulin era (before 1923), but some experts even then believed that such diets, high in fat, low in carbohydrate, were bad.

The present view sides with the critics of the old high fat diet for diabetics. Though the old high fat diet provided calories, it seemed to reduce the sugar tolerance of the diabetic patient. Since the discovery of insulin, the blood sugar can be controlled even on a high carbohydrate diet, so the modern trend is to give more carbohydrates to the diabetic patient and to adjust the insulin dosage to the needs. It is now believed that if the diabetic eats carbohydrates his own pancreas is stimulated to produce more insulin. Some specialists now advise a low fat diet for diabetics, but the majority opinion favors moderation, with 30 to 40 per cent of total calories from fats. This is lower in fats than the current average United States diet.

Insulin prevents people from dying in diabetic coma, but the death rate of diabetics is still very high; they die of arteriosclerotic complications, particularly coronary heart disease. Diabetes is not only a "sugar disease"; it involves deranged fat metabolism and a marked tendency to high blood cholesterol. Some of the coronary deaths among diabetics today may be the result of high fat diets; or perhaps diabetes always upsets the fat and cholesterol system of the body. It seems to be particularly desirable for diabetics to watch the dietary fat. Around 30 per cent for total fat calories should not be troublesome from the standpoint of insulin control. And, of course, the saturated fats should be reduced to a very low level.

EPILEPSY

Severe epileptics were once treated with a high fat, "ketogenic," diet so as to overwhelm them with fat in the diet (80 per cent of calories) to the point where the fat could only be incompletely "burned" in the body and the "smoke" of this incomplete combustion, the "ketone bodies," would accumulate in the blood. This is a heroic measure, only justifiable as a last resort in otherwise uncontrollable epilepsy. Fortunately, this is practically never used today. The basic physiological unsoundness of the "ketogenic" diet is well recognized. New drugs are available that do a great deal more for the epileptic patient.

SKIN DISEASES

Patients with skin diseases often think a special diet is needed and that, in fact, their trouble is dietary in origin. In both respects the patient is usually mistaken and all that a diet can do will be done by any reasonably well-balanced diet. If the skin disorder is related to specific food sensitivity, allergy tests may detect offending foods, which thereafter should be forbidden. But such allergies relate to specific food items, not to classes of nutrients, so the general character of the diet need not be changed.

Neither for infantile nor for adult eczema is there a good scientific basis to recommend any specific kind of diet, though all sorts of ideas are held by some dermatologists and their patients. The same may be said of most skin disorders, including psoriasis and the wide variety of conditions called "dermatitis."

Low fat diets are suggested for some skin troubles, including adolescent acne. Usually fats are restricted for patients with rosacea, a condition that is associated with abnormal flushing of the face, but there is some doubt that dietary fat has much effect. Even more questionable is the idea that intolerance to carbohydrates is involved in ordinary acne. One recent study reports that a high carbohydrate diet seemed to benefit most acne patients! If there is any agreement at all about acne it is to avoid high fat diets. The net result of considering the skin diseases is to conclude that the kind of diet recommended in this book is generally suitable for these patients.

ATHLETES

Years ago we worked much with athletes. We tested and measured football players, wrestlers, all kinds of track and field record-breakers. Most of them liked to talk about what they should eat to build more speed, endurance, and agility into bodies already perfected far beyond what the rest of us can ever aspire to. This carried us into research on diets for military combat, and to ration trials with skiers and flyers and tank men.

So what did we learn? We found that in most track events, except the long distances (two miles and up to the marathon of 26 miles), the meals just before competition did not matter, so long as they were small, light, and bland. For these events the performer needs and uses practically no energy beyond that in his own body. He is as taut as a bowstring, and the main concern about eating is that it should not upset him in this highly nervous condition.

Long-distance swimmers and runners, however, may run out of easily available fuel in the body before the race is over. They may profit from stoking up with sugar just before they start or as they go along; eating sugar or any other food an hour or more before the race has little effect. In very prolonged severe exertion, such as mountain climbing or swimming the English Channel, a supply of fuel during the exercise is critical. Sugar, especially glucose, has been the favorite recommendation, because it was thought that glucose is the preferred fuel of muscular work. This idea should be modified because of recent research findings—some fatty acids may be equally acceptable to the working muscle—but the rapid absorption of sugar is a consideration when the need is to get calories, any calories, fast.

Arguments about food on the day of competition have little to do with the regular diet of athletes, the diet they do or should train on. Athletes fall into two classes, the team players (basketball, football, etc.) and the individualists (runners, swimmers, wrestlers, and so on). They differ temperamentally and in regard to the diets they favor. Team players have personal foibles, including dietary ideas, but mostly they swear by whatever the coach tells them, including the choice of foods. Since the coaches

are themselves former team players with only slightly more scientific knowledge than their charges, the diets they favor are built on a mixture of superstitions that they were told in their time, and of hopeful interpretations of "modern nutritional science." The team player's diet is apt to be built on the same philosophy as the old Chinese idea—if you want to be big and strong you eat the muscles of big and strong animals—plus the notions of the nutritionists who believe that whatever grows baby rat meat faster is better. So they are stuffed on the biggest (and most expensive, therefore fattest) steaks to be found, they guzzle gallons of milk, they have triple dips of ice cream, and they are plied with vitamin pills.

This is an indoctrination into adult dietary foolishness. When the brawny lads get out of school and no longer are forced to practice every day they are soon pudgy; not much later the atheromata are in full bloom in their arteries.

Athletes in individual competition are very different, especially if they are of champion caliber. Each has his own ideas about training, often very peculiar. They, too, may believe in the "strength" of meat, but they may insist on eating it raw or cooked to death, or they will eat only beef or never eat beef. Raw eggs are often favored, or gallons of orange juice, or no sweets of any kind, or yogurt by the bucket. Some eat only once a day; others eat five times a day. Murray Rose, the 17-year-old Australian who won the 400 meter free-style swimming race, and placed second in the 1500, at the Olympic Games, was not untypical. He subsisted on sunflower seeds, sesame, millet, unpolished rice, and bread made from pulped carrots and cabbages, and he drank only goat milk and fruit juices.

The point is that there is no special diet for athletes. They need enough calories, and about the same amount and kind of proteins, vitamins, and minerals as anybody else. Each has to find for himself the foods that agree with him (who doesn't?). But there is not the slightest reason why the athlete, just as other people, should not thrive without a vast amount of saturated fats.

The actual amounts of foods needed and allowable for the athlete depend on how big he is and how hard he trains, that is to say on his calorie needs. If this means 5000 calories a day and we allow 30 per cent of calories from fats, a third being saturated

types, he gets 500 calories or over 55 grams of saturated fats. He can drink two quarts of whole milk and still have a sizable remainder of saturated fats for his quota for the day. The amount of fat allowable is proportional to the total calories needed to maintain equilibrium.

Athletes, and their coaches, are particularly concerned about what to eat for the last meal before competition. Here they are not thinking about "health," and many athletes would rather not eat at all in the state of mounting excitement and nervous tension when the game or race is only hours away. But eat they must, particularly if the athletic event will call for more than a momentary effort; and in their choice of food they should seek to find a meal that will sustain their subsequent efforts without increasing the tendency to distressing symptoms that many of them experience just before and during competition.

Football teams usually have their pre-game meals prescribed for them by their coaches, who generally seem to be so impressed with the virtues of proteins and abundant calories that steak, eggs, and rich milk are commonly ordered. A typical last "solid" meal given to a football player is apt to provide steak *and* eggs, oatmeal and cream, etc., to the tune of 1500 to 2000 calories at a cost of around five dollars or more. But a recent study with a big-time football squad (University of Nebraska) indicated that a simpler, less solid meal is preferable.

Vomiting, "cotton mouth," and muscular cramps were reduced, or failed to occur at all when expected, with a meal somewhat reduced in calories (1590 calories) which contained no meat, eggs, or cream. The players experienced no hunger and believed they had better strength and endurance with a meal of toast, honey, canned peaches in heavy syrup, and a large portion of a preparation similar to "Metrecal." Such a meal is very low in fat (less than 10 per cent fat calories), very high in simple sugars, and relatively high in protein because of the large amount of non-fat milk solids in the packaged prepared food. With this meal the players and coaches were delighted, and the manager noted that the cost was less than half the minimum cost of the "meat meal" previously used.

SECTION II

ABOUT FOODS AND COOKERY

Chapter 8

SOUPS

The French, who have a sure instinct about foods, insist that nothing can match a good soup to start the meal. The Chinese, who take second place to none in cookery, go further and often eat two or more soups at a meal. Americans, too, have a long tradition of soup, but the custom has almost disappeared in the general movement to simplify meals and reduce labor in the kitchen.

The regular use of soup in the diet can contribute much to eating pleasure, good nutrition, and easy control of both calories and fat intake. The majority of soups are low in fats and do a wonderful job of satisfying the appetite with few calories. Soups enable people to reduce calories, or even to starve, with less hunger at the end of the meal than when eating any other ordinary form of food.

The great French chef, A. Escoffier, divides soups into two leading classes, clear soups and thick soups, the latter including purées, cream soups, and the veloutés (which start with a white sauce and meat, poultry, or fish stock to make the velouté base and then receive one or another kind of separately prepared purées of meat, poultry, fish, or vegetables). Escoffier relegates ordinary vegetable soups and everything that resembles a dilute stew to "plain household cookery," but that does not bother us. These are the soups that do not merely hint at a meal to come; they are a major part or even the central feature of the meal, plebeian but not therefore less delightful.

Soups, plain or fancy, can be superlatively good or dull, but seldom really bad. Yet many a housewife and ordinary restaurant cook sticks to elementary safety as found in the little cans at every grocer's, and seldom ventures far from that base. For cooks with such timidity, or laziness, it becomes an adventure in culi-

nary art to mix cans of two different kinds of soups or to dump a can of peas into a can of consommé. And so no one is much interested.

Lately the possibilities among ready-prepared soups have much enlarged. Fancy grocers offer canned-soup specialties that appeal to the most discriminating palate. Shop around and don't be penny-wise. A can of soup that serves four for ninety cents is really cheap for good food. As soon as the public is willing to pay a little more than the going price for the stacks of cheap canned goods in the supermarkets, modern food technology will respond with new delights.

But the most exciting developments in the soup line are in dried and frozen soups. Dried soups have the advantage that flavor retention and the preservation of character of the individual ingredients are apt to be far better than those of the canned versions. Still better in many respects are some of the frozen soups. Not all soups return to the original consistency after freezing and thawing but many do, and almost all hold their flavor. Freezing is far less brutal to soup—and other foods—than canning.

The deep freezer makes it possible to have wonderful soups on hand for all occasions. Besides buying frozen soups in the market, one can find it both easy and sensible to prepare and freeze fine homemade soups and soup stock. But keep track of dates. It is not true that soups or any other foods keep indefinitely in the freezer, unless by "keep" we mean "do not become poisonous." Canned and dried soups do not improve with age either, but dried soup properly sealed in the freezer is as nearly immortal as food can get.

SOUP STOCK AND CLEAR SOUPS

The beginning of soup-making wisdom is recognition of the fact that, in general, good soups start with a stock; you do not cook up everything together from scratch. The Chinese as well as European cooks have known this for centuries, probably for thousands of years. But the Chinese also produce some excellent soups that use no stock yet are made in only half an hour (see Doreen Feng's, *The Joy of Chinese Cooking*). Canned consommés are pallid substitutes for good stocks, but they—or better, some

of the new bouillons—will do in a pinch, allowing easy preparation of soups that far surpass most soups that are completely finished before canning. Plain consommés and some purées can be good in cans, but more complicated soups require contrasts in texture or recently blended (but not "averaged") flavors that cannot survive the canning process and subsequent storage.

For the modern adult we recommend all clear soups because the fat and calorie content is negligible, though they can provide important amounts of water-soluble vitamins, minerals, and some amino acids, the basic constituents of proteins. Bouillon cubes provide extremely little nutriment, however. In the ordinary bouillon cube more than half of the weight is usually plain table salt.

In preparing soup stocks and broths most of the fat of the meat is extracted in the boiling water and rises to the top, where it will cling to a piece of paper towel dragged over the surface. Chill the stock or broth when the cooking is finished; the grease hardens and is easily lifted or skimmed off while cold. At this stage the stock may still be cloudy. For two to four quarts of stock, break up two or three egg shells, whip slightly two egg whites with one tablespoon of water, add to the stock, stir while bringing it to a boil, and continue boiling and stirring for two minutes. Allow to stand quietly cooling for 20 to 30 minutes and strain through double cheesecloth. The result should be crystal clear and practically fat-free.

CREAM SOUPS

Cream soups are more of a problem. The typical cream soup involves ingredients sautéed in butter, much rich milk or cream, and perhaps egg yolks. The result is an emulsion of fat, mostly of the saturated type. But ingenuity can allow us to have cream soups. Vegetable oil and skim milk may be used in place of the rich milk or cream. If need be, a bit of flour or cornstarch will help to produce suitable thickness and the result can be very good. Vegetable oil can be mixed with skim milk in a Waring Blendor or, better still, the two are put through a homogenizer together. Two or three tablespoons of oil to one cup of skim milk

is about right to produce a thin "cream." By such means very smooth cream soups can be prepared.

MINESTRONES

Soups of the meat-stew or minestrone type are no problem in regard to fat. With the meat-stew soups it is desirable to cool the soup, degrease it as indicated above, and reheat for serving. This is unnecessary with vegetable soups and most of the ordinary minestrones (the stock has already been degreased). The saturated fat content is trivial, and such vegetable oil as is used in the preparation may safely be left in it.

Minestrone knows as many versions as there are towns in Italy, each cook has a variant, and, indeed, the same cook may have a whole spectrum of minestrones, depending on the ingredients available. In any case it is a filling yet light soup which can easily make a whole meal with some good bread and a glass or two of dry wine, preferably red. In *How to Cook a Wolf*, M. F. K. Fisher says minestrone is "probably the most satisfying soup in the world for people who are hungry, as well as for those who are tired or worried or cross or in debt or in a moderate amount of pain or in love or in robust health or in any kind of business huggermuggery."

The three major varieties of minestrone are 1. minestrones made with meat (and a very little meat will suffice), 2. minestrones with beans, 3. minestrones with rice. And all of them may or may not have some *pasta* in them in the form of grains or threads of spaghetti-type wheat paste—tubetini, ditalini, vermicelli, or acini di pepe, the latter being named because they are scarcely bigger than pepper grains. All are usually eaten with a teaspoonful or two of grated dry Parmesan, Regano, or Romano cheese.

SOUPS UNLIMITED

From minestrone it is an easy step, with no clear boundary, to meat and vegetable stew and then to stew in general. Somewhere in the no man's land are the fish soups variously called bouillabaisse (French), zuppa di pesce (Italian), sopa de pescado

(Spanish). All around the shores of the Mediterranean this delightful sample of the sea appears; fish, shrimps, squid and shellfish of all types, according to the day's catch, find their way to the soup pot with some vegetables and a little olive oil. And out of the pot to the table come meat, claws, shells, and all, sitting in a bath of delectable broth. The very essence of the sea is caught in a one-dish meal. The calories you adjust by the amount of bread you eat, the fat is little, and what there is of it will not raise your cholesterol.

Entirely different, but equally acceptable in regard to fats, are some of the old-style soups of the Baltic area. There we find "fruit soups," really slightly thickened fruit juices, spiced, sweetened, and served hot in a soup bowl at the start of a meal. Even more strange is "buttermilk soup," made with buttermilk and lemon juice, thickened slightly and served hot. An old favorite in rural Denmark and northern Germany is a gruel prepared from beer and dark heavy rye bread sweetened with a little sugar and served hot, a dab of whipped cream being added at the last moment. Finally, in that part of the world, the soup course in old-fashioned homes is often represented by a fine-textured farina porridge or a rice porridge served hot with a dab of butter and cinnamon on top. Perhaps these are not soups, yet they come in a soup bowl just when soup would be expected. We have gone to the end of the definition of soup, though we have scarcely touched this immense class of food. And we have not even mentioned the wonderful soups that can be made with the humblest of ingredients: onions, beets (borscht), and potatoes (vichyssoise).

Chapter 9

BREADS AND CEREAL PRODUCTS

That bread should be called the staff of life seems strange if we look only at the contemporary scene. Surely most of the anemic windbags of a loaf at the nearby grocer's could vanish unwept. But breads, and the cereal grains, have not only supported physical life longer than recorded history; our whole Western civilization was made possible by them.

The cultivation of barley and wheat ended nomadic life. Stores of grain in the valley of the Nile and in Mesopotamia meant more than release from the incessant search for food. They enabled people to congregate and made inevitable the development of towns and the specialization of skills and knowledge from which alone could come the emergence of the arts and sciences.

The Egyptians worshiped Isis, daughter of the Earth and the Sky, identified with the Greek goddess Demeter, sister of Zeus, and her later Roman counterpart, Ceres, goddess of the growth of food plants. The Cerealia festivals were great affairs in Italy at least as early as 300 B.C., but the women had also their own secret celebrations for Ceres where, we trust, they whispered the mysteries of making the dough and baking and vowed to keep high standards of breadmaking.

In that region the breads are still wonderful, still the staff of life. On Italian hillsides we have had many fine lunches on fresh breads (*pani*), a little cheese, some wine, and fresh fruit. Two thirds of a pound of that bread per person is not too much for lunch; it *is* the meal and an excellent meal at that. Such bread is made simply of high-protein flour, water, yeast, and a little salt. It has a wonderful nutty crust and it must be eaten fresh.

Most of the bread eaten by the ancient Egyptians, Greeks, and Romans was made without yeast, and such flat, unleavened breads are still eaten in some regions. It keeps well, it has a fine

flavor, but it demands, and perhaps produces, good teeth and jaw muscles. Try it to see what the old staff of life was like. But we do not insist that all cereal preparations should be hard and tough. We like all the fine things that can be made from cereals—delicate tea rolls, porridges, spaghetti, and *real* French bread. Properly prepared, they are good to eat and good nutritionally.

FLOURS AND BREAD INGREDIENTS

Cereal grains are seeds of the family of grasses, each containing the germ and a supply of nutriment to take care of the needs of the developing embryo and the start of the new plant. The whole seed is encased in a protective husk which is relatively indigestible. The germ contains protein and some fat, and this, together with the husk, is commonly removed more or less completely in milling to produce refined flours. The resulting flour is an excellent but highly limited type of food, almost pure carbohydrate. The most highly refined flours owe most of their good keeping quality to the fact that the nutriment they provide is too incomplete for the growth of animals, including "vermin" and insects.

The cereal grains are remarkably stable when stored dry without milling. Merely parching or lightly roasting barley makes *tsampa,* a staple food in Tibet and the Himalaya region, and parched corn was a stand-by for many American Indian tribes. Scarcely more complicated is the making of gruel or porridge—a little water and salt, boil, and there it is. Bake or simply sundry a thick porridge and you have an unleavened bread. Add yeast to the porridge, wait a bit before baking, and you have a raised or leavened bread.

Yeasts are microscopic plants that have the ability to convert sugars into alcohol and carbon dioxide. By providing the proper conditions and proper variety of yeast, one or the other end product is favored so we get beer or wine or bread or cake dough lightened by the bubbles of carbon dioxide. The yeasts are good sources of some of the vitamins and are highly nutritious in themselves. Breads as well as cakes and biscuits may also be raised, of course, by baking powder or plain baking soda. Carbon dioxide gas is released from a compound of bicarbonate or carbonate when an acid reacts with it. Pour vinegar on baking soda; the

evolution of gas is exactly what occurs in a dough containing baking powder.

These, then, are the basic processes involved in the preparation of all breads and cereal products—parching or roasting, boiling with water, moistening with water and baking, or adding a leavening agent and then baking. How simple and yet how varied the results!

A basic dilemma in food preparation is illustrated in breadmaking. The true French, Italian, and Spanish type breads are unsurpassed for flavor when they come from the oven, but they do not keep long. Add to the dough some lard or other fat, milk or skim-milk powder, and the result is a softer, more fine-grained (and uninteresting) texture and a good deal less of the indescribable nutty flavor of fresh bread made without these added ingredients. Some people like these soft, tasteless sponges, but the main reason for their commercial success is their long shelf life. Starting from a low level of gustatory virtue, they are not much worse after two or three days of sitting on the shelf wrapped in gaudy waxed paper, especially if the baker has been really modern and added an assortment of "softeners," "extenders," "anti-stalers," and "surfactants" (surface-active agents) in his mixture.

ADDITIVES IN FLOURS AND BREADS

The National Research Council investigated additives used in commercial breadmaking and reported over 70 chemicals in use. Though none of these chemicals was proved to be dangerous to health as used in breadmaking, few of them had ever been studied adequately. The manufacturer of a food item has not, in the past, been obliged to prove the safety of the material he uses; it has been up to the Food and Drug Administration to prove they are *not* safe, and the FDA has not had the staff to run the necessary tests. The law has been changed recently but what will actually happen is uncertain.

Fortification or "restoration" of vitamins and minerals is a good thing. But we do not know how good or how bad for you may be the other additives in many commercial breads. Modern commercial practice is to add 3 to 5 per cent fat to the flour, the kind of fat depending largely on the price of fats, but it is mostly of the saturated type. Apart from nutritional questions we personally do not enjoy eating the end result, and we are not surprised that the per capita consumption of bread in the United States has fallen steadily over all these years of "improving" breads.

Four per cent fat in the mix does not sound like much, but it means that each small slice of bread contains around a gram of fat, mostly saturated, not counting what you may spread on it.

WHAT IS THE ANSWER FOR BREAD?

So what is to be done about bread? You *can* make your own, but when your family tastes how good it is you may be unable to go back to the usual store bread; you will have to bake bread three times a week. Another solution is to shop tirelessly for bread, arguing with bakers all the while. Or you can simply stop eating bread; this is the course now automatically being taken by an increasing proportion of the population. A pity, because bread is, or can be, a fine food.

Never choose a bread because it is cheap, either by the pound or, worse still, by the cubic foot! Premium-priced breads are usually worth more than the extra price. Try breads baked on the premises, preferring the smallest in bulk. Try the "squeeze test"; if the bread squashes easily and bulges back into the original shape, drop it; it is probably not poisonous, merely inedible. Seek out the shops that specialize in non-standard breads, especially those popular with the foreign-born trade. Those brought up to eat a lot of good bread maintain a healthy consumer pressure where they trade.

As to the "health value" of dark versus light and whole grain versus refined flours, note the differences in regard to proteins and vitamins. Usually the darker the loaf, the higher the protein and vitamin content (but sometimes the dark color comes from black molasses!). Dark rye flour is over 16 per cent protein, whole-wheat flour may be close to 13.5 per cent, enriched all-purpose flour averages 10.5 per cent, self-rising about 9.2 per cent, and cake or pastry flour is only about 7.5 per cent protein.

The thiamine (vitamin B_1) content of flours differs in the same direction as protein. Whole-wheat flour contains about twice as much thiamine as does a light graham flour and some 15 times

more than pastry flour. Enriched flours have added thiamine as well as riboflavin, niacin, and iron, approaching whole-wheat flour in these respects. But other ingredients are removed from the wheat when it is refined; possibly enriched white flour is not actually the full nutritional equivalent of the natural grain.

BISCUIT AND CAKE MIXES

A remarkable recent development has been the increase in the sale of cake and biscuit mixtures. Almost any kind of cake, muffin, and biscuit is made by dumping the contents of a package into a bowl with some water or milk—a quick stir, and it is ready for the oven. And when it comes out you can open a can and pour a gooey frosting over it. Frankly, we would rather not, though the result often compares favorably with the offerings in the pastry department of the supermarket.

What all is in these mixtures, and the proportions, is naturally a well-guarded trade secret. Probably softeners, extenders, and surface-active agents are used in these mixes as they are in breads, plus anti-oxidants to keep the fats from turning rancid. The fats are apparently mostly hydrogenated and as such are not recommended. However, several large producers assure us that these mixes can be made with vegetable oils when and if the public interest (i.e., the paying consumer demand) warrants the change. In the meantime, we cannot be enthusiastic about these mixtures for people who are anxious to control their fat intake. If the label reads "made with blank vegetable fat," we are still not told how much, and it is almost certain that the vegetable fat is hydrogenated just like ordinary shortenings you buy in cans, that is, to the point of being pretty fully saturated. However, angel-food cake mixture is, like the ingredients used in making ordinary angel food, practically fat-free. No objection on the fat score is raised against this mix. Moreover, to our way of thinking this is the best of the regular cake mixes in terms of the quality of the product.

BREAKFAST CEREALS

Some manufacturers of breakfast foods are now mentioning "fat calories" in their advertising. In ordinary breakfast foods they have a "natural"; the percentage of the total calories provided by fats in these foods is low. "Corn Flakes" and "Shredded Wheat" indicate the range of fat content of most dry breakfast foods. "Shredded Wheat" offers about 4 per cent of its calories as fats; "Corn Flakes" run not much over 1 per cent.

All is not perfection with prepared breakfast cereals, however. Most of them contain too much free sugar, and the usual custom is to add still more at the table. Possibly this promotes dental decay, and it is certain that it produces undesirable oscillations in the sugar level in the blood. A bowl of dry cereal with lots of added sugar can act much like the sugar tolerance test used to detect diabetes. Up goes the blood sugar with a rush, possibly putting an undue strain on the pancreas (which makes insulin, which keeps the sugar within bounds). Then in a couple of hours the blood sugar shoots down again and there may be a "letdown" in vigor. Go easy with the added sugar and take other foods, including plenty of milk (skim or 2 per cent butterfat skim; depending on your cholesterol and calorie problem), along with the cereal.

Another question mark about the prepared breakfast cereals also has to do with the sugar in them. Some breakfast foods are prepared by mixing the partly cooked cereal with sugar or syrup and then toasting or roasting to dryness at a rather high temperature. This treatment results in a sugar and protein complex that may destroy some of the ordinary biological value of the protein. On the whole, we favor the older porridge types of breakfast cereals, such as oatmeal and farina ("Cream of Wheat"), which, so far as we know, do not suffer from the sugar problems noted above.

CRACKERS, BISCUITS, PRETZELS, AND CHIPS

Packaged commercial baked goods must be low in moisture in order to keep well, so they tend to be very hard and brittle unless they contain a good deal of fat. Pretzels average only 3 to 4 per cent fat by weight (less than 10 per cent of the calories) but various chips reach 45 per cent fat weight with two thirds of the calories as fat. Fats account for about 12 per cent of the weight and 20 per cent of the calories in ordinary soda crackers, but

most of the "snack" biscuits contain double or more that amount of fat.

Almost any common type of food fat or oil may be used to make these commercial preparations. Rancidity is a problem with products high in fat that may spend a long time on the shelf, so the more stable hydrogenated fats are often used. If efforts are made to make sure that the product is still fresh when it gets to the consumer, use of a good natural vegetable oil will assure the best product. We have analyses of a leading brand of corn chips which show an excellent distribution of fatty acids: 14 per cent saturated and 45 per cent poly-unsaturated fatty acids.

In the absence of details on the label, the consumer has little guidance. We can only suggest avoidance of any item that has the slightest touch of rancidity, and limitation of all items that quickly make a grease mark when put on a paper towel.

THE USE OF OILS IN BREADS AND PASTRIES

In the chapters on Recipes and Menus in this book we specify oil for many baking purposes. Bread and pastry makers are only beginning to use oils in this way; such substitution can produce excellent results. This is true in our own experience with pie-crust, many kinds of cakes, and all biscuits and muffins. Moreover, it is easier to mix with a liquid oil than to cream and blend or melt solid fats. Generally, substitution of an oil for a solid fat in baking should not be made one to one; the oils go farther. If a recipe reads, "one cup of shortening," usually three fourths of a cup of oil, or a bit less, will be about right. Recipes calling for butter rarely mean sweet butter, so when oil is substituted allow for the salt ordinarily present in the butter.

Different oils are not identical in cooking properties, but cottonseed, corn, and peanut oil are much alike for baking, though they differ somewhat in frying. We do not mean that butter or lard should never be used in baking. Some cookies, for example, need the flavor of butter for their particular character. Often a good solution is to use part butter and part oil.

ARE BREADS AND CEREALS FATTENING?

The calorie density of foods is important if you are reducing. In this respect, most cereal foods are intermediate between the low calorie vegetables and the high calorie fatty foods such as meats. Such concern as there may be about breads and cereal products being fattening is related to two facts. Firstly, the American custom of using fat spreads on breads and of adding fatty sauces to spaghettis and cream to breakfast foods greatly increases the calorie content of the combination without increasing the bulk appreciably; the calorie density is increased. Secondly, breads and cereal products are relatively bland; they do not quickly cloy the palate, so it is easy to eat them in large quantity. If you are concerned about weight, take small bites of your bread and porridge, eat slowly, and you will have the maximum of food satisfaction with no great load of calories.

Chapter 10

VEGETABLES AND SALADS

VEGETABLES AND VEGETABLE COOKERY

Vegetable cookery is a better test of a good cook than fancy desserts. At its best it is most simple; the freshest of vegetables at just the right maturity, the briefest of cooking in the least water, and served at once. This way vegetables bring grace and lightness to a meal, they supply vitamins, minerals, and a pleasant sense of fullness—with very little fat and few calories.

Excess water and overcooking eliminate flavor, texture, vitamins, and minerals. Nutrients are conserved by bringing the water to a boil before adding the vegetables, and if more than a few drops have to be strained off before serving, too much water was used. If the vegetables are so old and tough they refuse to become tender with brief cooking, throw them out; prolonged cooking will only result in a limp and tasteless mess.

Not that boiling is the only way to cook vegetables. Most vegetables, including lettuce, are excellent braised (do not worry about the few drops of oil needed), and all vegetables can be worked into casserole dishes. The more we travel around the world, the more kinds of vegetables and methods of preparation we discover. Where we find the men rejecting "rabbit food," their wives are just poor vegetable cooks.

On the strictest low fat reducing diets you may eat all the leafy green vegetables you wish. Select leafy vegetables for their texture (the crisper, the better) and their color (preferring the darker natural color for most purposes). Spinach should be the deepest possible green, beet tops should have the reddest possible stalks, and so on. Ordinary cabbage is better if it has some color, and red cabbage is excellent in some dishes where ordinary cabbage would be insipid. As for head lettuce—well, it has its uses, but in many places it is a poor substitute for leaf lettuce, romaine,

escarole, endive, Bibb lettuce, and other more colorful, and flavorful, plants.

In a different culinary class are the fresh seeds and seed pods or fruit heads. The same rules apply; select for deep color and crisp texture, cook no more than necessary (usually less than you think!), and consider water an evil to be avoided so far as possible. All seeds, including peas and beans, are relatively rich in good proteins and vitamins, and if your diet is low in meat and dairy products, include plenty of them in the diet. Tomatoes and all members of the pepper family are extremely good sources of vitamin C (ascorbic acid), so if you do not eat citrus fruits, make up for that loss by abundant use of this wonderful family. The little orange or yellow "plum tomatoes" or "Peruvian tomatoes," peppers, and paprika are positively stuffed with vitamin C.

Stalk, root, and tuber vegetables of all kinds, not only celery and radishes, are prized for their crispness. If the carrots or parsnips bend without breaking when you are preparing them, throw them out! Turnips and potatoes, too, should be crisp, and you can test this with a knife. Even if you are going to have mashed potatoes select potatoes that slice crisply.

ROOTS AND TUBERS

Roots and tubers are really plant food-storage systems. They tend to have more calories, as starch, than other vegetables. That is not a condemnation; we must have calories, but remember that potatoes, especially, add up to more calories per pound than the edible parts of vegetables that show above the ground. Even though you may be uninterested in calories, the "calorie density" of foods needs consideration in arranging the most satisfactory menu. Peas and potatoes make a "heavy" combination, for example, while spinach and celery as the only vegetables may seem too "light."

Potatoes have been much maligned as being *only* starch and for making people fat. As for getting fat, most of the trouble with starchy foods, bread and potatoes, for example, is not the starch but the butter and gravy many people put on them. Anyway, potatoes are not all starch. The protein content is small but not negligible, as was proved during World War II in Europe, when

millions of people maintained a tolerable state of nutrition because of the lowly potato. In cooked potatoes about 5 to 6 per cent of the calories are in the form of proteins. Potatoes are also good sources of vitamin C and fair sources of niacin, the "anti-pellagra vitamin." But they contain practically no fat.

Sweet potatoes and yams are something else. They are higher in calories and lower in most vitamins than are white potatoes, but they have a remarkably high content of carotene from which the body readily makes vitamin A. And the rule holds; the deeper the color, the better in regard to vitamin A. Yams are preferable to Jersey sweet potatoes in this regard, but our own preference is usually for Jerseys as being less watery, more honestly starch, and not so often full of fibrous strings.

All yellow roots and tubers are excellent sources of vitamin A, with carrots at the top of the list (hence the name carotene). Yellow turnips and rutabagas are rich in carotene, white turnips and parsnips have almost none; yellow-fleshed squash (Hubbards and acorn types) is full of vitamin A but summer squash contains little.

Cooking water is the enemy of the roots and tubers just as it is of the other vegetables. And, to quote M. F. K. Fisher in *How to Cook a Wolf*, remember that "Potatoes, like most vegetables and animals, soon die when their skins are removed, so it is better to boil or bake them entire."

LEGUMES—PEAS, BEANS, AND LENTILS

Peas, beans, and lentils have special nutritional properties, and their cooking characteristics are different from other vegetables, especially when prepared from the dried state. They are often called the poor man's meat, and they are actually good meat substitutes because of their high content of protein. Beans are plebeian, but rare is the person who honestly does not like them.

The legumes, so-called because of their special system of extracting nitrogen from the air and using it to build proteins, provide about 20, and even up to 25, per cent of their calories as proteins, so they approach beef and pork in this respect. Since a good diet in regard to proteins seldom averages over 15 per cent protein calories, the legumes contribute more than their share.

They also tend to be fair sources of some of the water-soluble vitamins, they are low in fat, and such fat as they contain is mainly unsaturated.

Beans, and perhaps other legumes, have a special virtue in our diet besides replacing more expensive, cholesterol-promoting meat dishes. The complex nutrients in them have a small but fairly consistent cholesterol-depressing effect in controlled experiments on man.

The legumes vary in their flavors, but in general they are more bland than meats, so when they are used in place of meat they profit by the use of suitable seasoning. Bits of smoked meat, garlic, and a little oil often add much zest to dishes prepared from dried beans, peas, and lentils.

Beans have for so long been a major staple all over the world that it seems incredible that most of the bean types we know today were once limited to the Americas. Before Columbus, only the broad bean, which we scarcely consider a proper bean and in our opinion is not edible unless you were born to it, was known in Europe. But the early transatlantic sailors soon discovered the worth of the beans they found in America, and they became a mainstay for the crews of the sailing ships then extending traffic over all the world's oceans. Without beans the nutritional deficiencies of the men in the great days of sailing would have been much worse.

As we have noted *ad nauseam*, meats pose the biggest problem for a low fat diet; moderation in the use of meats is necessary. Here enters the bean. Plain boiled kidney or navy beans provide over 25 per cent protein calories and only 4 per cent as fats. Compare, for example, a porterhouse steak with 29 per cent protein and 71 per cent fat calories. But ordinary dried beans are not nutritionally complete; they are short of vitamins A and C (as are meats). Limas and green snap beans, however, are good sources of vitamins A and C as well as of most of the B vitamins.

The "crude fiber," that is, the indigestible residue, of cooked beans averages 2 per cent or less of the weight. This is not very high and is valuable for people who want a little extra bulk to maintain bowel regularity, but it may be undesirable for some invalids, ulcer patients, and the like. In any case, prolonged cooking is needed to soften the fiber of dried beans. Fresh young peas,

limas, snap and wax beans contain little fiber and should be cooked briefly. Five to ten minutes are enough for young but not for old snap beans. If they are still tough after 20 to 25 minutes, throw them out as hopeless.

After dried beans are cooked they may be frozen or merely left covered in the coldest part of the refrigerator, and they are ready for a quick meal whenever the spirit moves you. Beans stand canning better than the majority of foods, but if you want to use canned beans we suggest you buy the plain type and in your own kitchen put in whatever else you want to add flavor to avoid the monotonous taste homogeneity of the canned variety.

SALADS

In the Mediterranean countries salads are a mixture of a few raw vegetables, with lettuce predominating, flavored with oil, vinegar, and salt. And it is difficult to find a better way to complement almost any dinner than by such a simple green salad, preferably served after the main dish, when coolness and crispness and a bit of acidity bring lightness and refreshment.

Crisp but delicate leaves provide the central theme in green salads, so the first requirement is to make sure you have good "leaves." Head lettuce, especially the "iceberg" variety, can provide crispness but not much more, so the effort should be to mix in at least some romaine, leaf, Bibb, or other flavorful lettuce, or endive, escarole, or chicory. Oil and vinegar dressing will complete the salad, or you may add celery, cucumber, fennel, green onion, parsley, shallots, chives, green peppers, radishes, and even a little crisp raw carrot if you like.

Tomatoes are really not at their best in this mixture and they tend to kill the other flavors. If you want a tomato salad make it mainly tomatoes. Raw cabbage can be added in desperation if other crisp ingredients are in short supply, but cabbage belongs in a cabbage salad and not in a mixed green salad, where, like cauliflower, it confuses the flavors. You may like to add *small* amounts of avocado and cooked artichoke heart; the flavor result is good, but texture suffers as it does when leftover bits of cooked snap beans and broccoli are added to green salad. Leftover peas are an addition of dubious merit.

The dressing for whatever version of green salad you make should not drown or destroy the texture and flavor of the vegetables unless these are so ancient as to have lost their own flavor, which means that all fancy and most bottled dressings are out. Recipes for simple French dressing are given in the Recipes section. This is never gooey or opaque and does not contain catsup, cheese, pickles, or any of the items more appropriate to a Coney Island hamburger.

You may, if you know what you are doing, forego delicate flavors in your salad and seek more strident tones. You may just hanker for the flavor of Roquefort or anchovy or decide that the nuances of plain fresh vegetables will not carry to alcohol-numbed taste buds at a party. The addition of such powerhouse items should be a deliberate choice for a particular situation.

In Scandinavia "salads" are also cold, they have oily dressings, and the ingredients are mainly derived from the vegetable kingdom, but that is the end of the resemblance to the classic salad. The base is usually boiled potatoes or cooked macaroni, leftover boiled vegetables or fish are commonly added, and the whole is solidly bound together with heavy mayonnaise. This is a good way to pack lots of calories into small space in a form that keeps for days, yet may be eaten at a moment's notice. Unless you are a mountain climber or a stevedore, such salads are best used as *main* dishes with some added bits of salty or pickled fish to counter the cloying effect of so much starch and oil (see Recipes). Salads of this northern European type, lightened by generous additions of celery, carrot, onion, or cucumber, make a welcome change from potatoes for dinner. Strips of pimento and rings of green pepper add flavor contrasts and fine color.

The custom of starting a meal with a salad probably arose from the desire to have something to offer people in a hurry while waiting for the main dishes. So some villain got the fiendish idea of preparing green salads all ready for the table hours beforehand. Unfortunately, lettuce and other ingredients of green salads deteriorate rapidly when broken up and exposed to the air, and the life of these materials survives contact with salad dressings only a few minutes. Perhaps the disappointments of green salads prepared long in advance explain the increasing use of iceberg lettuce, which has more endurance (no flavor to lose), and the

abandonment of the whole idea of eating *salad* (i.e., vegetables), and substituting fruits on a leaf of lettuce.

FRUIT SALADS

Fruits, admirable as they are, do not prepare the palate and stomach for food to come. A fruit "cocktail," or any other sweet and flowery food, has none of the appetizer property of alcoholic or sea-food cocktails that derive their virtue, in fact, from being removed as far as possible from that end of the gastronomic spectrum. Grapefruit is perhaps the best fruit to serve as a "salad" at the start of a meal, but it does not really prepare the way for meat and vegetables. In any case, no cherry on top, please, lest someone make the mistake of eating it. Even a trace of imitation maraschino flavor plays havoc with a sensitive palate, and pineapple is almost as bad. Such flavors are useful to write "finis" to a meal.

California invented the fruit salad, which has become something like a strange kind of dessert eaten at the wrong time. From the same region comes the salad meal, which contains almost anything the refrigerator happens to hold. We suspect that a main appeal of the salad meal is the ill-founded belief that it is singularly healthful and won't make you fat. A meal of salad *can* have those properties, but when it contains half a pound of Blue cheese and a cupful of mayonnaise it is low neither in calories nor in fat.

An excellent low-calorie meal can be provided by a cup of soup and a fruit "salad" such as pear with cottage cheese. You can even add dates or raisins and chopped nuts if that is your fancy (not ours!) and a *small* bit of sharp cheese is permissible, but don't ruin the idea by pouring great quantities of salad dressing over the whole.

OTHER SALADS

Avocados are a flavor delight when cut up into a simple green salad, though they make the effect heavy and some people do not like the texture. Or avocado halves may serve as a calorie-rich salad served with lemon juice, chili sauce, chopped raw onions,

vinegar and oil, or whatever your taste prefers, including bits of shrimp or anchovy. Avocados are rich in oil—25 to 30 per cent by weight and 90 per cent fat calories—but the fat is mainly unsaturated and will probably lower your blood cholesterol level. Be careful, however, if you are watching calories.

Artichokes, too, can serve as a salad but if served with mayonnaise or, in the Roman fashion, swimming in oil, there are calories if not cholesterol to think about. In our household drawn butter is not served with artichokes—or with anything else.

Fish and sea-food salads are a delightful world in themselves. Eschew the all too common custom of drowning them with oily dressings, and eat all you want as main dishes. It is a rare meal that merits a big sea-food salad and a meat course. But a small sea-food salad is an excellent start for a meal; a little crab or shrimp goes a long way. Fish or sea food in aspic or clear gelatin, or blended in gelatin to make a mousse, makes wonderful hot-weather salads. Chicken, too, is good this way (see Recipes).

Chapter 11

MILK, DAIRY PRODUCTS, AND EGGS

MILK AND BUTTER

The non-fat part of milk is an unsurpassed food for old and young alike; butterfat is almost unequaled as a dietary promoter of cholesterol in the blood. Infant mortality is lowest in countries where milk is abundant. We have yet to discover a population where adults eat little butterfat which has a serious problem of coronary heart disease. What should sensible adults make of this?

An abundance of cream and butter is demanded by gourmets wedded to French *haute cuisine* and, indeed, by all Western cooks to whom food excellence means expensive steaks and a luxuriant bath of butterfat on everything else. But in the Far East, where the aesthetics of food is no less highly cultivated, the idea of including such foods in the diet is strange. If we try to "prove" that we are right and the Chinese are wrong in this regard by elementary experiments with weanling rats, we actually show only that *milk* is a wonderful food to promote the growth of young animals. Moreover, on more critical examination it appears that the great virtue of milk is in its *non-fat* contents—the proteins, vitamins, and minerals.

Milk fat is in no way so uniquely valuable even for growing rats. Milk fat contains small amounts of "essential" fatty acids, but these are provided in far greater abundance by the majority of vegetable oils. Milk fat as a source of fat-soluble vitamins is important only if the diet is otherwise deficient in them; a varied diet containing fish, green and yellow vegetables, and the germ of cereal grains offers ample supplies of these vitamins.

A quarter of a pound of butter provides about 800 calories and contains about 350 mg. of pure cholesterol, i.e., about as much as one egg yolk. For a time it was thought that the cholesterol in butterfat might explain its effect on the blood cholesterol, but

we now realize that the saturated fatty acids in butterfat are more responsible. Butterfat and beef fat are similar in composition except that about 10 per cent of the fatty acid molecules in butterfat contain fewer than 12 carbon atoms, i.e., they are short-chain fatty acids.

The short-chain fatty acids make butterfat more fluid, which explains some of the difference in cooking properties between butter and suet. Possibly these short-chain fatty acids help the absorption of butterfat in the gastrointestinal tract of the infant, but infant-feeding experiments with other fats fail to show any special need for the short-chain fatty acids.

Pediatricians, who accepted, though not with unanimous enthusiasm, the replacement of mother's milk by formulas using cow's milk, are now interested in formulas for infant feeding made with skim milk homogenized with corn, soybean, or other highly unsaturated oils. Experiments with babies indicate that such formulas can be very satisfactory as judged by digestibility, growth, and acceptability to the infant. Will such formulas reduce or stop the fatty streaking we see in the arteries of infants on ordinary milk (cow's or mother's) diets? The blood cholesterol level falls in babies fed these formulas low in saturated fatty acids.

Infant and the adult differ in regard to cholesterol. The infant needs cholesterol as an essential ingredient for the growth of its brain and nervous system, but once these tissues are formed the cholesterol in them is fixed as a part of a finished cellular architecture, removed from participation in the cholesterol metabolism in the rest of the body. As the nervous structure of the body approaches final form and size, the need for cholesterol as a building material is greatly reduced.

Butterfat is an excellent source of calories, both for children and adults, and it is easily digestible. These virtues, however, are shared with most other food fats and with simple carbohydrates. Butterfat also has admirable cooking properties, but, again, these are not unique though many cooks may think so because they have not learned to cook with other fats. Chinese cooks are similarly at a disadvantage when they attempt to use butter in cooking. The point is that with experience a wide variety of fats and oils can be used with much the same success in frying, baking, and making sauces. Actually, it is easier to use oils instead of

butter for frying because the short-chain fatty acids in butter are less stable at high cooking temperatures; they more readily smoke and break down to yield products having a disagreeable flavor. Oils have an advantage in baking, too, since they do not need melting before blending with the other ingredients.

MILK AND MILK PROTEIN

Milk is a highly perishable food that requires very special handling—scrupulous cleanliness, pasteurization, and refrigeration—but butter is far more stable, as well as easier and safer to transport and store. This is the main reason why butterfat has been the economic base of the industry, why formerly the dairy farmer often sent only butter and cream to market and fed most of the non-fat part of the milk to the pigs, a nutritional division between man and beast in which the pig got much the better share.

Even before we started to worry about cholesterol, it was clear that the main nutritional merit of milk is in the non-fat part. And now the general public is beginning to follow the path of nutritional wisdom in this respect, as shown by the phenomenal increase in the demand for low-fat milk products. The dairymen, in turn, have grudgingly reduced their propaganda concentration on selling butterfat and even advertise skim milk—"lower calories at no increase in price."

THE DAIRY INDUSTRY

For many years the American dairy industry, through the American Dairy Association and the National Dairy Council, did a fine job of improving the standards of dairy products and promoting their use. The research and educational programs they sponsored paid off in public and professional trust and acceptance of the idea that milk and everything made from it is a wonderful food. The industry was amazingly successful in getting protective legislation, first to maintain safety and quality of the products, then to give the industry all sorts of economic advantages, which now cost the taxpayer hundreds of millions of dollars a year.

We believe that retention of butterfat as the economic base

of the dairy industry is an anachronism and that the industry must face the facts. The sale of margarine in the United States first exceeded that of butter in 1958. Margarine sales are increasing so rapidly that we can foresee the day when, as is now true in the Netherlands and some other dairy lands, butter sales will cover only a small fraction of the total market for spreads. If butterfat must sustain the whole dairy industry, then the production-cost difference between butter and margarine is simply too great to be bridged permanently by taxation and subsidy. Nor is it reasonable to insist that the public should pay a premium to consume more of a product that many people believe should be reduced in the diet.

President Eisenhower was induced to appeal to Americans to eat more butter. Butter sales continued to fall. President Kennedy has been persuaded to lend his prestige to the effort to make adults drink milk. We predict that milk drinking, at least of whole milk, will not increase among American adults. This dairy-lobby approach to the problems of the industry strikes us as being singularly short-sighted.

As an economical producer of the best of proteins, which are accompanied by valuable supplies of vitamins and minerals in the non-fat part of milk, the dairy cow is unequaled, but she cannot compete economically in food fat; cottonseed, corn, soybean, and other oils are much cheaper to produce besides avoiding the cholesterol issue. Concentration by the dairy farmer on butterfat no longer makes good sense, and there are increasing signs that he is recognizing this fact. Jersey and Guernsey cows that produce milk of very high fat content are giving way to Holstein herds that produce more milk but with a lower fat content. The rising popularity of low fat competitors of ice cream, the "ice milks," "Dairy Queen," and the like, is greeted with impotent rage by many members of the dairy industry. But there is no reason why such developments should be catastrophic to the industry as a whole. The dairy industry is here to stay, and it has a future of both challenges and great opportunities.

Why not simply get rid of the butterfat in milk and replace it with a vegetable oil rich in poly-unsaturates and low in saturates? There is no insurmountable technological problem involved, and it is probable that a highly acceptable synthetic "milk" of this

type could be produced economically. That such milks are acceptable to hospital patients and that they do lower the blood cholesterol when substituted for ordinary milk in the diet has been shown by extensive trials in Sweden and Finland. But most of the dairy industry is bitterly opposed to the whole idea and maintains an entrenched position behind obsolete laws. If the American public is to have a chance to use such foods, the alarming label, "imitation skim milk," must be attached.

The situation is similar in the case of ice cream. Excellent "ice cream" can be made with milk and vegetable oil instead of cream. To offer such a product to the public, even with clear and honest labeling, is illegal in most parts of the United States today, but experimentation is proceeding in the hope of legal clearance someday.

CHEESE, COTTAGE CHEESE, AND YOGURT

Personally, we get along very nicely without butter and cream but we would hate to do without cheese. Though we could do without ordinary cheddar and all "processed" cheeses and "cheese foods," we would not be happy to be allowed only cottage cheese —we *like* all sorts of real cheeses, including many that are in the 40 per cent butterfat range.

Experimentation is proceeding with attempts to make cheese from a mixture of skim milk and vegetable oil. In this case the legal difficulty seems to be less than the technical one of making a product acceptable to the taste; those we have tried so far are pretty awful. It is possible, of course, to make interesting blends of real cheese with vegetable oil and dried skim milk.

There is no limitation for the cholesterol watcher to the use of cottage cheese except in the case of some "creamed" types made with full milk or even blended with cream. You can easily prepare your own "creamed cottage cheese" by stirring up in a mixer —or better, a blender—dry cottage cheese with a little vegetable oil, perhaps adding some milk if you wish.

But with most of the real cheeses the person who has a cholesterol problem must be cautious. Fortunately, the most flavorsome types of cheese go a long way, so cheese fanciers need not be denied their favorite flavors if they exercise moderation. Ordinary

amounts of grated Parmesan with Italian dishes are acceptable as are *really* small servings of cheese with crackers. But large portions are out, as are such dishes as Welsh rabbit (or "rarebit") and Swiss fondue.

We first met yogurt under unfortunate circumstances and neglected it for years until we tried again in a gastronomic emergency in Herakleion, Crete. Now we, including all the children, are devoted to it, and not simply because it is low in fat and calories and high in good protein. Try it simply with a sprinkling of sugar, or with any kind of berries or fresh fruit as dessert or as a snack. And then try it in cocktail dips and in cooking.

Yogurt is produced from milk, usually skim milk, by a bacterial culture. Fortunately excellent yogurt is now available from your milkman in most places in the United States. Eat all you want so far as the cholesterol problem is concerned.

CHILDREN AND DAIRY PRODUCTS

We have mentioned the interest of pediatricians in infants' formulas without milk fat. But what do we advise about dairy products for children? Mother's milk is the natural first food of the infant, and, judging from the usual period of lactation, it may be surmised that milk should form a major part of the diet for the first year or a little more. Further, there is much evidence that in the pre-school years and on to the age of puberty the child benefits from abundant milk, though cow's milk and human milk are not identical in composition. But at what age should we begin to be concerned about an excess of butterfat? Some authorities suggest restriction at all ages, particularly in the teens, because of the alarming amount of atherosclerosis found in the coronary arteries of young American soldiers killed in Korea.

We believe, awaiting better evidence, that whole milk can be consumed with impunity through the growing years or at least until puberty. But there is no known advantage to a great consumption of butterfat at any age, so we doubt the wisdom of eating great quantities of butter, and ice cream of the ordinary high fat type, even in childhood.

On the other hand, for both children and adults, we urge the most liberal use of milk protein and of the whole non-fat part of

milk. Skim milk, low-fat, protein-filled milks, yogurt, and plain cottage cheese should be used as much as possible, both as such and in cooking. If consumption of such items increases as we should like to see it, the dairy industry will prosper and the American public will be better nourished.

EGGS

In a way, the egg started all this. For it was in the eggs fed to his experimental rabbits that Anitchkov found the cause of the surprising atherosclerosis they developed. And that was the beginning of realization that cholesterol in the blood can be hard on the arteries. Egg yolks contain far more cholesterol than any other food except brains, which few people eat. We have already pointed out that cholesterol in the food we eat is not the most important source of cholesterol in the blood. But we cannot completely ignore the effect of cholesterol in foods.

In controlled experiments we and others find that cholesterol equal to that in two egg yolks daily (about 700 milligrams) raises the serum cholesterol by an average of 15 to 20 milligrams per cent. But some people are more, and others less, sensitive. If you can eat two whole eggs for breakfast every day and still maintain a cholesterol level of under 220, go ahead. If your cholesterol level is 300 or more, you probably should restrict egg yolks severely, one or two a week at most. Attempts have been made to prevent hens from producing eggs full of cholesterol by feeding them triparanol (MER/29); the result is a hen that will not lay eggs.

Besides cholesterol, an average hen's egg yolk contains about 5 grams of fat. Usually this is not a "bad" kind of fat, but it is hard to generalize because the fat in the hen's egg quickly reflects that in the feed. Hens fed hemp seed, linseed, sunflower seed, etc., produce eggs low in saturates, high in poly-unsaturates. It is probable that poly-unsaturated eggs will be on the market some day soon, though we doubt that the difference will be important.

Eggs are so useful in cooking, so full of good protein and vitamins, that we want you to have all you can eat with safety. Egg whites, of course, contain no fat and are full of first-class protein; eat all of them you want. It is too bad we cannot buy

eggs with little yolks and big whites, but maybe the poultry breeders can do something about this too.

EGG COOKERY

Egg cookery could easily fill a book by itself, but with eggs as variable as they are now and with our knowledge as limited as it is, we do not dare go too far on this pleasant subject. The menus and recipes in this book are fairly abstemious in regard to eggs, but eat more if your blood cholesterol justifies it. In any case we hope you will make up in quality for any shortage in quantity. In other words, make sure the eggs are used so as to provide the maximum of satisfaction. For soft-boiled, poached, or coddled eggs be scrupulous in timing, and try adding a few grains of cayenne, *peperone rosso* (crushed red peppers, Italian style), or a dash of "Tabasco" sauce. Paprika adds something like this same zest on a quieter level. You may dot your egg with butter; the amount is infinitesimal, so it really adds no flavor, and we do not recommend it. Fry your egg in one of the recommended oils but if you are partial to the flavor of bacon, a third of a slice is enough for frying. Try using smoked salt to get something of the smoked flavor without the fat of bacon.

Of course one egg per person is skimpy for a plain omelette, but with crab, shrimp, lobster, artichoke hearts, asparagus, or mushrooms, or as Frittata alla Genovese or one of the Spanish specialities (see Recipes), it is enough. Be sure you have a proper pan, heavy and preserved from washing. With a new pan, or one that has been washed, boil in it a tablespoonful of oil for 15 minutes and wipe thoroughly with paper towels. After use, do not wash but simply wipe out carefully and hang it up. Use this pan only for omelettes and similar frying so as to keep it always ready and free from the persistent flavors of onion, garlic, and the like. The omelette will stick in a washed pan unless you use so much fat in cooking that you have a greasy mess.

To make a good omelette have the eggs well beaten but not frothy and the pan so hot that the oil smokes at once when you put it in. Follow this immediately with the eggs, vigorously shaking the pan and stirring and lifting the eggs for a minute or two until the omelette is ready to be folded and served. Small amounts

of shredded crab, chopped artichoke hearts, etc., are added to the beaten eggs before going into the pan. To incorporate larger amounts of such accompaniments, have them prepared hot in a second pan and place on the omelette just before folding. A two-egg omelette can wrap around and support enough crab and the like to make a good main course for two persons. Add a soup to start with, a salad to follow, good French or Italian (low fat) bread, some wine, and all you lack for a first-class meal is a bowl of fruit.

Next to omelette we must mention the soufflé as a superlative way to make a very few eggs provide the center of a meal. One and a half eggs per person will do (see Recipes). The Eat Well and Stay Well diet requires discretion but no unhappy deprivation in the use of eggs. If you may not have eggs unlimited, we hope you will be stimulated to provide eggs unsurpassed.

Chapter 12

FISH, SEA FOOD, AND SOME EXOTIC ANIMALS

Among the pleasures awaiting persons who have concentrated too long on steak, few will surpass the discovery of fish and sea food. And the best of it is that you can eat all you want without fear of obesity or cholesterol if you exercise a little restraint and admit that fish need not swim in butter. If you live near the sea, rejoice and concentrate on *fresh* sea food. Inland dwellers can have fresh trout, live lobsters, and perhaps wall-eyed pike, which is hard to beat, as well as the quick-frozen, smoked, canned, dried, salted, and pickled fish that now are obtainable everywhere.

FISH PRESERVATION AND COOKERY

Mankind has been busy since time immemorial learning how to preserve fish, and the result is a wonderful spectrum of flavors and consistencies. What can be a better preparation for dinner than canapés of pickled herring and smoked salmon? Sardines and anchovies and smoked sea-food items—eel, sturgeon, trout, clams, and oysters—are sure ways to stimulate a jaded palate, and their high flavor lends zest to many dishes, especially Italian *pasta* —ravioli, spaghetti, macaroni. Finnan haddie and smoked sablefish form the basis of filling main dishes. Norwegian "fish pudding" and Boston codfish cakes are two of many ways to use dried or salted codfish. Kippered herring and other smoked fish for breakfast is a treat too few use.

Fish change far more quickly in storage than do meats or fowl. The trout you catch and cook on a camping trip do not merely taste better because you have an outdoors appetite; they *are* better. In Copenhagen the waiters at the harbor restaurants bring in trays of live, flopping plaice for you to make your choice for

lunch, and when you eat it you will wish that this quaint custom were practical at home. In Paris many restaurants maintain little aquaria so you may select the particular blue carp whose grace in swimming most suggests the succulence you are shortly to enjoy. In Hong Kong you can go to a floating restaurant on Repulse Bay and select your dinner from the flashing forms in the live wells moored alongside; this alone is worth a trip to the Far East. In Japan screw up your courage and try the *sashimi,* the raw, yes we said *raw,* fish. Many Americans, including the authors, agree with the Japanese that it is delicious but are surprised that it does not taste fishy. Actually, truly fresh fish have little fishy taste or smell. *Sashimi* of sea fish is perfectly safe but you must *never* eat raw fresh-water fish.

André Simon in his *Concise Encyclopedia of Gastronomy* lists 350 varieties of edible fish, but this is probably only a small fraction of all the fishes that are good to eat. Restaurants often ignore zoölogical nomenclature, and any one of a dozen kinds of fish may be sold to you as "sole" or "red snapper." But never mind, most of them are good and the main question is how best to cook them.

Fish cookery is not difficult but it takes attention to timing. It is easy to overcook fish and when, in addition, it sits around after cooking before you eat it, the result will make you weep, once you know how good it can be. It will not do to fry or grill the fish and then start calling the family to dinner. If the fish cannot go straight to the eater as soon as it is done, bake it or put it in a casserole dish. Salted or smoked fish is less senitive to overcooking.

Fish sauces may be a difficult art at the highest level of gastronomy, but that does not mean you must be content with only a slice of lemon or a dollop of mayonnaise. Some of the classic sauces for fish—Normande, Marguery, Maître d'Hôtel butter, and those made with Béchamel sauce as a base contain more saturated fat than we like, but many good sauces are available. The modern art of saucemaking is only beginning to escape the tyranny of butter and egg yolks, so the list is not long, but other sauces only await your ingenuity to invent them. As a hint about the latter, many fish dishes take kindly to the following flavors: soy sauces,

shallots, chives, parsley, anchovy paste, capers, ginger, white wine, vinegar, and, of course, lemon.

Brillat-Savarin, in *The Physiology of Taste,* says that fish "suits almost every temperament, and may be allowed even to invalids." Correct, but we can now spell out three major reasons why fish is of special merit. First, fish contains only about half of the calories in an equal weight of beef or pork—so you may "eat hearty." Second, fish provides excellent proteins at high concentration. For example, 100 calories of haddock or sardines provide about 12 grams of first-class protein, while with the same calories in hamburger you get only half as much protein. Finally, the fat in fish is so highly unsaturated that the more you eat of it the lower will be your blood cholesterol level.

Generally the flesh of fat fish is darker than that of low fat fish but this is not a universal rule. Eels are about the fattest of fish, but among the varieties of fatter fish more commonly eaten salmon, herring, and the many members of the mackerel family, including tuna, range from around 8 to 16 per cent fat by weight of the edible portion. Codfish is less than 1 per cent fat.

SHELLFISH

What we have said about fish goes double for shellfish. Shellfish provide more satisfaction with fewer calories than almost any other food. The protein of shellfish is easily digested and episodes of "upset tummy" after eating lobster or crab are usually the fault of the rich sauces that too often conceal the true flavor of the sea food *and* the off taste of beginning spoilage.

Shellfish are even more sensitive to spoilage than true fish. Long before real spoilage sets in there is a loss of delicate flavors that cannot be compensated by any fancy sauce. If you live inland, our advice is to forget about oyster or clam cocktails, even if your market offers them "shucked and ready to serve." Make an oyster stew or a chowder, cook them in any of a dozen ways, and they will do nicely.

A few people are allergic to crabs, shrimp, or lobsters. If you have any doubt, try a small portion without sauce. If you do not break out in hives or have other symptoms, you can look forward to many treats in the future.

In times past there was some risk of typhoid from eating raw oysters or clams from bays near towns. This danger is gone now from almost all places where oysters are gathered in the United States and in northern Europe, but it is well to be careful about all raw shellfish in other parts of the world. Besides typhoid, less serious but very painful intestinal distress is a threat in such places, and your typhoid shots will not protect you from this.

All over the world the blue-black shells of mussels glisten on rocks and piers at low tide. On open seacoasts and in harbors with strong tidal action and no sewers near by they are usually perfectly safe. However, in a few places, notably on the coast of California, mussels may become poisonous from feeding on certain microscopic plants that occasionally "flower" in those regions. So gather mussels if you will, but first get advice from the local health department. Mussels are recommended as a treat if there is assurance on this score as well as about hygiene and their handling.

Physical beauty is no clue to the safety and gastronomic quality of fish or shellfish. The uninitiated may shudder at the thought of eating octopus or squid, but both are excellent foods. Try them at a good Italian or Spanish restaurant when the opportunity occurs, and then decide whether to seek them out for your own cookery. The sea is full of good things to eat, but we must admit they sometimes come in strange shapes and colors.

LESS COMMON "MEATS"

Frogs and snails are not sea food but both are negligible in calories and fats. Frogs can be prepared in many ways without recourse to a bath in saturated fatty acids, but snails are more of a problem. The classic French method is to cook them in the shell, which also holds half a teaspoonful of butter! Try a little oil and garlic instead.

You may be offered *gusanos de maguey* in Mexico. These delightful morsels, ideal for hors d'oeuvres, are the grubworms of the maguey plant. If this bothers you, learn about the home life of the pig and reflect about the clean vegetarian gusano. Gusanos sautéed in butter or lard are out for the cholesterol watcher; French-fried in vegetable oil the effect is good.

At the opposite pole in size is the whale, which is not a fish; it *is* a mammal like the cow, of course. But we mention whale meat here because it is unusual if not exotic. Anyway, it provides good, rather coarse, dark meat which is very low in fat, and such fat as it contains is less saturated than beef fat.

Chapter 13

MEATS AND POULTRY

What shall we have for dinner? Generally this question means "what kind of meat?" and only occasionally do we think of fish or eggs as alternatives for the central place in the meal. Beef and pork supply around 20 per cent of the total fats and close to half of the saturated fatty acids in the usual American diet at present. Chicken, veal, lamb, and the "variety" meats ("offals," including liver, heart, kidney, sweetbreads, etc.) and sausages add to the total. Obviously, then, these foods pose a major problem if the diet is to be adjusted in regard to fats in an attempt to control the cholesterol of the blood.

Of course an easy solution to the problem of fat in the diet would be vegetarianism, but this would be both impractical and unnecessary in our opinion. A diet without meat is extremely dull for most people, and with such a diet there is always the danger of protein inadequacy unless other sources of good proteins—eggs and dairy products—are included. As a matter of fact, most so-called vegetarians are "lacto-vegetarians" or "lacto-ovo-vegetarians" and so manage to escape nutritional deficiencies. But the substituting of milk and eggs for meats would not help to keep the blood cholesterol level down unless the milk fat and egg yolks were thrown out.

"NATURAL" DIETS

Arguments both for and against the custom of eating meats can be supported by appealing to what is known of the natural history of man. The anthropoid apes and most of the monkeys are vegetarians, and it is probable that man, too, like his closest relatives in the animal kingdom, was herbivorous over most of his evolutionary history. On the other hand, in relatively recent times,

say the last 50,000 years, man seems to have been as much carnivore as herbivore; his prehistoric habitations are marked by the debris of a carnivorous life—heaps of molluscan shells, animal bones charred by a cooking fire and cracked to allow the extraction of the marrow, and the remnants of hunting and fishing implements. Man, like the rat, is "naturally" omnivorous, if anything.

But such arguments about what is natural and what we, therefore, ought to eat are meaningless unless we believe that whatever man has been doing for many generations is, *ipso facto*, good for him. Even if we argue along elementary Darwinian lines, natural selection would not necessarily force man to evolve toward a diet that is best for his later adult health. That man successfully increased his numbers for a thousand generations on a diet containing as much meat as he could get is no proof that he *needs* meat in his diet or that he would not do better by a more scientific choice of the amounts and kinds of foods to eat. Finally, the diet of Americans today is far from the diet of their ancestors, even those of the last century. Our modern diet has not been tested by natural selection operating over a long series of generations. Before us no adult population subsisted on a diet providing several hundred calories daily from butterfat, an equal amount of the fat of domestic animals, large amounts of refined sugars and starches, and appreciable amounts of hydrogenated fats.

In evolutionary history, carnivorous man is represented primarily by man the hunter who ate the meat, and fat, of wild animals. But wild animals are generally much leaner than their domestic counterparts, and their fat tends to be less highly saturated.

This brings us to the Eskimo, who is pictured as living almost entirely on seal fat and walrus blubber and seldom falling ill unless he is exposed to the infectious diseases of civilization. Actually, only very few Eskimos now eat the primitive arctic diet, and nothing is known about their tendency to develop atherosclerosis and heart disease. The primitive Eskimo does not know his own age, but few of them ever attain the "ripe old age" of 50 years. Pneumonia, tuberculosis, and the accidents of hunting and fishing in the frozen North eliminate them before the age when coronary heart disease might be a problem. Moreover, the primitive Eskimos never eat beef, pork, or dairy products, and

most of the fat they eat is of the highly unsaturated type in fish and marine mammals. Even the land mammals they eat, the caribou and reindeer, are not comparable to the meat animals of warmer regions. For example, the fat of the arctic land animals tends to have a low melting point, which suggests it is unusually low in saturated fats. So primitive Eskimos teach us little.

FAT IN MEATS

The tables at the end of this book indicate the amount of fat in average samples of various meats and the approximate proportions of saturated and poly-unsaturated fatty acids. Within a few years these may prove to be overestimates for the fat content of some meats if, as seems to be the case, the industry is really determined to join the fight against calories and cholesterol and concentrate on *lean* meat.

Total fat and fatty acid composition vary somewhat according to the age and diet of the animal. The young animals of the species tend to be leaner than the older ones—a rule that holds for the human species as well. But in healthy old age there is a tendency to become thinner again; does this mean anything? We wish we knew.

Beef is our most popular meat, and the most expensive grades of beef are the fattest; the top grade—and top price—goes to beef so diffusely marbled with fat that it defies trimming to produce really lean meat. Incidentally, this type is often most prized by men who say they cannot stand fat and complain that French and Italian cooking is "greasy" because they see a few drops of oil in it. These same men may refuse pork and ham because "they are too fat," yet the difference in their fat content from that of an expensive grade of beef is negligible; such persons will eat hamburger steak with delight in spite of the fact that it often runs to more than 75 per cent of calories as fat.

Cut for cut, pork tends to be fatter than beef, as noted above, but pork fat also tends to be a little less highly saturated. The degree of saturation of the fat in pigs is readily influenced by their diet, and it is possible to produce pork that is much better in regard to blood cholesterol effect than the usual product. But such pork, resulting from feeding soybean or peanut meal, seems "oily" if the animal is allowed to fatten as grossly as is commonly the case. The ideal pig, we think, would be fed so as to produce a lean animal—going to market at perhaps 180 pounds—with such fat as it had in it being twice as high in linoleic acid as in the usual pig. Pigs seem to offer more possibility of improvement in this direction than do cattle, but research is needed on both species.

The fat in mutton, goat, and lamb tends to be even more highly saturated than beef fat. The cholesterol watcher will take heed and trim off the fat with special care from these meats.

THE MEAT INDUSTRY

Like the dairy industry, the meat people have a great deal at stake in the cholesterol and calories problem. Initially, the meat industry violently attacked *Eat Well and Stay Well* and all mention of a possible connection between heart disease and the fat in the diet. But the new findings cannot be denied forever, and lately the attitude seems to be "if you can't lick 'em, join 'em." Nowadays we are even invited to lecture to animal producers.

A major obstacle to improving the nutritional acceptability of meat has been the archaic grading system of the U. S. Department of Agriculture which put a premium on fat meat. This pleased producers, who found it cheaper to produce a pound of fat than a pound of lean. But adjustments are needed when nutritionists complain and consumers won't buy the fat, and even the soap manufacturers don't want it because of the shift to detergents.

So something of a revolution is in progress. The American Meat Institute is proclaiming the new look in meats, with emphasis on the lean as contrasted with the "old-fashioned" fat-meat animal. We are told that "less fat" is "what's new in pork," and advertisements in the medical press frankly admit that this began with the doctor advising his patient, "less pork fat." Beef, too, promises to be leaner, following the successful lead of one of the largest producers who is offering a particularly lean variety with a new trade name. The trade journals of animal husbandry are advertising changes in breeds, feeding, and marketing practices to get away from fat. But all this will take time.

The quickest and easiest adjustment is in sausages and prepared meats. Frankfurters with half as much saturated and four times the usual poly-unsaturated fatty acid are neither difficult nor expensive to make, and they are first-class in flavor and texture. Most interesting are new experiments with very lean meat injected with unsaturated vegetable oils. Excellent eating quality as well as a vast improvement in the fatty acids in beef can result. And the cost of producing such meat need be no more, perhaps even less, than the conventional fattening system. So let us keep pestering the butcher to modernize.

CHICKEN AND POULTRY

Chicken is very different. Chicken meat contains much less fat, especially if the birds are young. The white meat is particularly lean, but even the dark meat is not very fatty. Moreover, chicken fat is much less fully saturated than the fat of the more common meat mammals. Fortunately young chicken, going to market at an age of about ten weeks, is now cheap and abundant in the United States. Everyone can afford it, and it can be eaten in reasonably generous amounts without unduly raising the blood cholesterol. Two-year-old fat hens are very much fatter, but these are no longer eaten so frequently now that we have such a good supply of young broilers and fryers.

Birds in general tend to be less fat than cows and pigs, and their fat is usually less highly saturated than the fat of land mammals. So perhaps we can give a blessing to all poultry except fat domestic geese; the wild varieties are much less fat. Young turkey can be recommended in reasonable amounts and, like chicken, it is now much cheaper than formerly. Pheasant is excellent—low in fat and especially in saturated fat—but price here is an obstacle, and most methods of cooking it involve wrapping with bacon, basting with butter, or drowning it with cream sauce.

With all meats and poultry the method of cooking has an important effect on the amount and kind of fat actually eaten. Broiling, or roasting, and discarding the fat that cooks out will much reduce the amount of fat that goes into the mouth. If the product prepared in this way is too dry, baste and serve with low fat sauces or sauces made with vegetable oil so as to end up with relatively unsaturated fats in the food you eat. Attempt to reduce the fat of the meat itself and replace it with vegetable oil or preserve moisture with wine or other non-fat sauce. Marinating can help in this respect.

"VARIETY MEATS" AND SAUSAGES

The "variety meats" and sausages offer alternatives to the usual muscle meats. Most sausages are made from meat scraps and fat trimmings, so it is not surprising that they tend to be extremely fat. Pork links and country-style pork sausage are so fat as to be intolerable in any diet that pretends to be restricted in fat, but even frankfurters, Vienna sausage, and "boloney" (Bologna sausage) must be classed as very fat meats and should be used only in small quantities. The more highly spiced and smoked sausages are so flavorful, however, that a little goes a long way and they are useful in the diet. Salami and smoked summer sausage, for example, can be sliced paper thin for sandwiches, or small bits can be incorporated in casserole dishes in which almost all of the calories are provided from vegetable sources. Bratwurst and Polish sausage give satisfaction in relatively small amounts, and when these are broiled they lose a great deal of fat. Drain them briefly on paper towels after broiling.

Liver is the most popular of the variety meats and is a rich source of vitamins and of high-quality protein. Moreover, liver is usually not very fat—less fat than the ordinary steak cut from the same animal—and the fat it contains is less highly saturated. We recommend the frequent use of liver in the diet, several times a month at least. A fourth of a pound makes an abundant serving, and two ounces will suffice for many men who would feel cheated if they were given only twice that amount of beefsteak. It is popularly supposed that only calves' liver is really good to eat but young steer liver is excellent, and the only objection to cheap beef liver is the content of tough blood vessels and connective tissue, most of which can be removed with a sharp paring knife before cooking. Chicken and turkey livers are also recommended; they are fine sources of vitamins and first-class proteins, and the fat they contain is relatively unsaturated.

Next to liver we rate heart among the "variety meats." The fat

content is not high, modest amounts give satiety, and the nutritional quality is very good. In the United States there is a good deal of unreasonable prejudice against eating heart; people think it must have a strong or peculiar taste, but the cure for this is a simple trial. In our own home we have served heart with great success to scores of people who have arrived at middle age without ever tasting it before. They would have refused it if they had been told beforehand what they were eating. In making such a first trial, however, it is just as well to serve the heart in a form that does not too obviously show what it is. After a good bit has been eaten with all signs of relish, you can make the announcement.

Much of what we have said about liver and heart applies to kidneys—high nutritional quality, not very much fat, fat less saturated than the muscle meat of the same animal, satisfaction with modest portions. But kidney *does* have a special taste that does not appeal to everyone. Try small amounts in casserole dishes first if you are afraid of the taste.

The other variety meats—brain, tripe, sweetbreads—are of smaller interest. Brain contains far more cholesterol than any other organ in the body except, possibly, the adrenal glands, which are of no consequence as a food anyway. Besides, brain is very high in true fats. Sweetbreads, too, are very fatty and cannot be recommended on that account. Tripe, on the other hand, is low in fat and is allowable for those who like it.

THE SIZE OF MEAT PORTIONS

The easiest and surest way to reduce the meat fat in the diet is to reduce the size of the portions, and this also helps to keep the total calories of the diet within bounds. The large servings of meat now so common in the United States are needed only when the rest of the meal is poorly designed and prepared. Huge servings of meat are poor substitutes for good cookery.

The Italian custom of starting the meal with a big plate of *pasta* —spaghetti and the like—has the virtue of filling up the diner to the point where he is content to take only a small amount of meat to follow. A bowl of soup as the first course has much the same effect and contains fewer calories, but salad does not do the job

so well. We think the place for salad is after the meat course, when it provides a desirable freshening of the mouth and has the advantage that the diner, knowing that salad is to follow, is more content to stop without gorging on meat. When a man can only count on good meat and a prospect of nothing but a cloying sweet to follow, he will fill up on meat if he can. Make the accompanying items of food as tasty as possible, offer them in generous amount, and less meat will be needed.

We do not advise removal of meats from the diet, but we insist that complete eating satisfaction, including the "hunger for animal protein," can be obtained with only moderate amounts of meat by intelligent menu planning and more attention to the art of cookery. A diet developed in this way will not only be better in regard to fats and calories; it will also be more interesting in the long run. Of course, our restrictions would not apply to new meat products that contain greatly reduced amounts of saturated fatty acids.

Chapter 14

DESSERTS AND THE END OF THE MEAL

The word dessert comes from the French *desservir,* to remove what has been served, and originally meant things to eat while the table was being cleared after the meal. William Vaughan, in *The Golden Grove,* labeled as "barbarous" this "foreign" custom of eating extra dainties—fruits, nuts, and "sweetmeats," but apparently it was even then, in 1600, becoming firmly established in England. By the early 1800s Americans were eating fruit pies at the end of dinner, and this, too, excited wonderment and scorn in England, where, at that time, the festive meal ended with a heavy suet pudding.

In England as late as 1929, Bunyard's successful book *The Anatomy of Dessert* admitted only fruits and nuts into the dessert category and spoke well and knowingly about their virtues. How far have we come now! Yet Bunyard's is a more physiological answer to the end of a meal than the ultra-rich, calorie-laden concoctions that too often seem to be the only prideful culinary accomplishment in many households.

FRUITS AND NUTS

Without calling on ancient authority for gospel, we have come, from long trial and experiment, to agree that both the dieter and the gourmet cannot do better than to close a good meal with a bowl of fruit. Nothing beats the finest of really fresh fruits, but a compote or baked fruits are pleasant alternatives.

Most fruits can stand a good deal of storage in the cold before they are obviously spoiled, but they lose flavor along the way. Moreover, the texture of tree-ripened fruit is usually superior to that of the fruits picked green and ripened in storage. Everyone knows these facts, but until the public demands, and is willing

to pay for, really fresh fruit we shall go on being disappointed with what merely look like good fruits. Many Europeans visiting America exclaim that there is something wrong with our climate or soil because our fruits are so often inferior by their own taste standards. The answer is, we are sure, that we can grow fruits as well here as anywhere else, but our clever ways of prolonging their market life do the damage.

Fortunately, citrus fruits, many varieties of apples, and some pears are not so sensitive to storage. Pay a good price for your apples, store them in a cool but not icy place, and do not expect that they will last from Thanksgiving until late spring. If they are good eating apples they will disappear fast enough anyway. The old adage is "an apple a day keeps the doctor away"—but there is no reason why you should have only 365 apples a year. Oranges do not do well with more than a few weeks of storage, but the supply can be renewed at any time of the year in the United States.

We are much in favor of fruit compotes, but we should mention also baked fresh fruits. Have you tried baked pears, grapefruit, peaches? Fresh cherries and plums are also good baked. Prolonged baking is unnecessary for any of these ripe fruits—just enough to heat through is usually about right, and they should go straight from the oven to the table. Various flavorings, chosen according to the fruit, can be added; these include brown sugar, honey, nutmeg, cinnamon, rum, and sherry. In general there should be enough liquid, including that from the fruit itself, to make a thin syrup.

There is no problem of fat with any ordinary fruits. Nuts, on the other hand, are very fatty, so they add up to many calories if you eat them by the handful. Moderation is promoted by having to do your own shelling, and anyway the flavor is better straight from the shell. Fortunately, the fat in most nuts is relatively unsaturated and will not tend to push up the blood cholesterol level. Almonds, Brazils, filberts, and walnuts are all in this class. Peanuts are a trifle less desirable. Coconuts contain a highly saturated fat, so you are not advised to start using coconut oil, but you need have no restriction about ordinary amounts of coconut meat.

Nuts in the shell and dried fruits make fine combinations for

the end of the meal and after. With these and a glass of good Port or Madeira the stage is set for philosophical or witty discourse and a mellow mood that *ought* to be good for the heart and, if not, will do it no harm. The very best atmosphere for such relaxation is an open fire on a winter night.

PUDDINGS

Pudding embraces almost as much variety as does "soup." Hot steamed puddings of the English type are solid fare for the non-dieter, and they need not be overly heavy in saturated fats, though the old recipes insist on suet and butter to a degree we cannot allow if the blood cholesterol is important. About half as much oil can be used to replace suet with good results. Texture is improved by using plenty of chopped nuts as well as dried and glacé fruits in them. Instead of hard sauce, try a fruit sauce.

Fruit puddings of the Scandinavian type, made of fruit juices with a little cornstarch, are enjoyed by most people and they pose no fat problem. "Jell-O" and similar puddings made with gelatin, with or without cut-up fruit in them, are in the same class. Almonds, filberts, or walnuts, in fairly big pieces, contribute both flavor and texture interest.

Milk puddings and custards are apt to raise the fat question, but they are allowable occasionally so long as they are not made with cream and are served in moderate or small portions. Rice and bread puddings are even more acceptable, with the same restriction about cream. Use recipes that call for much milk which is slowly cooked down to small bulk for fine flavor.

EYE-CATCHING DESSERTS

Many women find fancy desserts a way of getting compliments on their cooking, as well as a release for their urge to get visual beauty into their meals. So they decorate cakes with elaborate icings and top their desserts with snowy whipped cream with a candied red cherry for accent. These urges are both understandable and commendable, though the nutritional result may be something else unless the basic dessert is sensible in regard to

fats and calories and the decorations themselves concentrate on fruits, nuts, and low fat frostings.

A sure way to excite comment and often to provide good eating as well is to experiment with flaming desserts. A little rum, brandy, port, Madeira, or various liqueurs, plus some pure alcohol, will make a nice flame on anything, not only on plum pudding. Baked fruits of almost any type can be used for spectacular flaming desserts. The alcohol is all gone by the time the dessert is eaten, so you can forget about both alcohol calories and any intoxicating effect. The children will love the show and will enjoy the eating, too, if the rum or liquor flavor is not strong; this is controlled by the proportion of liquor to pure alcohol used.

ICES AND ICE CREAM

Ices and ice cream have a place in the eating scheme but not ideally, in our opinion, after a regular meal. A sherbet or water ice is acceptable in regard to fat, so if you like them for dessert go ahead. Such ices, with or without coffee, are better, we think, at an evening party before the guests leave or on summer Sunday afternoons when you plan to have only a snack for supper later.

Ordinary ice cream is just too rich in calories and fats to be recommended except for children and occasionally during illness when it may be difficult to eat much of anything else full of calories.

Experimentation with reducing the butterfat in ice cream led to the vastly successful "ice milk" business—"Dairy Queen" and the like. These products are far more acceptable in regard to the cholesterol problem, though we personally do not enjoy them. More interesting to us, gastronomically as well as scientifically, are the frozen products that can be made with skim milk and vegetable oils. None of these "frozen puddings" is on the market yet—legal hurdles are more troublesome than the technology—but we predict the day is not far off when the markets will provide something very much like a delectable ice cream but loaded with poly-unsaturated fats.

In eating very cold desserts it should be noted that the sensitivity of the palate to flavors decreases with the temperature. Most iced desserts have to be very high in sugar to give a good

sweet sensation, which means more calories, and "empty" calories at that, than you may realize. Let any ice or ice cream melt and then taste to discover how full of sugar it really is. Accordingly, if you are watching calories and like to eat iced desserts, use saccharine or other sugar substitute in preparing them.

SAVORIES AND CHEESE

We cannot close the discussion of the meal's end without mention of the savory, which in England may take the place of dessert or be eaten just before or after it. Generally the savory is a bit of toast, perhaps two inches square, topped by a bit of anchovy or bacon or cheese and heated in the oven before serving. The toast is sometimes fried in butter and the general effect is usually salty and greasy. Curious, we say.

But some people like to finish a meal with a bit of such sharp and salty taste. This tends to counter the sensation effect of heavy food. Highly flavored cheese has some appeal in this way. If your tastes run in this direction, use small bits of really strong cheese, and if you prepare savories, use a good vegetable oil instead of butter.

Chapter 15

LUNCHES, SANDWICHES, APPETIZERS, SNACKS, AND COFFEE BREAKS

The dieter often works out a good scheme to control calories and fats at breakfast and dinner, only to run afoul in the uncharted area of lunches, sandwiches, appetizers, and snacks. Morning and afternoon "coffee breaks," limited choice in restaurant lunches, appetizers before dinner, and snacks before bed can add up to wreck the dietary plan.

LUNCHES

An experience in dietary unreality is to read lunch menus and recipes in the popular press. Apparently, from these articles, lunch is an affair for ladies who are entertaining and impressing, they hope, their kind at luncheon with bridge to follow, or it is a holiday affair involving either the problem of titillating jaded week-end appetites or catering to the ravenous hunger that comes from a long morning in the open air.

The prosaic fact of the matter is that, at least five days a week, lunch for most Americans simply means stoking up the food-fuel fire to revive the flagging organism at the job. Lunch is a bite on the fly at a nearby counter or company cafeteria or, increasingly, the sandwiches and accompaniments slapped together in the morning rush before leaving for work. All this is not necessarily bad, especially if the time saved in eating is used to get a bit of quiet rest before starting the afternoon work, but we plead for a little consideration of the nutrient content of what you eat for lunch.

The classic example of what not to eat is the popular "Coke" or coffee and hamburger, providing most of the calories as saturated fats and a good share of the remainder as "empty calories"

in sugar. Little better is the rich malted milk made with several big scoops of ice cream, a dollop of chocolate syrup, a teaspoonful of malted milk, and three or four ounces of milk. This adds up to 400 to 500 calories, half in the form of highly saturated fats, most of the remainder in pure sugar and barely 10 per cent protein.

For a light lunch we suggest a bowl of soup, a green salad, a glass of skim or modified skim milk (2 per cent fat, 8+ per cent protein), and a piece of fresh fruit. If this is not enough, add a small sandwich of suitable type (see below). A cottage cheese salad with or without fruit goes well, as does old-fashioned potato salad with chopped green pepper and celery. Avoid adding much mayonnaise or similar salad dressing if you are worried about calories and total fat; however, these dressings are not forbidden, because usually they are not too rich in the saturated fats that push up the blood cholesterol. Similarly, we do not object to a moderate amount of oil and vinegar on the green salad.

Finally, if you must have dessert for lunch and you think a plain apple or orange is too dull, take "Jello-O," sherbet, a piece of fruit pie (discarding most of the crust), rice pudding (without cream, of course), or any dried fruit. If you carry your own lunch, most convenient and desirable, in our view, is any kind of fresh or dried fruit. A *small* piece of candy, but not chocolate, can be used for a change. If you eat candy or any other sugar-rich sweet it is wise to rinse the mouth afterwards in the hope of reducing the dental decay problem; bits of sugar that cling to the teeth are much more suspect than sugar in solution.

SANDWICHES

Ever since people began making bread they have been putting all kinds of foods between pieces of bread to make a convenient combination easily eaten without plates or tools. The modern hot sandwich is something else, and frankly we do not like it. We do not like soggy bread and mashed potatoes, we disapprove of the frequent use of gravy to cover up an inferior piece of meat, and most of all we decry a vast quantity of the fat emulsion that is the common gravy used. Toasted sandwiches, and the ordinary

cold sandwich, belong in a different category. Their virtue, or lack of it, depends on the filling and the bread used.

The first essential for a good sandwich is good bread. Where to get it is a problem (see the chapter on Breads), and all we can say here is that good bread for sandwiches need not be a square or even a symmetrical loaf, it is certainly not a monstrous air-filled sponge, and it is not improved by containing 3 to 5 per cent of fat in the mix that goes into the dough. Try one of the new low-calorie breads; their only distinguishing feature is usually the absence of added fat.

Further, on the matter of butter, we note that no one objects that restaurant sandwiches seldom are made with butter nowadays, so forget this source of highly saturated fat in making sandwiches if you want to control the blood cholesterol. To reduce dryness, use mayonnaise, salad dressing, or mustard.

Here are a few figures for sandwich quantities to help your sandwich making conform with your dietary plan. Note that the calorie and fat values below are given separately for the bread, dressing, and filling. For example, you make an onion sandwich on rye bread, with a leaf of lettuce and a teaspoonful of mayonnaise. The calorie total is 114 + 31 + 45 = 190, and the total fat is 4.1 grams and the saturated fat is negligible (* see Recipes).

BREADS: (Values are for 2 slices, about ½ inch thick)	*Calories*	*Fat, grams*	
		Total	*Saturated*
Homemade:			
Oatmeal*	148	0.6	—
Whole wheat*	122	0.6	—
Italian*	100–160	0.5	—
Commercial:			
Cracked wheat	120	1.0	—
Rye	114	0.6	—
White	128	1.6	—
Whole wheat	110	1.2	—

DRESSINGS: Here are a few figures on mayonnaise, salad dressings, and mustard. The values are for 1 teaspoon, which is a sufficient but not a generous amount for 1 sandwich.

	Calories	*Fat, grams*		
		Total	*Saturated*	*Poly.*
Mayonnaise*	31	3.3	0.7	2
Salad dressing, commercial	19	1.8	0.4(?)	1
Cooked oil dressing*	9	0.8	0.1	—
Boiled dressing*	5	0.2	—	—
Prepared mustard (½ teaspoon)	10	0.9	0.1	—

FILLINGS: (Put in all the lettuce, shredded carrots, tomatoes, onions, or pickles you wish and forget both fat and calories for these items.)

		For one sandwich			
	Amount	*Calories*	*Fat, grams*		
			Total	*Saturated*	*Poly.*
Canned salmon, pink mixed with ¼ stalk celery, chopped, and 1 teaspoon boiled dressing	1 ounce	47	2	—	1
Canned tuna fish, drained, mixed with chopped green pepper and 1 teaspoon boiled dressing	1 ounce	62	2	1	1
Canned sardines, drained (5 small sardines) with lemon juice	1 ounce	65	3	1	2
Jam	1 tablespoon	55	0.1	—	—
Jelly	1 tablespoon	50	—	—	—
Churned honey (Especially good on whole-wheat bread)	1 tablespoon	62	—	—	—
Smoked beef tongue (1 thin slice)	½ ounce	39	3.0	1.4	—
Bermuda onion (¼-inch slice)	3–4 ounces	45	0.2	—	—

		For one sandwich			
FILLINGS *cont.:*	*Amount*	*Calories*	*Fat, grams*		
			Total	*Saturated*	*Poly.*
Crisped dried beef (Sauté in 1 teaspoon oil until crisp, drain on paper)	½ ounce	39	1.0	0.3	—
Chicken with lettuce and and cooked oil dressing	1 ounce	56	2	1	1
Cold baked beans with catsup (If you like a hearty sandwich)	¼ cup	81	2	—	—
Canadian bacon (1 slice)	½ ounce	33	2.1	0.5	—
Bacon and tomato	1 slice	49	4.4	2.1	—
Cucumber	½ cucumber	13	—	—	—
Cottage cheese, country style with jam or chives or raisins	¼ cup	60	2.3	1.1	—
Lean corned beef	1 ounce	52	2.3	1.1	—
Jellied corned beef	1 ounce	52	2.3	1.1	—
Turkey, white meat	1 ounce	58	3.5	0.7	—
Liverwurst, smoked, spread thinly	½ ounce	42	3.4	0.8	—
Liverwurst, fresh, spread thinly	½ ounce	37	2.9	0.4	—

APPETIZERS

Good appetizers are piquant, tantalizing, and a challenge to self-control. They should prepare the way for real eating, remind people they are hungry, but should not satisfy the hunger they provoke. They provide a few nibbles while people are getting acquainted before going in to dine. However, the custom of coupling these functions with stoking up on enough alcohol to be able

to coast through the meal to come means too long a wait for dinner and too much eating of sausages, French-fried shrimps, and other fat, high-calorie foods. So people finally go to the table with ruined appetites and palates jaded from overstimulation by strong flavors.

If your only idea is to keep your guests going for two hours beyond their normal dinner time without getting cross, have plenty of bowls of salted nuts and plates of cheese around, keep passing the hot greasy morsels, and make sure the cocktail glasses are never empty. But do not be surprised if later the dinner dishes are barely noticed while half of the guests begin to yawn and the other half are noisy and foolish.

Popcorn, olives, celery, carrot sticks, and a sea-food or cheese dip with potato chips can be made available in strategically placed bowls and no one will feel deprived—or overeat. Then pass a couple of rounds of smoked baby clams, smoked salmon or caviar, and perhaps a serving of tiny cream puffs filled with hot creamed crab, and you will have all the appetizers that even a big affair should provide. This is the pattern—not too much, not too fat, not too long, nothing sweet; it should add up to no unreasonable number of calories and low fat content. Concentrate on quality rather than vast quantities. The popcorn should be very fresh and lightly "buttered" with a little oil instead of each puffed grain lavishly coated with butter. Heavy mixtures of cheese and cream, with big stiff crackers for dipping, make a poor substitute for a decent dinner.

Most of the packaged general-purpose crackers or biscuits customarily served with cocktails are calorie heavy with fat (often rancid!) but smaller and more delectable tidbits are available, especially in de luxe shops. "Ry-Krisp" or, better, real Scandinavian crisp-breads are low in calories, contain no saturated fat, and are good for munching.

The worst problem in connection with appetizers is that some of the guests invited for seven wisely guess that they may be in for a long evening, so they come much later and the apéritif period is apt to be strung out beyond any sense. Until people learn to arrive promptly, a good plan is to advise everyone that dinner will be at eight sharp, repeat, and that cocktails will be served at

seven-thirty. Then try to keep the schedule; perhaps you can make it work, we seldom can.

As for appetizers just in the family, no party or guests involved, we favor salted sunflower kernels, olives, and "Wasa" crisp-bread with a tiny bit of strong cheese. All of these items are appreciated at a party too.

SNACKS

Snacks are notorious contributors to obesity and they can easily add too much to your daily fat quota. The ideal snack is a piece of fruit, but too often the urge for a bite to eat will not be put off that easily. What then?

Tea or coffee with sugar and milk (not cream) will ward off more serious calorie and fat loading if you give it a chance. Drink it slowly, wait a minute or two, and see if you are still hungry before eating something more substantial. If you are really starving, try breakfast cereal with skim or modified skim milk, or soup with soda crackers. Or make a sandwich with bread, lettuce, a thin sliver of lean meat, and whatever relish or pickles you prefer. A dab of mustard or mayonnaise will help. If you crave cheese, take a small amount of a strongly flavored type. This can be extended with cottage cheese.

The craving for snacks heavy with calories and fats can be much curbed by a better pattern of the meals of the day. Too small a breakfast is apt to mean real hunger in midmorning; the result may be coffee and a rich piece of Danish pastry you could well do without. Dinner too early means hunger in the evening. Tea or coffee in midafternoon will allow delaying dinner a little with consequent avoidance of the need to eat again before going to bed.

For midmorning and afternoon "breaks" try a glass of buttermilk or orange juice. Keep plenty of good fruit in the refrigerator and use it whenever you must make a raid for a snack. Besides straight fruit, you can use a bowl of cut-up mixed fruit in the evening for unfailing refreshment. Finally, when you feel that you would like a little something before going to bed, try a simple glass of sparkling water, perhaps with grape or other fruit juice. In many cases this is all that you really need or want and

you can go off to bed content with zero or no more than 20 calories and no fat.

COFFEE BREAKS

If you have coffee breaks, their calorie and fat contribution must be reckoned with. Sugar in a cup of coffee means 15 to 30 calories and cream adds 20 to 30 more, mostly as saturated fat. Four cups of coffee with cream and sugar daily mean 140 to 240 calories, with fat accounting for 60 per cent. Try it black or with milk. The latter substitution, using two thirds of an ounce of milk instead of half an ounce of 20 per cent cream, cuts the fat from three grams per cup to only about half a gram, and there is a little gain of good protein, too. Or try tea and milk, which is much more pleasant than tea and cream.

What is eaten along with the coffee can be still worse for the unwary dieter. Fruit would be fine but many people may not enjoy it with coffee. A *small* doughnut or a plain cookie should be the limit. Doughnuts are rather fat, about 40 to 45 per cent fat calories, but most of the fat is usually of the highly unsaturated type in cottonseed or corn oil. Cookies are commonly rather high in saturated fat, so beware.

Chapter 16

WINES AND OTHER ALCOHOLIC BEVERAGES

Alcoholic beverages, especially wine, require discussion because, if you value them in your scheme of things, you will wonder about their relationship to health and to the rest of your diet. We are not talking about alcoholism; the drunkard is an affront to himself and mankind and his health prospects are bleak. But wines, and even stronger beverages, have a place in civilized living and eating. The problem is to keep it civilized.

Alcohol is heavy with calories. Moreover, a drink before dinner generally stimulates the appetite. What a cocktail party does may be something else. The cocktail party is loudly condemned but it is an easy way to entertain, and even those who label it as a social menace are seldom behindhand in accepting invitations. But the cocktail party *is* an enemy of good and wise dining. Food flavors are dulled and there is usually a tendency to select fatty foods, both among the canapés and at the eventual meal to follow. Maybe this is an instinctive urge for self-protection. Experienced cocktail party habitués learn that their staying power is improved by eating fatty foods which slow the absorption of alcohol, but we doubt that this is the best way of preserving both sobriety and health. At the cocktail party take highballs with much soda instead of short drinks, or, even better, take white wine and soda as a good way of controlling the alcohol intake. Munch plain crackers with fish or a small bit of highly flavored cheese instead of gorging on sausages and cheese dips. And resist the temptation to accompany a hilarious group afterwards to a dinner of steak and French fries.

We attend many medical meetings where the "social hour" before dinner is at least as popular as at a businessmen's convention. Almost invariably some doctor, while reaching for the third martini, remarks that "cholesterol is soluble in alcohol." Yes, but only

in pure alcohol. Blood tests show you are drunk whenever the concentration of alcohol in the blood reaches two parts per thousand.

Long ago it was observed that the arteries of chronic alcoholics dying in charity hospitals were often surprisingly "clean," with little atherosclerosis. The explanation seems to be that the chronic drunkard shuns food and is apt to be seriously undernourished as well as having a liver that cannot make much cholesterol and lipoprotein. Prosperous, well-fed alcoholics apparently have no special protection from coronary heart disease. The regular use of alcohol so as to provide from 5 to 15 per cent of the total diet calories has little or no effect on the blood cholesterol of man. In dogs, however, alcohol in the diet definitely raises the cholesterol level.

There is really no evidence that "tension" promotes coronary disease, but it may contribute to high blood pressure and it is disturbing to the patient who already has heart disease. The tense and excited heart patient may ignore the warning signs of palpitation and precordial pain (angina pectoris) and do more than his heart can stand, so his physician may advise him to take a drink or two to help relaxation. This is a therapeutic use of alcohol, about which there is argument. It is *not* suggested that alcohol is needed as prophylaxis for a normal, healthy individual.

WINE FOR DINNER

We do not think of wine as medicine. Its real virtue, shared to a lesser extent with other alcoholic beverages, is a contribution to gracious living. A good glass of wine at the table complements the best cooking and enlivens even dull food. Besides, wine admirably serves some of the moistening function of fat in cooking. Excellent low fat sauces can be made with wine. But before talking about wine in cooking let us talk about wines themselves.

WINES

We are concerned only with traditional grape wines. Our experience with elderberry, dandelion, rose hip, and similar "wines" is too limited for comment. We have tried to find a use for Concord grape (kosher) wine but we despair. Perhaps it can be used in a fruit cup. As a beverage, we prefer Concord grape juice without alcohol and with less sugar.

Fortunately, there is lately less of the snobbish nonsense about wines that hindered their use and enjoyment for so long in the United States. You really do not have to insist on Burgundy with venison or to know what château bottling means to order and enjoy wines. Few people can actually spot the difference between great and merely good vintages, and the person who says his meal is ruined if the claret is a bit chilly is usually a tiresome poseur. But you will find it pleasant and profitable to learn a little about wines.

Forget the conceit that "California produces as good wines as any in France." California produces some excellent red wines and some good whites, but the finest French and German wines are just beyond comparison—and very expensive. However, the cheapest imports are surpassed by average California wines available at a fair price in many states.

All honest dry wines have a place at the civilized table. Sweet wines are something else; they have their uses, particularly with desserts on special occasions, but they should not be used before or during the main part of a meal if you hope to savor either food or wine flavors.

Dry white wines may be used with any food, though their character is lost against strong and piquant meat and cheese flavors. Any good dry red wine, too, will go reasonably well with almost any food except fish, sea food, and ham. But some people insist that claret goes well with ham and a sauce of raisins and nuts. There are some experts who like a rough red wine with certain fish, mackerel for example, smothered in a Spanish or Livornese type of sauce of onions and tomatoes. The general rule is red wines for hearty meaty flavors, whites for more delicate flavors.

Attempts to compromise by suggesting that pink (*rosé*) wines "go with anything" are mistaken, we think. Ladies unaccustomed to wine are often enchanted with *rosé* wines because of their beautiful color and the agreeable but often characterless taste. A cold *rosé*, preferably Tavel, is excellent with a light lunch on a bright summer day. But we have yet to find a *rosé* that can

compete with good whites or reds in most situations where food and drink are to be taken seriously.

No wine likes strong, acidic, or fruity flavors such as pineapple. The wine may help the fruit but not vice versa. Vinegar and wine are natural enemies, so forget about the wine when eating salads. And for some strange reason wine, with the exception of the Japanese rice "wine," sake, does not blend with most cookery of China and Japan. Sake, incidentally, served hot in tiny cups, is excellent with Japanese food and does well with some occidental fish dishes.

If you are unfamiliar with wine at meals try a cold (not frozen!) glass of German Rhine wine or of French Chablis, Italian Orvieto, or California Riesling with almost any fish dish. And then try a glass of almost any dry red wine with spaghetti or game or anything flavored with cheese. The Italian type of elementary red wine produced in California that as youngsters we used to call "Dago Red" is remarkably cheap and is eminently drinkable for everyday. But then try a California Cabernet (claret type) or Pinot Noir (Burgundy type), or real Italian Chianti or Valpolicella, or a moderately priced French claret (Bordeaux) or Burgundy. Do not serve red wine very cold; a little cooler than our usual room temperature is about right.

A help in buying wine is a reliable liquor store that sells a good deal of table wine. Someone in the shop, usually the wine buyer, should know something about wine and usually is happy to advise. Unfortunately, too many clerks in liquor stores know absolutely nothing about wine but will talk glibly to sell the oldest or most expensive wine, which is not necessarily the best for you.

Store your wine on the side in a cool place, make sure it stands upright for half an hour or so before pouring (and do not shake it around when you do pour it), drink it (do not sip) in gulps large enough to "chew," and allow a fourth of a bottle per person for an ordinary dinner. For wine flavor at its purest, keep tobacco smoke away and nibble a little plain bread before you taste.

Cocktails before wine is a dangerous custom, as is after-dinner drinking. If you are having a good wine for dinner, the best apéritif is a vermouth with a twist of lemon peel or a glass of dry sherry. A fine apéritif vermouth, we believe, is Carpano Punt e Mes. California "sherry" and "vermouth" have their virtues, but

they are not the same as the real articles of Spain and Italy. Try both imported and domestic varieties before you decide to stick to bourbon and soda.

MORE ABOUT WINES

California produces far more wine than the rest of the country put together, but upper New York State and the lake-shore region of Ohio produce respectable white wines; they have a strange basic undertone of flavor which is peculiar to indigenous American grapes, the only types that will stand the climate of those parts. Incidentally, *root stocks* of our native American grapes are widely used to provide disease resistance in vineyards all over Europe and in California. But the flavor of the grape comes from the graft and not the root stock, so the "foxy" taste of New York and Ohio wines stays at home. If you like it, fine; we do not.

VARIETIES OF WINES

Wines may be classified in many ways but here it is enough to consider only the main groups: *Table Wines, Sparkling Wines, Dessert Wines,* and *Apéritifs.* Where wines are really appreciated and used freely, at least 90 per cent are consumed as table wines, mostly but not exclusively with meals.

Natural fermentation, given favorable conditions and an abundance of sugar, can produce up to about 17 per cent alcohol (by volume), but wines over 15 per cent in alcohol are generally used before or after, but not during, the meal. Wines under 10 per cent alcohol are difficult to store and ship, so they can seldom be had in drinkable form except close to the place where they are produced.

TABLE WINES

Table wine means natural grape wine of any color, not sweet, and containing from about 10 to 15 per cent alcohol. As examples, going up the alcohol scale we cite: Alsatian and Swiss wines, the

German wines, Bordeaux (claret), Sauternes, and Chianti, and at the top, the Burgundies.

Good table wines are produced in many countries, and liquor stores in the United States offer an increasingly interesting selection from all over the world but, after sampling wines in most of the world's wine-producing areas, we conclude that the finest wines usually stay at home. Further, our experience is that in the United States it is uncommon to find first-class table wines imported from countries other than France, Germany, and Italy. However, lately we have had some excellent Rioja wines from Spain as well as a fine Yugoslav Riesling, so we are hopeful.

Any shop that sells wine should be able to supply a variety of good French wines. We suggest you start with several medium-priced red Bordeaux ("clarets" in England), and then try French Sauterne and Chablis. By the time you discover what you like among those wines, you will be eager to investigate other French wines, culminating with the expensive but incomparable world of the red and white Burgundies.

Compared with the French, the German wines have far less variety and are somewhat more reliably represented in American shops. Drink a couple of different Rhine wines ("hock" in England) for a few meals before you try a bottle of the more flowery Moselle.

Some wine snobs refuse to admit any Italian wines to the select company of the more famous French types. If you sample the Italian wines you will find many besides Chianti that will please you: Valpolicella, Bardolino, Barolo, Barbera, and Montepulciano among the reds and, among the whites, Soave, Orvieto, and Verdicchio.

Spain, Portugal, Chile, and South Africa produce some fine table wines that never get to our market—or at least they are seldom very good when we do find them here. Limited amounts of good wines are produced, and almost all locally consumed, in Switzerland, Austria, Australia, and New Zealand. Algeria produces enormous amounts of wines that go to France to be sold as *vin ordinaire*. The Argentine, Iran, and Israel are producing some undistinguished wines. Greece produces a great deal of table wine and some of it is good (perhaps the best is from

Samos), but most is poor or is made undrinkable (for us) by treatment with resins (*retsina*). Greek wines are available in some shops in America.

Our communist friends import almost no wine and are therefore limited to local produce in their wine enjoyment. The best wines in the U.S.S.R. are produced in the Republic of Georgia. We found them pleasant in Moscow but were disappointed to find no better grades in the Tiflis area where they are produced. We drank what we consider to be better wines in Rumania, but even these are not comparable to the French types they emulate.

California produces well over a hundred million gallons of wine a year, mostly so sweet, or so fortified with alcohol, that it does not belong on the dinner table. However, the amount and quality of table wine produced in California is rising. Unfortunately, most of the small production of top-quality table wine disappears locally. The American wine industry is hampered by the fact that it is much more expensive to produce a good than a poor wine but our public is not yet willing to pay the premium for fine domestic wine.

Some natural table wines contain some free carbon dioxide, and "sparkle" a little (the term is *pétillant*), and they are, or can be, delicious in their homelands. Examples to look for when traveling include the purple-black Gragnano of the Bay of Naples, some of the green-gold *vino verde* wines of Portugal, and (best in our opinion) the dark red Lambrusco produced near Bologna. These wines are usually low in alcohol, they do not keep well, and they do not travel well.

CHAMPAGNE AND SPARKLING WINES

By special processes, in the bottle (as in Champagne) or in bulk, a second fermentation can be produced in table wines to produce a high charge of carbon dioxide. These "Champagnes" and "sparkling Burgundies" are in the alcohol range of strong table wines. Unlike those fanciers who believe that Champagne is good at all stages of a meal, we believe it should be used only for certain occasions; reserve it for weddings, New Year's Eve, and other hilarities. Sparkling Burgundy, Asti Spumante, and

other sparkling wines that are not real Champagne are avoided by us but we have friends who like them, and it is amusing to contemplate any wine bubbles rising in a tall stemmed glass. But try any wine with soda water to achieve a similar effect.

DESSERT WINES

With dessert, a heavier, sweeter wine is appropriate for a treat but not, we think, as an everyday accompaniment to unpretentious dining. For great occasions (forgetting cost) you may have real Champagne but we suggest you try a truly noble Sauterne such as Château d'Yquem—which will cost more.

The classic dessert wines to serve at the end of the meal are port, Madeira, and sherry, though in their driest (i.e., least sweet) forms all of these wines are also favored by some people as an apéritif. Wines bearing these honored names are also produced in America and, though some are good, none has much relationship to the prototypes. But domestic or imported, never buy the cheapest offering with these labels.

Muscatel, Marsala, and Angelica are only suitable *after* a meal—if then. We find Marsala useful in cooking. Muscatel and Angelica can be put in fruit compote.

APÉRITIFS

Special apéritif wines are blends and mixtures with a wine base, the alcohol content usually being from 19 to 22 per cent (by volume). The apéritif wine used in the United States tends to be only the vermouth put in cocktails. But plain dry sherry, or any of the many kinds of vermouth, will provide an unsurpassed prelude to dinner, especially if wine is to be served at table. Or you can be fancier, without loading up on cocktail alcohol, by using mixes in which the apéritif wine is dominant. Try *good* vermouth and gin in equal parts. Mix Italian Campari Bitter, which alone is too astringent for most of us, with an equal part of ordinary vermouth ("Americano") or add to the Americano one part gin and you have the popular Negroni.

VINTAGE YEARS AND STORAGE

The complications of French vintages and vintage years frighten some potential wine lovers. Some of the world's finest wines are produced close to the climatic limit of the grape type, where rainfall and sunlight vary greatly from year to year so the crop is highly variable. In France and Germany the wine from a given vineyard can be poor one year and wonderful the next. Fortunately, the good years usually produce great abundance as well as good quality. The wines of California and Italy are less variable. Rely on your wine merchant's advice in choosing the first bottle of a given vintage. Then drink it and decide if *you* like it. Do not buy old wines offered at low prices; they are either bad years or wines spoiled by improper storage. Never buy or drink a wine that remains cloudy or one that does not appeal to both the nose and eye as well as the tongue, no matter what the salesman says.

Up to a point, most wines improve with age in the bottle if they are stored protected from heat and big changes in temperature. If you have no good place to store wines, do not lay in large supplies. White wines are usually at their best when four to ten years old, they are often quite drinkable at two years and they seldom live 20 years. The lighter (less alcohol) they are, the shorter the life. Red wines are best left alone for at least three years; they may improve for 20 years or more. As they age the color fades a little and a tinge of brown appears.

A large deposit of lees in a bottle of wine means little, but make sure you do not stir it up and drink it. Most good red wines throw a deposit so be prepared to waste half a glass at the bottom of the bottle. An "old" port that contains little sediment has either been rebottled recently or the salesman is dishonest.

Drink all white wines cold but *not* ice cold. Drink all red wines slightly cool (American style, meaning at around 60° F., or average English room temperature!). Wines should delight the eye, and they all taste better in good glasses. Select stemware without a flare top and without color or ornamentation. A glass holding five to seven ounces will do for all wines but should be filled no more than two-thirds full—so you can stick your nose into it!

OTHER ALCOHOLIC BEVERAGES

Beers and ales lack the subtleties and gastronomic importance of wines. Some fanciers talk interminably on the varieties of beers and ales, but these beverages have only limited virtue in connection with good food. Beer has a special affinity for raw oysters, but otherwise it goes best with plain, hearty, fatty foods that have little place in a cuisine designed to let you eat well and stay well. But you may disagree, and we have no objection to beer in your diet provided you count your calories.

Among distilled liquors, rum and brandy provide useful flavors for a few desserts. Some low-fat cakes can be made interesting, with improvement in both flavor and texture, by adding rum or brandy after they are baked, but these are not flavors to repeat very often. Do not stint on the price of rum or brandy for such use; you need little and the difference in the flavor result is great.

Liqueurs are of small concern to us here, except to remark that most of them are much less alcoholic than whisky or brandy; they are full of sugar (and calories); and we think their best use is in fruit compotes and ices, where Chartreuse, Kirschwasser, Cointreau, Cherry Heering (and the like), Anisette, and Orange Curaçao may be used to great advantage (see Recipes).

WINE IN COOKING

Wine is used in cooking for the indefinable flavor and zest it imparts and not for its alcohol content. With few exceptions, all alcohol used in cooking is lost before the food is eaten. Some of the alcohol in cold brandy sauces may remain, and the alcohol in liqueurs used with fruit compote is not lost, but the amounts per serving may be ignored in counting calories.

The end flavor of cooked wine bears little resemblance to the original wine; nevertheless good sauces cannot be made from spoiled or basically bad wines. If the wine is on the turn, do not try to cook with it; let it go on to make vinegar for use in salads later. It is foolish to buy vintage wines for cooking. Only a fair grade of ordinary sound wine is needed; robust young, even rough, wines are usually best.

The rules for the kinds of wine to be used in cooking different kinds of foods are even less fixed than the choice of wines to drink with foods. Forget the idea that cheap sherry will do for all wine cookery. Sherry *can* be used for some dishes, and a few drops in soup is a good trick. White wines are used for most fish cookery, and red wines cook better with red meats and game. But delightful fish sauces can be made with red wine. Chicken dishes can be prepared with either reds or whites.

Champagne, too, can be used in cooking, and we have recipes for such strange uses as making onion soup and a sauerkraut dish. Personally, these extravagances offend our Puritan instincts; we like to use Champagne where some of its character persists. Try Champagne poured over fresh sugared peaches in sherbet dishes (*Pêches aux Champagne*). Strawberries, too, take kindly to a Champagne bath.

Only a small amount of wine is called for in most recipes, so take the cupful or so needed from the bottle of wine destined for the table at the same meal. Opened table wines keep only a few days, even when the half-empty bottle is corked and kept in the refrigerator. To keep that half bottle perfectly, use it to fill a smaller bottle. Or pour a spoonful of bland oil over the top to help seal out the air and place in the refrigerator where it will be safe for many weeks. In some Italian households opened wine is stored in a wide-mouthed jar under an eighth-inch layer of oil. If you are deft, you can skim off the oil so completely that the wine can even be used for drinking with little or no damage to the flavor.

Fortified wines (sherry, port, Madeira, Marsala) keep well after the bottle has been opened. Replace the cork and store in the refrigerator. These wines, incidentally, go a long way in cooking. They are heavy in flavor, so do not take the same quantities when using them in place of the usual table wines. Remember, too, that when you cook down these wines the sugar remains; allow for the sweetness that will result.

Personal preferences in sauce flavors differ, especially in the far-from-standard flavors imparted by wine cookery. The only way to learn what you like and how to attain the effect that pleases you best is to experiment. You will seldom make an impossible mess in wine cookery and you are sure to make some enchanting

discoveries. Try a few of the recipes we suggest so as to get the general idea, and then start off on your own for real fun.

CALORIES IN ALCOHOLIC BEVERAGES

The old practice in books about the diet was to dismiss alcohol with a few remarks about its evils and then to proceed with instructions for counting calories as though only drunkards—who are hopeless anyway—ever take more than the occasional small drink. The fact is that in the moderately well-to-do sector of society today a substantial proportion of people get from 5 to 20 per cent, or more, of their total calories from alcohol. In parts of France and Chile the *average* is over 10 per cent of *all* calories from alcohol. Among 300 prominent business and professional men we have been studying for 15 years, the "champion" gets an average of over 30 per cent of his calories from alcohol—and successfully holds down a responsible job.

One gram of alcohol yields 7.1 calories in the body. Persons unaccustomed to drinking burn alcohol at only a limited rate, perhaps 30 calories per hour. But the conclusion that alcohol cannot be an important source of calories is in error because the person who *is* accustomed to drinking metabolizes more than this "limit" and, besides, the metabolism of alcohol goes on for a long time—up to 48 hours or more—after it is drunk. Only a small fraction is lost in the urine and in the expired breath unless you are positively "saturated." The rest of it stays in the body until it is used up, and the total calories in food *and* drink during the week must balance the energy you expend in that week or you will get fat.

You can estimate the calories you get from alcoholic beverages from Table 21 at the end of this book. Beers and wines are labeled with the percentage of alcohol by volume. Distilled liquors are labeled in "proof," which is another way of expressing percentage. In the United States, proof numbers are twice the percentage values; that is, "100 proof" means 50 per cent by volume, 86 proof means 43 per cent, and so on. To calculate exactly how many calories you get from alcohol, read the percentage values on the bottles, measure the amounts of the beverages you drink, and note that alcohol yields 166 calories per fluid ounce.

Suppose you had a highball made with a jigger (1½ ounces) of a low-proof whisky (86 proof, or 43 per cent alcohol by volume). Then at dinner you drank a fourth of a bottle (6 ounces) of claret (13 per cent alcohol) and before going to bed you had a 12-ounce can of 3.2 per cent beer. This adds up to 304 calories of alcohol, and the carbohydrate contents of the beer and wine will add 65 and 36 calories, respectively, or a total of 405 calories. If the highball was made with six ounces of ginger ale, another 63 calories should be added for a grand total of 468 calories. If obesity is a problem, alcoholic beverages can be a major source of trouble.

In regard to the above calculations, the calorie values for alcoholic beverages are wrong in most books on the diet and reducing. Apparently, long ago someone mistakenly assumed that the volume percentage values on liquor containers could be used as though they were weight percentages, forgetting that alcohol has a density of only 0.789 (at 68° F.). As a result, the calorie values commonly attributed to beer, whisky, etc., are much too high.

Chapter 17

NON-ALCOHOLIC BEVERAGES

In the usual American diet non-alcoholic beverages contribute a fair number of calories, variable amounts of other nutrients, and a great deal of pleasure. Plain water heads the list, of course, but many Americans actually get more water from other sources because they want more than simply to slake thirst. Coffee, tea, "cola" and other carbonated beverages have substantially no nutritional value other than "empty" sugar calories, but this is not necessarily a good reason to decry them. Milk is in an entirely different class and should be considered as a liquid food.

WATER

The body is constantly losing water in the excreta, in sweat, in the expired breath, and as vapor from the skin, even when there is no sweating. This means a constant need for replacement, and it is well to provide this abundantly; the kidneys nicely dispose of any excess, and this seems better than skimping. The most positive recommendation we can make about water is to take plenty, in one form or another, especially in hot weather.

Research in connection with military operations on water needs in hot weather has conclusively shown that few people spontaneously drink as much water as they should when they are sweating profusely. When men were persuaded to drink more than they would otherwise they showed less tendency to heat exhaustion and their circulation was maintained better. It is not often realized that doing physical work in hot weather can easily result in sweating 6 to 12 quarts a day. It is unnecessary to add salt to the drinking water in hot weather unless you do not eat or do not allow your taste to tell you how much salt to add to the food as you eat.

If you are on a reducing diet remember that the idea is to lose fat, not merely to change weight. Drinking water or other non-alcoholic beverages will not affect your weight for more than a few hours, so do not try to help your reduction by restricting water. Taking water with meals, in fact, will make you less aware of being deprived when the food portions are skimpy. People on starvation rations instinctively "soup" their scanty meals with water and reduce their hunger thereby, especially if they can also salt the "soup."

The American custom of putting ice in the water glasses at the table tends to reduce water drinking to small sips. This, combined with the fact that in many cities the water is so heavily chlorinated as to be disagreeable, makes for a low intake of plain water, which is compensated on a national scale by the consumption of colossal amounts of cola beverages and other soft drinks. We would have no particular objection to this substitution were it not for the high calorie content from pure sugar in the soft drinks and the sad fact that some people consume such drinks with meals. To substitute sugar water for good food is bad enough, but these concoctions, with their sweetness and artificial flavors, destroy all other tastes except that of the mustard on the hot dog.

Mineral waters for table use have long since gone out of fashion in the United States. Perhaps people get too much in the highballs before dinner! Certainly most of the health claims for various mineral waters have no basis, though it may be remarked that the calcium in mineral waters is useful. However, the mineral content of these waters is not why we mildly approve of them. Frankly, we enjoy good sparkling mineral waters, even without a whisky flavor! Instead of highballs, try sparkling water with a little white wine. And try the latter combination, but with less water and more wine, to accompany meals. If you are supposed to be restricted in salt or sodium, mineral waters are not allowed of course.

COFFEE AND TEA

Coffee and tea are mildly stimulating beverages that no longer provoke the violent opinions of former times. Both of them have a diuretic effect, that is to say they promote the formation of urine, but this seems to be harmless except in a few sensitive

people. Coffee and, to a smaller extent, tea, are stimulants to the central nervous system also, but here again there is no objection for most people if these beverages are used in moderation; restriction late in the day and in the evening helps some people who have trouble getting to sleep.

Moderation with coffee and tea is wise, however. Besides being overstimulating, there is the question of calories. We know quite a few people who average ten cups of coffee, with cream and sugar, daily. This means around 500 calories a day from this source alone, and no one can argue that this is the best way to get your calories. But this is no worse than the habit of drinking six to ten bottles of cola beverage. The current quota of cola drinks for students in some southern colleges is a steady six bottles a day—meaning 510 calories of sugar.

Table 20, at the back of this book, lists, in common units, the calorie value of non-alcoholic beverages. Breakfast cocoa, or hot chocolate, is the richest, with over 200 calories in a six-ounce cup. Moreover, a large share of those calories is provided by saturated fat, both in the chocolate and in the milk. Incidentally, chocolate contains some of the same stimulant drugs that occur in coffee and tea. In spite of the advertising, we do not recommend hot chocolate or concoctions of this nature, with or without malted milk, as a bedtime snack for adults who are concerned about either obesity or cholesterol.

MILK AS A BEVERAGE

Milk is discussed in Chapter 11. We much approve of skim milk and buttermilk for everyone; whole milk is something else. Note that the calorie content of whole milk is nearly twice that of an equal amount of either skim milk or buttermilk, but the three varieties are almost identical in protein, mineral, and water-soluble vitamin concentration.

If you like neither skim milk nor buttermilk, try one of the new "modified skim" milks, which generally contain about 2 per cent butterfat and a great deal more milk protein than ordinary whole milk. Flavor is usually good, and from the standpoint of nutrition this is a fine product.

Incidentally, modified skim milk makes excellent *café au lait* (*caffe latte* in Italian, *café con leche* in Spanish). Try this for breakfast by preparing the strongest coffee you can, preferably with an Italian "Espresso" machine and a dark roast of coffee, and adding a fourth of a cup of this to three fourths of a cup of modified skim milk heated to just below the boiling point. Half a teaspoonful of sugar may be added if desired. The same brew is excellent late in the evening. And in the summertime the same mixture, but iced, is both refreshing and nutritious.

FRUIT JUICES

For thirst-quenching refreshment nothing excels—actually we think nothing equals—cold fruit-juice preparations, especially those made with citrus fruits. The acidity of these latter refreshes the mouth in a way not possible with cola drinks or root beer, no matter how heavy the charge of carbon dioxide. And lemonade, orangeade, and limeade have the added advantage of providing large amounts of ascorbic acid (vitamin C). This is useful even though there is no foundation for some of the claims of the citrus growers. A glass of iced tea, with a goodly addition of lemon juice, is hard to beat as hot-weather refreshment too.

But we are speaking of real fruit juices, not the artificially colored and flavored imitations which are usually devoid of vitamins and, in our opinion, unpleasant in flavor. Moreover, we are personally unenthusiastic about the flavors of most canned fruit juices. If you have a Waring or other high-speed blender, try it with any fresh fruit at hand, add sparkling water, and drink at once to experience true fruit flavor in a beverage.

SECTION III

MENUS

MENUS FOR THE FOUR SEASONS

Below we have assembled complete menus for 28 days, a week for each of the four seasons, with quantities given for diets of about 1800 and 2300 calories per day. Recipes are given in the section on Recipes for the items indicated by asterisks (*). In general, recipes are for four persons.

These menus provide abundant proteins, vitamins, and minerals with restricted total fat and very low saturated fat content. If more than 2300 calories per day are needed, the extra calories can be provided easily by adding bread, jam, fruit, vegetables, skim milk, cottage cheese, potatoes, rice, macaroni, or fish as desired or all the quantities may be scaled up in proportion.

If 1800 calories are too many, the quantities in the 1800-calorie column may be reduced by cutting the amounts of the baked goods, potatoes, rice, macaroni, and jam. In this way it is not difficult to get down to around 1400 calories or even somewhat less. If you are supposed to lose weight and even with such reduced menus you are not losing, consult your physician about further adjustment. You *may* be a special case, though these are rarely found except among inactive older people of small stature. The first suggestion is that you need more exercise. For more severe reducing diets consult the section: "1400- and 1000-Calorie Menus."

BEVERAGES FOR THE MENUS

Coffee is the suggested beverage for breakfast in these menus and you may also have it for dinner. No beverage but water *need* be taken, and tea may be substituted, of course. A teaspoon of sugar per cup may be added if you wish; the calorie contribution is negligible (15 to 20 calories) unless an inordinate number of cups are taken daily. Substitution of skim milk or buttermilk for coffee is acceptable if you do not let the calories get out of hand.

One cup of skim milk provides about 90 calories and nine grams of protein but practically no fat.

If you prefer, you may add whole milk to the breakfast coffee; an eighth of a cup will add only about 20 calories and half a gram of saturated fat. Or, if you do not need or wish to restrict your diet greatly, you may like *café au lait* for breakfast. Made with half whole milk and half strong coffee, the result is the addition of about 85 calories and four grams of fat. Better, make *café au lait* with skim or the new 2 per cent (modified skim) milk.

Not many Americans drink wine with meals, so our menus do not specify it. If you like wine you may add your choice of dry table wine to the menus, but remember that four ounces of dry table wine (e.g., claret or Chianti) provide about 100 calories (see the chapter on Alcoholic Beverages). A single cocktail usually provides at least 100 calories.

VARIATIONS

The menus below are only suggestions for meals which we think are easy to prepare and will appeal to most Americans. Rigid adherence to the menus, following the specified order given here, is not necessary. Exchange breakfasts or lunches between days if you will, but remember that all the meals below are not nutritionally identical. Likewise, you may suit your fancy, in general in making substitutions between cereals, between fruits, and between green vegetables. Experimenting with variations within this general scheme, in fact, is urged, so you may both cater to your own preferences and establish a good pattern of diet on which you are personally happy to live.

The noon meal for weekdays poses a problem for the majority of American men today. There are two solutions. A lunch of sandwiches may be prepared at home to be eaten at the place of work. The other solution is for the man to learn a little about diet and food, to note the items advised in these menus, and to select his lunch at restaurant or club accordingly.

Under each menu, for both 1800- and 2300-calorie versions, are given the total calories, the grams of protein and of total fat, and, in parentheses, the grams of saturated (sat.) and poly-unsaturated (poly.) fat.

WINTER SUNDAY (**see recipe*)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Sliced oranges	1	1
Creamed dried beef on toast*	¼ recipe	¼ recipe
Toast	1 slice	2 slices
Marmalade	1 tablespoon	1 tablespoon
Coffee		
CALORIES	480	530
PROTEIN, GRAMS	29	31
FAT, GRAMS (sat., poly.)	12 (3, 4)	12 (3, 4)
DINNER		
Broiled chicken*	¼ recipe	¼ recipe
Dumplings*	2	3
Sweet-sour red cabbage*	generous	generous
Hard rolls	1	1
Tossed salad	generous	generous
French dressing*	1 tablespoon	1 tablespoon
Angel-food cake	1 2-inch slice	1 2-inch slice
Raspberry jam sauce*	2 tablespoons	2 tablespoons
CALORIES	820	880
PROTEIN, GRAMS	44	47
FAT, GRAMS (sat., poly.)	28 (7, 16)	29 (7, 16)
SUPPER		
Potato and onion soup*	¼ recipe	½ recipe
Carrot sticks, celery	generous	generous
Italian bread*	1 1½-inch piece	2 1½-inch pieces
Fresh winter pears or canned pears	1	1
CALORIES	510	890
PROTEIN, GRAMS	12	23
FAT, GRAMS (sat., poly.)	6 (2, 3)	10 (3, 5)
TOTALS FOR THE DAY		
CALORIES	1810	2300
PROTEIN, GRAMS	85	101
FAT, GRAMS (sat., poly.)	46 (12, 23)	51 (13, 25)

WINTER MONDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Orange juice	½ cup	½ cup
Fried corn-meal mush	1 3- x 4-inch piece	2 3- x 4-inch pieces
Syrup	1 tablespoon	2 tablespoons
Caffe latte (with skim milk)	1 cup	1 cup
Sugar	1 teaspoon	1 teaspoon
CALORIES	320	470
PROTEIN, GRAMS	11	13
FAT, GRAMS (sat., poly.)	4 (1, 2)	7 (1, 4)
LUNCH		
Garbanzos*	¼ recipe	¼ recipe
Tomato aspic	½ cup	1 cup
Boiled dressing*	1 tablespoon	2 tablespoons
Cottage cheese	¼ cup	½ cup
Skim milk	1 cup	1 cup
Applesauce	1 cup	1 cup
CALORIES	710	830
PROTEIN, GRAMS	34	47
FAT, GRAMS (sat., poly.)	15 (4, 3)	20 (6, 3)
DINNER		
Chicken noodle soup	1 cup	2 cups
"Specialty of the house"*	¼ recipe	¼ recipe
Broccoli casserole*	¼ recipe	¼ recipe
Italian bread*	1 1½-inch piece	2 1½-inch pieces
Sliced tomatoes and chives	1 tomato	2 tomatoes
French dressing*	1 tablespoon	1 tablespoon
Orange sherbet with mandarin oranges*	⅛ recipe	⅛ recipe
CALORIES	780	1000
PROTEIN, GRAMS	42	50
FAT, GRAMS (sat., poly.)	23 (6, 7)	25 (8, 8)
TOTALS FOR THE DAY		
CALORIES	1810	2300
PROTEIN, GRAMS	87	110
FAT, GRAMS (sat., poly.)	42 (11, 12)	52 (15, 15)

WINTER TUESDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Grapefruit	½	½
Oatmeal	1 cup	1 cup
Skim milk	¼ cup	¼ cup
Sugar	1 teaspoon	1 teaspoon
Sweet rolls	1	2
Coffee		
CALORIES	440	620
PROTEIN, GRAMS	13	18
FAT, GRAMS (sat., poly.)	7 (2, 4)	12 (3, 6)
LUNCH		
Macaroni and tuna fish casserole*	⅙ recipe	⅙ recipe
Stuffed baked tomatoes*	1	2
Lettuce sandwiches	1	2
Skim milk	1 cup	1 cup
Danish dessert*	¼ recipe	¼ recipe
CALORIES	700	870
PROTEIN, GRAMS	32	38
FAT, GRAMS (sat., poly.)	7 (1, 3)	9 (2, 4)
DINNER		
Fegato alla Veneziana*	¼ recipe	¼ recipe
Potatoes boiled in their skins	1 small	3 small
Green salad	generous	generous
French dressing*	1 tablespoon	1 tablespoon
Apple Betty*	¼ recipe	¼ recipe
CALORIES	680	800
PROTEIN, GRAMS	27	30
FAT, GRAMS (sat., poly.)	23 (5, 11)	23 (5, 11)
TOTALS FOR THE DAY		
CALORIES	1820	2290
PROTEIN, GRAMS	72	86
FAT, GRAMS (sat., poly.)	37 (8, 18)	44 (10, 21)

WINTER WEDNESDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Tangerine juice	½ cup	½ cup
Crisp dried beef	2 ounces	2 ounces
Whole-wheat bread,* toasted	2 slices	3 slices
Honey	2 tablespoons	3 tablespoons
Coffee		
CALORIES	390	510
PROTEIN, GRAMS	24	26
FAT, GRAMS (sat., poly.)	5 (2, 1)	5 (2, 1)
LUNCH		
Black bean soup	⅓ can	⅓ can
Asparagus "sandwich"*	⅙ recipe	¼ recipe
Skim milk	1 cup	1 cup
Stuffed baked apple*	1	1
CALORIES	670	820
PROTEIN, GRAMS	24	29
FAT, GRAMS (sat., poly.)	8 (1, 3)	10 (2, 4)
DINNER		
Ham slices, cherry sauce*	⅙ recipe	¼ recipe
Scalloped potatoes*	¼ recipe	⅓ recipe
Beans paprika*	¼ recipe	⅓ recipe
Lettuce and tomato salad	generous	generous
French dressing*	1 tablespoon	1 tablespoon
Fruit compote*	¼ recipe	¼ recipe
CALORIES	760	960
PROTEIN, GRAMS	35	50
FAT, GRAMS (sat., poly.)	22 (5, 10)	28 (6, 11)
TOTALS FOR THE DAY		
CALORIES	1820	2290
PROTEIN, GRAMS	83	105
FAT, GRAMS (sat., poly.)	35 (8, 14)	43 (10, 16)

WINTER THURSDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Pineapple juice	½ cup	½ cup
English muffins, toasted	1	2
Jam	1 tablespoon	2 tablespoons
Coffee		
CALORIES	290	470
PROTEIN, GRAMS	5	10
FAT, GRAMS (sat., poly.)	4 (–, 1)	8 (1, 3)
LUNCH		
Polenta*	⅙ recipe	¼ recipe
Fruit salad with lemon dressing*	1 cup	1 cup
Skim milk	1 cup	1 cup
CALORIES	510	640
PROTEIN, GRAMS	36	38
FAT, GRAMS (sat., poly.)	6 (1, 3)	8 (2, 4)
DINNER		
Rabbit à la Minnesota*	⅙ recipe	¼ recipe
Fried rice*	¼ recipe	¼ recipe
Harvard beets*	¼ recipe	¼ recipe
Steamed graham pudding*	1/10 recipe	1/10 recipe
Foamy sauce*	2 tablespoons	2 tablespoons
CALORIES	1020	1180
PROTEIN, GRAMS	46	64
FAT, GRAMS (sat., poly.)	26 (9, 10)	32 (12, 12)
TOTALS FOR THE DAY		
CALORIES	1820	2290
PROTEIN, GRAMS	87	112
FAT, GRAMS (sat., poly.)	36 (10, 14)	48 (15, 19)

WINTER FRIDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Grapefruit	½	½
Cream of Wheat	1 cup	1 cup
Skim milk	¼ cup	¼ cup
Sugar	1 teaspoon	1 teaspoon
Toast	1 slice	2 slices
Jam	1 tablespoon	2 tablespoons
Coffee		
CALORIES	380	500
PROTEIN, GRAMS	10	12
FAT, GRAMS (sat., poly.)	2 (–, 1)	3 (1, 1)
LUNCH		
Hot tuna fish salad*	⅙ recipe	⅙ recipe
Hard rolls	1	2
Skim milk	1 cup	1 cup
Orange cookies*	2	2
CALORIES	600	760
PROTEIN, GRAMS	32	37
FAT, GRAMS (sat., poly.)	19 (4, 10)	21 (5, 10)
DINNER		
Fish fillets in consommé*	¼ recipe	½ recipe
New potatoes, boiled in their jackets	4 tiny	6 tiny
Braised celery with peas*	⅙ recipe	¼ recipe
Italian bread*	1 1½-inch piece	1 1½-inch piece
Coleslaw	generous	generous
Vinegar-sugar dressing	1 tablespoon	1 tablespoon
Snowballs with strawberry sauce*	¼ recipe	¼ recipe
CALORIES	810	1060
PROTEIN, GRAMS	40	61
FAT, GRAMS (sat., poly.)	14 (1, 7)	24 (2, 9)
TOTALS FOR THE DAY		
CALORIES	1790	2320
PROTEIN, GRAMS	82	110
FAT, GRAMS (sat., poly.)	35 (5, 18)	48 (8, 20)

WINTER SATURDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Stewed prunes	½ cup	½ cup
Canadian bacon	1 ounce	1 ounce
Toast	2 slices	3 slices
Marmalade	1 tablespoon	2 tablespoons
Coffee		
CALORIES	380	490
PROTEIN, GRAMS	10	11
FAT, GRAMS (sat., poly.)	5 (2, –)	5 (2, –)
LUNCH		
Spinach ring with mushrooms*	¼ recipe	¼ recipe
Whole-wheat bread*	2 slices	3 slices
Cottage cheese spread	½ cup	¾ cup
Skim milk	1 cup	1 cup
Broiled grapefruit with honey	½	½
CALORIES	600	710
PROTEIN, GRAMS	44	57
FAT, GRAMS (sat., poly.)	7 (1, 3)	8 (1, 3)
DINNER		
Baked beans*	⅛ recipe	⅙ recipe
Codfish cakes*	¼ recipe	¼ recipe
Steamed brown bread*	⅛ recipe	¼ recipe
Cabbage salad	generous	generous
Boiled dressing*	2 tablespoons	2 tablespoons
Lemon ice	¼ pint	¼ pint
CALORIES	850	1110
PROTEIN, GRAMS	39	48
FAT, GRAMS (sat., poly.)	14 (2, 4)	17 (3, 4)
TOTALS FOR THE DAY		
CALORIES	1830	2310
PROTEIN, GRAMS	93	116
FAT, GRAMS (sat., poly.)	26 (5, 7)	30 (6, 7)

SPRING SUNDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Pineapple and grapefruit juice	½ cup	½ cup
Oatmeal	½ cup	1 cup
Skim milk	¼ cup	½ cup
Sugar	1 teaspoon	2 teaspoons
Toast	2 slices	3 slices
Marmalade	1 tablespoon	2 tablespoons
Coffee		
CALORIES	320	540
PROTEIN, GRAMS	9	16
FAT, GRAMS (sat., poly.)	2 (–, 1)	4 (1, 2)
DINNER		
Roast chicken or capon	4 ounces	4 ounces
New potatoes, boiled in their jackets	3 tiny	3 tiny
Asparagus	1 cup	1 cup
Parmesan cheese	1 tablespoon	1 tablespoon
Escarole salad	generous	generous
French dressing*	1 tablespoon	1 tablespoon
Strawberry pie*	⅐ recipe	⅐ recipe
CALORIES	730	730
PROTEIN, GRAMS	36	36
FAT, GRAMS (sat., poly.)	35 (8, 13)	35 (8, 13)
SUPPER		
Shrimp jambalaya*	⅙ recipe	¼ recipe
Italian bread*	2 1½-inch pieces	3 1½-inch pieces
Tangerines	2	2
Skim milk	1 cup	1 cup
CALORIES	740	1040
PROTEIN, GRAMS	32	43
FAT, GRAMS (sat., poly.)	7 (1, 3)	8 (2, 5)
TOTALS FOR THE DAY		
CALORIES	1790	2310
PROTEIN, GRAMS	77	95
FAT, GRAMS (sat., poly.)	44 (9, 17)	47 (11, 20)

SPRING MONDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Grapefruit	½	½
Grape-Nuts	1 cup	1 cup
Skim milk	½ cup	½ cup
Sugar	1 teaspoon	1 teaspoon
Hot cross buns*	2	3
Coffee		
CALORIES	530	670
PROTEIN, GRAMS	15	18
FAT, GRAMS (sat., poly.)	4 (–, 2)	5 (1, 2)
LUNCH		
Chicken salad*	½ cup	1 cup
Poppy-seed rolls	1	1
Blancmange (vanilla cornstarch pudding)	½ cup	½ cup
Skim milk	1 cup	1 cup
CALORIES	390	500
PROTEIN, GRAMS	37	57
FAT, GRAMS (sat., poly.)	4 (1, 2)	7 (2, 3)
DINNER		
Meat and vegetable curry*	⅓ recipe	⅓ recipe
Chutney	1 tablespoon	1 tablespoon
Rice*	1 cup	2 cups
Fruit salad with lemon dressing*	1 cup	1 cup
Open-face rhubarb pie with oil crust*	⅙ 9-inch pie	⅙ 9-inch pie
CALORIES	910	1110
PROTEIN, GRAMS	27	31
FAT, GRAMS (sat., poly.)	23 (8, 6)	23 (8, 6)
TOTALS FOR THE DAY		
CALORIES	1830	2280
PROTEIN, GRAMS	79	106
FAT, GRAMS (sat., poly.)	31 (9, 10)	35 (11, 11)

SPRING TUESDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Stewed rhubarb or prunes	½ cup	½ cup
Farina	1 cup	1 cup
Skim milk	¼ cup	¼ cup
Sugar	1 teaspoon	1 teaspoon
Toast	2 slices	3 slices
Jam	1 tablespoon	2 tablespoons
Coffee		
CALORIES	490	600
PROTEIN, GRAMS	10	12
FAT, GRAMS (sat., poly.)	1 (–, –)	1 (–, –)
LUNCH		
Risotto*	¼ recipe	⅓ recipe
Ry-Krisp	3 pieces	3 pieces
Grapefruit and banana salad	½ banana	½ banana
	½ grapefruit	½ grapefruit
Boiled dressing*	1 tablespoon	1 tablespoon
Skim milk	1 cup	1 cup
CALORIES	630	790
PROTEIN, GRAMS	25	29
FAT, GRAMS (sat., poly.)	18 (2, 5)	24 (3, 7)
DINNER		
Noodle soup*	1 cup	1 cup
Italian bread*	1 1½-inch piece	2 1½-inch pieces
Scaloppine*	¼ recipe	¼ recipe
Braised celery with peas*	⅙ recipe	¼ recipe
Fresh strawberries	1 cup	1 cup
Powdered sugar	1 tablespoon	1 tablespoon
CALORIES	680	880
PROTEIN, GRAMS	36	46
FAT, GRAMS (sat., poly.)	24 (7, 8)	27 (7, 9)
TOTALS FOR THE DAY		
CALORIES	1800	2270
PROTEIN, GRAMS	71	87
FAT, GRAMS (sat., poly.)	43 (9, 13)	52 (10, 16)

SPRING WEDNESDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Fruit juice	½ cup	½ cup
Cream of Wheat	1 cup	1 cup
Chopped dates	¼ cup	¼ cup
Quick coffeecake*	1/12 recipe	⅛ recipe
Coffee		
CALORIES	470	660
PROTEIN, GRAMS	7	10
FAT, GRAMS (sat., poly.)	6 (1, 3)	12 (2, 6)
LUNCH		
Baked onions with curry sauce*	1 onion	2 onions
on toast	1 slice	2 slices
Chutney	1 tablespoon	1 tablespoon
Oatmeal raisin cookies*	2	2
Skim milk	1 cup	1 cup
CALORIES	430	600
PROTEIN, GRAMS	17	21
FAT, GRAMS (sat., poly.)	10 (2, 5)	14 (3, 8)
DINNER		
Chinese-style beef with green beans*	¼ recipe	¼ recipe
Chinese-style mushrooms and water chestnuts*	¼ recipe	¼ recipe
Sweet and pungent chicken livers*	¼ recipe	¼ recipe
Rice*	1 cup	2 cups
Figs	½ cup	½ cup
Chinese tea		
CALORIES	870	1070
PROTEIN, GRAMS	52	56
FAT, GRAMS (sat., poly.)	21 (8, 8)	21 (8, 8)
TOTALS FOR THE DAY		
CALORIES	1770	2330
PROTEIN, GRAMS	76	87
FAT, GRAMS (sat., poly.)	37 (11, 16)	47 (13, 22)

SPRING THURSDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Citrus fruit juice	½ cup	½ cup
Broiled sardines	¼ of 3-ounce can	¼ of 3-ounce can
Toast	2 slices	3 slices
Jam	1 tablespoon	2 tablespoons
Coffee		
CALORIES	260	370
PROTEIN, GRAMS	10	12
FAT, GRAMS (sat., poly.)	3 (1, 1)	3 (1, 1)
LUNCH		
Lasagne al forno*	⅙ recipe	¼ recipe
Green salad	generous	generous
French dressing*	1 tablespoon	1 tablespoon
Bananas	1	1
Skim milk	1 cup	1 cup
CALORIES	630	810
PROTEIN, GRAMS	44	53
FAT, GRAMS (sat., poly.)	20 (5, 9)	25 (6, 10)
DINNER		
Stuffed breast of veal*	¼ recipe	¼ recipe
Carrots with parsley, green onions*	¼ recipe	½ recipe
New potatoes, steamed	2 small	4 small
Cabbage and green pepper salad	1 cup	1 cup
Boiled dressing*	1 tablespoon	1 tablespoon
Meringue	1	1
Strawberries, chopped, sweetened	3 ounces	3 ounces
CALORIES	920	1110
PROTEIN, GRAMS	32	36
FAT, GRAMS (sat., poly.)	23 (6, 7)	27 (7, 10)
TOTALS FOR THE DAY		
CALORIES	1810	2290
PROTEIN, GRAMS	86	101
FAT, GRAMS (sat., poly.)	46 (12, 17)	55 (14, 21)

SPRING FRIDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Shredded Wheat	1 biscuit	1 biscuit
Fresh strawberries	½ cup	½ cup
Skim milk	¼ cup	¼ cup
Sugar	1 teaspoon	1 teaspoon
Muffins*	2	3
Jam	1 tablespoon	2 tablespoons
Coffee		
CALORIES	440	600
PROTEIN, GRAMS	12	15
FAT, GRAMS (sat., poly.)	7 (1, 3)	10 (1, 5)
LUNCH		
Tomato juice	½ cup	½ cup
Sandwiches (cottage cheese, chives, lettuce, rye bread)	3	3
Carrot sticks, celery	generous	generous
Fresh pineapple wedges	3	3
Powdered sugar	1 tablespoon	1 tablespoon
Skim milk	1 cup	1 cup
CALORIES	810	810
PROTEIN, GRAMS	56	56
FAT, GRAMS (sat., poly.)	3 (1, 1)	3 (1, 1)
DINNER		
Rolled fillets of pike* (or other fish)	1 roll	2 rolls
Scalloped potatoes*	¼ recipe	¼ recipe
Braised celery	1 cup	1 cup
Baked canned pears	2 halves	2 halves
CALORIES	540	910
PROTEIN, GRAMS	55	103
FAT, GRAMS (sat., poly.)	5 (1, 2)	10 (1, 4)
TOTALS FOR THE DAY		
CALORIES	1790	2320
PROTEIN, GRAMS	123	174
FAT, GRAMS (sat., poly.)	15 (3, 6)	23 (3, 10)

SPRING SATURDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Pineapple wedges, chilled	2	2
Kippered herring, steamed	3 ounces	3 ounces
Toast	2 slices	3 slices
Jam	1 tablespoon	2 tablespoons
Coffee		
CALORIES	430	540
PROTEIN, GRAMS	23	25
FAT, GRAMS (sat., poly.)	12 (4, 4)	12 (4, 4)
LUNCH		
French potato salad*	¼ recipe	¼ recipe
Sandwiches, thin slices boiled ham on rye bread	1	2
Canned apricots	½ cup	½ cup
Skim milk	1 cup	1 cup
CALORIES	560	720
PROTEIN, GRAMS	20	27
FAT, GRAMS (sat., poly.)	11 (2, 1)	15 (4, 6)
DINNER		
Pot roast (chuck)	4 ounces	4 ounces
Baked brown rice*	¼ recipe	1½ servings
Green peas and boiling onions	1 cup	2 cups
Green salad, tomato juice dressing*	generous	generous
Oranges	2	2
CALORIES	800	1020
PROTEIN, GRAMS	39	44
FAT, GRAMS (sat., poly.)	26 (9, 3)	29 (9, 5)
TOTALS FOR THE DAY		
CALORIES	1790	2280
PROTEIN, GRAMS	82	96
FAT, GRAMS (sat., poly.)	49 (15, 8)	56 (17, 15)

SUMMER SUNDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Orange, sectioned	1	1
Krumbles	1 cup	1 cup
Skim milk	½ cup	½ cup
Sugar	1 teaspoon	1 teaspoon
Popovers	2	3
Jam	1 tablespoon	1 tablespoon
Coffee		
CALORIES	430	560
PROTEIN, GRAMS	15	20
FAT, GRAMS (sat., poly.)	6 (1, 2)	10 (2, 3)
DINNER		
Potted calves' hearts*	¼ recipe	¼ recipe
Boiled potatoes	1 medium	2 medium
Mustard greens	generous	generous
Italian bread*	1 1½-inch piece	1 1½-inch piece
Leaf lettuce salad	generous	generous
French dressing*	1 tablespoon	1 tablespoon
Ginger ice*	⅙ recipe	⅙ recipe
CALORIES	890	1010
PROTEIN, GRAMS	47	50
FAT, GRAMS (sat., poly.)	25 (8, 11)	25 (8, 11)
SUPPER		
Stuffed green peppers*	1	2
Sliced tomatoes	1	1
Italian bread*	1 1½-inch piece	2 1½-inch pieces
Skim milk	1 cup	1 cup
Apricot whip*	⅛ recipe	⅛ recipe
CALORIES	500	750
PROTEIN, GRAMS	20	27
FAT, GRAMS (sat., poly.)	2 (–, 1)	3 (1, 1)
TOTALS FOR THE DAY		
CALORIES	1820	2320
PROTEIN, GRAMS	82	97
FAT, GRAMS (sat., poly.)	33 (9, 14)	38 (11, 15)

SUMMER MONDAY (**see recipe*)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Corn Flakes	1 cup	1 cup
Sliced peaches	1	1
Skim milk	½ cup	½ cup
Sugar	1 teaspoon	1 teaspoon
Toasted whole-wheat bread*	2 slices	2 slices
Honey	1 tablespoon	1 tablespoon
Coffee		
CALORIES	370	370
PROTEIN, GRAMS	11	11
FAT, GRAMS (sat., poly.)	1 (–, 1)	1 (–, 1)
LUNCH		
Macaroni salad with celery, cucumber, etc.	1½ cups	1½ cups
Boiled dressing*	2 tablespoons	2 tablespoons
Sardine sandwiches	1	2
Fresh grapes	1 bunch	1 bunch
Skim milk	1 cup	1 cup
CALORIES	540	690
PROTEIN, GRAMS	28	37
FAT, GRAMS (sat., poly.)	7 (1, 3)	10 (2, 4)
DINNER		
Broiled filet mignon	4 ounces	4 ounces
Wine and mushroom sauce*	as desired	as desired
Zucchini casserole*	¼ recipe	½ recipe
Fresh peas	½ cup	½ cup
Italian bread*	1 1½-inch piece	2 1½-inch pieces
Honeydew melon	2- x 7-inch wedge	2- x 7-inch wedge
CALORIES	880	1240
PROTEIN, GRAMS	44	48
FAT, GRAMS (sat., poly.)	28 (12, 2)	30 (12, 3)
TOTALS FOR THE DAY		
CALORIES	1790	2300
PROTEIN, GRAMS	83	96
FAT, GRAMS (sat., poly.)	36 (13, 6)	41 (14, 8)

SUMMER TUESDAY (**see recipe*)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Shredded Wheat	1 biscuit	1 biscuit
Fresh strawberries	½ cup	½ cup
Skim milk	½ cup	½ cup
Sugar	1 teaspoon	1 teaspoon
Toasted buttermilk scones*	2	3
Jam	2 tablespoons	2 tablespoons
Coffee		
CALORIES	460	540
PROTEIN, GRAMS	11	13
FAT, GRAMS (sat., poly.)	2 (–, 1)	2 (–, 1)
LUNCH		
Kidney bean salad*	¼ recipe	1½ servings
Cucumber sandwiches	2	3
Carrot sticks	generous	generous
Skim milk	1 cup	1 cup
Crisp cookies*	3	3
CALORIES	600	800
PROTEIN, GRAMS	28	37
FAT, GRAMS (sat., poly.)	6 (1, 2)	7 (1, 3)
DINNER		
Shashliks*	¼ recipe	1½ servings
Baked potatoes	1 medium	2 medium
Caraway rye bread	2 slices	2 slices
Romaine salad	generous	generous
French dressing*	1 tablespoon	1 tablespoon
Fresh peaches	2	2
CALORIES	710	960
PROTEIN, GRAMS	31	45
FAT, GRAMS (sat., poly.)	28 (7, 6)	37 (9, 7)
TOTALS FOR THE DAY		
CALORIES	1770	2300
PROTEIN, GRAMS	70	95
FAT, GRAMS (sat., poly.)	36 (8, 9)	46 (10, 11)

SUMMER WEDNESDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Rice Krispies	1 cup	1 cup
Fresh blueberries	½ cup	½ cup
Skim milk	½ cup	½ cup
Sugar	1 teaspoon	1 teaspoon
Broiled smoked codfish	3 ounces	3 ounces
Toast	1 slice	2 slices
Marmalade	1 tablespoon	2 tablespoons
Coffee		
CALORIES	390	500
PROTEIN, GRAMS	25	27
FAT, GRAMS (sat., poly.)	1 (–, –)	2 (–, 1)
LUNCH		
Stuffed tomato salad	1 tomato	1 tomato
Boiled dressing*	1 tablespoon	1 tablespoon
Corn on the cob, Mexican sauce*	1 ear	2 ears
Cottage cheese on cracked-wheat bread sandwiches	2	3
Skim milk	1 cup	1 cup
CALORIES	620	920
PROTEIN, GRAMS	45	63
FAT, GRAMS (sat., poly.)	8 (1, 3)	14 (2, 5)
DINNER		
Sukiyaki*	¼ recipe	¼ recipe
Rice*	1½ cups	1½ cups
Fresh pineapple	1-inch slice	2-inch slice
Tea		
CALORIES	830	890
PROTEIN, GRAMS	46	48
FAT, GRAMS (sat., poly.)	11 (3, 4)	11 (3, 4)
TOTALS FOR THE DAY		
CALORIES	1840	2310
PROTEIN, GRAMS	116	138
FAT, GRAMS (sat., poly.)	20 (4, 7)	27 (5, 10)

SUMMER THURSDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Cantaloupe	½	½
Muffets	1	2
Skim milk	½ cup	½ cup
Sugar	1 teaspoon	2 teaspoons
Raised doughnuts	1	1
Coffee		
CALORIES	330	450
PROTEIN, GRAMS	11	14
FAT, GRAMS (sat., poly.)	5 (1, 3)	5 (1, 3)
LUNCH		
Rainbow ring*	¼ recipe	¼ recipe
Cottage cheese dip dressing*	½ cup	½ cup
Blueberry muffins*	2	3
Skim milk	1 cup	1 cup
Fresh figs	3	6
CALORIES	610	840
PROTEIN, GRAMS	21	26
FAT, GRAMS (sat., poly.)	7 (1, 4)	10 (1, 5)
DINNER		
Cucumber and yogurt soup*	⅙ recipe	⅙ recipe
Veal birds*	¼ recipe	¼ recipe
Green bean casserole*	¼ recipe	¼ recipe
Italian bread*	1 1½-inch piece	2 1½-inch pieces
Lemon sherbet	½ cup	½ cup
Fresh raspberries	¼ cup	¼ cup
CALORIES	880	1030
PROTEIN, GRAMS	43	47
FAT, GRAMS (sat., poly.)	31 (10, 8)	31 (10, 8)
TOTALS FOR THE DAY		
CALORIES	1820	2320
PROTEIN, GRAMS	75	87
FAT, GRAMS (sat., poly.)	43 (12, 15)	46 (12, 16)

SUMMER FRIDAY (*see recipe)

	1800 Calories TOTAL	2300 Calories TOTAL
BREAKFAST		
Fruit juice	½ cup	½ cup
Rice*	1 cup	1 cup
Skim milk	½ cup	½ cup
Brown sugar	1 tablespoon	1 tablespoon
Raisin toast	1 slice	2 slices
Coffee		
CALORIES	420	490
PROTEIN, GRAMS	11	13
FAT, GRAMS (sat., poly.)	1 (–, –)	2 (–, 1)
LUNCH		
Garden salad	generous	generous
French dressing*	1 tablespoon	1 tablespoon
Cottage cheese	½ cup	½ cup
Bran muffins*	2	4
Skim milk	1 cup	1 cup
Plums	3	3
CALORIES	670	860
PROTEIN, GRAMS	40	45
FAT, GRAMS (sat., poly.)	15 (2, 7)	19 (3, 9)
DINNER		
Molded crab-meat salad	½ cup	1 cup
Boiled dressing*	1 tablespoon	2 tablespoons
Garden-fresh green beans	1 cup	1½ cups
Cauliflower, cheese sauce*	¼ medium	⅓ medium
Water crackers	4	4
Blackberry cobbler*	¼ recipe	¼ recipe
CALORIES	750	940
PROTEIN, GRAMS	30	48
FAT, GRAMS (sat., poly.)	21 (4, 8)	24 (5, 10)
TOTALS FOR THE DAY		
CALORIES	1840	2290
PROTEIN, GRAMS	81	106
FAT, GRAMS (sat., poly.)	37 (6, 15)	45 (8, 20)

SUMMER SATURDAY (*see recipe)

	1800 Calories TOTAL	2300 Calories TOTAL
BREAKFAST		
Cantaloupe	½	½
Grape-Nuts	½ cup	½ cup
Skim milk	½ cup	½ cup
Sugar	1 teaspoon	1 teaspoon
Blueberry muffins*	2	3
Coffee		
CALORIES	450	570
PROTEIN, GRAMS	14	17
FAT, GRAMS (sat., poly.)	6 (1, 3)	8 (1, 5)
LUNCH		
Fried rice*	¼ recipe	¼ recipe
Sliced tomatoes	1	2
Lettuce sandwiches, boiled dressing*	2	3
Skim milk	1 cup	1 cup
Watermelon	4- x 8-inch wedge	4- x 8-inch wedge
CALORIES	750	890
PROTEIN, GRAMS	25	30
FAT, GRAMS (sat., poly.)	11 (2, 5)	12 (2, 5)
DINNER		
Chicken galantine*	¼ recipe	¼ recipe
Baked noodles*	¼ recipe	½ recipe
Green beans with mushrooms	1 cup	1 cup
Hard rolls	2	3
Strawberries in orange juice	1 cup	1 cup
CALORIES	630	840
PROTEIN, GRAMS	47	56
FAT, GRAMS (sat., poly.)	15 (5, 4)	19 (6, 6)
TOTALS FOR THE DAY		
CALORIES	1830	2300
PROTEIN, GRAMS	86	103
FAT, GRAMS (sat., poly.)	32 (8, 12)	39 (9, 16)

FALL SUNDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Cantaloupe	½	½
Buttermilk pancakes*	3	6
Syrup	2 tablespoons	3 tablespoons
Coffee		
CALORIES	340	590
PROTEIN, GRAMS	9	17
FAT, GRAMS (sat., poly.)	2 (1, 1)	3 (1, 1)
DINNER		
Chicken pilau*	⅙ recipe	⅙ recipe
Baked bananas	1 large	2 large
Green beans	1 cup	1 cup
Cherry tart (oil crust*)	1	1
Tea		
CALORIES	870	990
PROTEIN, GRAMS	31	32
FAT, GRAMS (sat., poly.)	25 (5, 12)	25 (5, 12)
SUPPER		
Ham and lima beans*	¼ recipe	¼ recipe
Sliced tomatoes	1	2
Corn bread	1 2- x 3-inch piece	2 2- x 3-inch pieces
Skim milk	1 cup	1 cup
Melon balls in ginger ale	1 cup	1 cup
CALORIES	570	710
PROTEIN, GRAMS	34	37
FAT, GRAMS (sat., poly.)	18 (3, 6)	23 (4, 8)
TOTALS FOR THE DAY		
CALORIES	1780	2290
PROTEIN, GRAMS	74	86
FAT, GRAMS (sat., poly.)	45 (9, 19)	51 (10, 21)

FALL MONDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Orange juice	½ cup	½ cup
Canadian bacon	2 slices	3 slices
Toast	2 slices	3 slices
Marmalade	2 tablespoons	3 tablespoons
Coffee		
CALORIES	400	580
PROTEIN, GRAMS	18	27
FAT, GRAMS (sat., poly.)	8 (2, 2)	12 (4, 3)
LUNCH		
Monday rice*	¼ recipe	⅓ recipe
Cucumber sandwiches, whole-wheat bread*	1	2
Skim milk	1 cup	1 cup
Grapes	2 cups	2 cups
CALORIES	690	920
PROTEIN, GRAMS	20	27
FAT, GRAMS (sat., poly.)	16 (2, 9)	19 (3, 12)
DINNER		
Beef and olive pie*	⅛ recipe	⅙ recipe
Carrots in lemon sauce*	¼ recipe	¼ recipe
Green salad	generous	generous
French dressing*	1 tablespoon	1 tablespoon
Prune whip*	¼ recipe	¼ recipe
Vanilla sauce (Basic Pudding)*	⅛ recipe	⅛ recipe
CALORIES	700	800
PROTEIN, GRAMS	34	45
FAT, GRAMS (sat., poly.)	18 (7, 6)	21 (7, 6)
TOTALS FOR THE DAY		
CALORIES	1790	2300
PROTEIN, GRAMS	72	99
FAT, GRAMS (sat., poly.)	42 (11, 17)	52 (14, 21)

FALL TUESDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Grapefruit	½	½
Corn-meal mush	1 cup	1 cup
Skim milk	½ cup	½ cup
Sugar	1 teaspoon	1 teaspoon
Whole-wheat bread*, toasted	1 slice	2 slices
Jam	1 tablespoon	1 tablespoon
Coffee		
CALORIES	380	450
PROTEIN, GRAMS	10	13
FAT, GRAMS (sat., poly.)	2 (–, 1)	3 (–, 1)
LUNCH		
Cannelloni*	⅛ recipe	¼ recipe
Italian bread*	1 1½-inch piece	2 1½-inch pieces
Bibb lettuce	generous	generous
French dressing*	1 tablespoon	1 tablespoon
Skim milk	1 cup	1 cup
Apples	2	2
CALORIES	740	1070
PROTEIN, GRAMS	34	56
FAT, GRAMS (sat., poly.)	13 (3, 6)	16 (4, 7)
DINNER		
Boiled dinner with corned beef, onions, carrots, etc.	3 ounces beef	3 ounces beef
Rolls	1	2
Sliced tomatoes and cucumbers, vinegar and salt	generous	generous
White cake*	1/16 cake	1/16 cake
CALORIES	660	760
PROTEIN, GRAMS	33	35
FAT, GRAMS (sat., poly.)	17 (5, 4)	18 (5, 5)
TOTALS FOR THE DAY		
CALORIES	1780	2280
PROTEIN, GRAMS	77	104
FAT, GRAMS (sat., poly.)	32 (8, 11)	37 (9, 13)

FALL WEDNESDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Tomato juice	½ cup	½ cup
Oatmeal	1 cup	1 cup
Skim milk	¼ cup	¼ cup
Sugar	1 teaspoon	1 teaspoon
Oven milk toast*	1 slice	2 slices
Coffee		
CALORIES	310	400
PROTEIN, GRAMS	12	14
FAT, GRAMS (sat., poly.)	7 (1, 4)	11 (2, 6)
LUNCH		
Curried lentils on rice*	¼ recipe	¼ recipe
Chutney	2 tablespoons	2 tablespoons
Bread sticks	2	3
Stewed dried prunes, apricots, peaches	½ cup	½ cup
Skim milk	1 cup	1 cup
CALORIES	840	890
PROTEIN, GRAMS	31	33
FAT, GRAMS (sat., poly.)	2 (–, 1)	2 (–, 1)
DINNER		
Beef tongue piquant*	⅛ recipe	⅛ recipe
Baked Hubbard squash	generous	generous
Parsley oil	1 teaspoon	2 teaspoons
Steamed cauliflower	1 cup	2 cups
Italian bread*	1 1½-inch piece	2 1½-inch pieces
Honeydew melon	2- x 7-inch wedge	2- x 7-inch wedge
CALORIES	670	980
PROTEIN, GRAMS	41	51
FAT, GRAMS (sat., poly.)	27 (10, 4)	33 (10, 6)
TOTALS FOR THE DAY		
CALORIES	1820	2270
PROTEIN, GRAMS	84	98
FAT, GRAMS (sat., poly.)	36 (11, 9)	46 (12, 13)

FALL THURSDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Corn Flakes	1 cup	1 cup
Raspberries	½ cup	½ cup
Skim milk	½ cup	½ cup
Sugar	1 teaspoon	1 teaspoon
Bran muffins*	2	3
Jam	1 tablespoon	2 tablespoons
Coffee		
CALORIES	440	590
PROTEIN, GRAMS	13	16
FAT, GRAMS (sat., poly.)	5 (1, 2)	7 (1, 3)
LUNCH		
Turkey ring*	¼ recipe	¼ recipe
Green rice*	¼ recipe	¼ recipe
Ry-Krisp	2 pieces	2 pieces
Skim milk	1 cup	1 cup
Honeydew melon	1 2- x 7-inch wedge	2 2- x 7-inch wedges
CALORIES	610	660
PROTEIN, GRAMS	43	44
FAT, GRAMS (sat., poly.)	23 (4, 10)	23 (4, 10)
DINNER		
Spaghetti	1 cup	2 cups
Vegetable sauce*	¼ cup	½ cup
Grated Parmesan cheese	1 tablespoon	2 tablespoons
Lobster tails with sherry*	¼ recipe	¼ recipe
Italian bread*	1 1½-inch piece	1 1½-inch piece
Romaine salad	generous	generous
French dressing*	1 tablespoon	1 tablespoon
Apple whip*	⅙ recipe	¼ recipe
CALORIES	770	1060
PROTEIN, GRAMS	45	62
FAT, GRAMS (sat., poly.)	22 (3, 15)	25 (4, 20)
TOTALS FOR THE DAY		
CALORIES	1820	2310
PROTEIN, GRAMS	101	122
FAT, GRAMS (sat., poly.)	50 (8, 27)	55 (9, 33)

FALL FRIDAY (*see recipe)

	1800 Calories TOTAL	*2300 Calories* TOTAL
BREAKFAST		
Honeydew melon	2- x 7-inch wedge	2- x 7-inch wedge
Farina	1 cup	1 cup
Cut-up dates	¼ cup	¼ cup
Skim milk	¼ cup	¼ cup
Sugar	1 teaspoon	1 teaspoon
Toast	1 slice	2 slices
Jam	1 tablespoon	1 tablespoon
Coffee		
CALORIES	420	480
PROTEIN, GRAMS	8	10
FAT, GRAMS (sat., poly.)	1 (–, –)	1 (–, –)
LUNCH		
Cream of tomato soup made with skim milk	1 cup	2 cups
Russian salad*	2 cups	2 cups
Melba toast	4 pieces	8 pieces
Gelatin fruit whip	1 cup	1 cup
Tea		
CALORIES	660	870
PROTEIN, GRAMS	33	42
FAT, GRAMS (sat., poly.)	24 (5, 12)	27 (5, 14)
DINNER		
Shrimp zip*	¼ recipe	¼ recipe
Riced potatoes	1	2
Cabbage au gratin* or cabbage with horse-radish sauce*	¼ recipe	½ recipe
Whole-wheat bread*	2 slices	2 slices
Skim milk	1 cup	1 cup
Baked rice pudding*	⅛ recipe	⅛ recipe
CALORIES	740	950
PROTEIN, GRAMS	44	52
FAT, GRAMS (sat., poly.)	11 (3, 5)	15 (3, 5)
TOTALS FOR THE DAY		
CALORIES	1820	2300
PROTEIN, GRAMS	85	104
FAT, GRAMS (sat., poly.)	36 (8, 17)	43 (8, 19)

FALL SATURDAY (*see recipe)

	1800 Calories TOTAL	2300 Calories TOTAL
BREAKFAST		
Sliced orange	1	1
Wheat Chex	1½ cups	1½ cups
Skim milk	½ cup	½ cup
Sugar	1 teaspoon	1 teaspoon
Cinnamon toast*	1 slice	2 slices
Coffee		
CALORIES	330	420
PROTEIN, GRAMS	12	15
FAT, GRAMS (sat., poly.)	3 (1, 1)	5 (1, 2)
LUNCH		
Vegetable soup*	1½ cups	1½ cups
Tomato sandwiches	1	2
Skim milk	1 cup	1 cup
Applesauce	1 cup	1 cup
CALORIES	650	810
PROTEIN, GRAMS	28	34
FAT, GRAMS (sat., poly.)	5 (1, 2)	7 (1, 3)
DINNER		
Roast veal in white wine	4 ounces	4 ounces
Boiled potatoes	1 medium	1 medium
Green beans and mushrooms	1 cup	2 cups
Italian bread*	1 1½-inch piece	2 1½-inch pieces
Lettuce salad	generous	generous
French dressing*	1 tablespoon	1 tablespoon
Fall apples	1	2
CALORIES	830	1120
PROTEIN, GRAMS	57	65
FAT, GRAMS (sat., poly.)	28 (9, 8)	32 (10, 10)
TOTALS FOR THE DAY		
CALORIES	1810	2350
PROTEIN, GRAMS	97	114
FAT, GRAMS (sat., poly.)	36 (11, 11)	44 (12, 15)

HOLIDAY MENUS

Assuming that everyone splurges a bit on holidays, these menus are designed to compliment the occasion without going completely overboard on rich foods. Precede each by a simple breakfast and a bowl of soup for lunch so that you are prepared for real enjoyment of your holiday dinner. Note that these dinners are fairly heavy in calories (reducers beware!) but none is high in fat. Here are suggestions for:

Christmas dinner
New Year's Day dinner
Easter dinner
July 4th picnic
Labor Day picnic
Thanksgiving dinner
Winter birthday dinner
Summer birthday dinner
Anniversary dinner

CHRISTMAS DINNER (*see recipe)

	SERVINGS
Antipasto	
Artichoke hearts	1 ounce
Pimento	1
Ripe olives in garlic*	2
Anchovies	2
Rock Cornish game hen*	1
Baked wild rice*	¼ recipe
Cranberry sauce	¼ cup
Brussels sprouts	generous
Water cress and Bibb lettuce salad with French dressing*	generous 1 tablespoon
Crêpes suzette*	1/10 recipe
Demitasse	

PER PERSON: 1280 Cal., 96 g. Protein, 40 g. Fat (10 sat., 18 poly.) Fat Calories = 28%

NEW YEAR'S DAY DINNER (**see recipe*)

	SERVINGS
Clear broth with lemon slices	1 cup
Mushroom soufflé*	⅙ recipe
Baked whole salmon	4 ounces
with white wine sauce*	⅙ recipe
Spinach à la Flaminio*	⅙ recipe
Hot crusty rolls	1
Lettuce and parsley salad	generous
with French dressing*	1 tablespoon
Baked oranges Curaçao*	1 orange
Demitasse	

PER PERSON: 950 Cal., 50 g. Protein, 32 g. Fat (6 sat., 15 poly.)
Fat Calories = 30%

EASTER DINNER (**see recipe*)

	SERVINGS
Clam juice cocktail	½ cup
Saltines	2
Roast leg of lamb*	4 ounces
Guava or currant jelly	1 tablespoon
Rice pilaff*	⅛ recipe
Braised fennel*	¼ recipe
Broiled tomatoes	1
Mary Hornby's strawberry dessert*	⅙ recipe

PER PERSON: 900 Cal., 42 g. Protein, 28 g. Fat (6 sat., 4 poly.)
Fat Calories = 28%

JULY 4th PICNIC (**see recipe*)

	SERVINGS
Gazpacho (in insulated jug)*	1 cup
Bread sticks	2
Chicken and mushrooms:	
foil wrapped*	¼ fryer
Celery, carrot sticks, radishes, green onions	generous
Hard rolls, split and filled with cottage cheese, chives, and pickle relish	2
Watermelon	4- x 8-inch wedge

PER PERSON: 920 Cal., 70 g. Protein, 24 g. Fat (5 sat., 7 poly.)
Fat Calories = 23%

LABOR DAY PICNIC (**see recipe*)

	SERVINGS
Cauliflower buds	½ cup
with cottage cheese dip*	⅛ recipe
Roll-'em-ups*	¼ recipe
Corn on the cob (to roast)	2 ears
with Mexican sauce*	2 tablespoons
Cucumbers in vinegar	½ cucumber
Italian bread,* foil-wrapped to heat in coals	2 1½-inch chunks
Applesauce spice cake*	1/16 cake

PER PERSON: 1130 Cal., 63 g. Protein, 32 g. Fat (7 sat., 7 poly.)
Fat Calories = 25%

THANKGIVING DINNER (*see recipe)

	SERVINGS
Oyster cocktail	½ cup
Roast turkey	4 ounces
with bread stuffing*	½ cup
Giblet gravy*	¼ cup
Creamed onions	1 cup
Broccoli	1 cup
Cranberry sauce	¼ cup
Endive salad	generous
with French dressing*	1 tablespoon
Grapes and winter apples	1 apple or 1 cup grapes

PER PERSON: 1160 Cal., 52 g. Protein, 40 g. Fat (6 sat., 14 poly.) Fat Calories = 31%

WINTER BIRTHDAY DINNER (*see recipe)

	SERVINGS
Shrimp cocktail	2 ounces shrimp
Sirlion steak	¼ pound
Bride's potatoes*	1
Baked beets julienne*	⅙ recipe
Green peas	½ cup
Iced white cake*	2-inch slice
Black raspberry sherbet	½ cup

PER PERSON: 1030 Cal., 55 g. Protein, 35 g. Fat (6 sat., 5 poly.) Fat Calories = 31%

SUMMER BIRTHDAY DINNER (*see recipe)

	SERVINGS
Tomato Madrilène*	1 cup
Baked frozen fish fillets*	½ pound
Wax beans au jus*	1 cup
Asparagus	1 cup
Lettuce and cucumber salad	generous
with French dressing*	1 tablespoon
Iced angel-food cake	2-inch slice
Ice cream	⅐ quart

PER PERSON: 850 Cal., 64 g. Protein, 25 g. Fat (7 sat., 7 poly.) Fat Calories = 26%

ANNIVERSARY DINNER (*see recipe)

	SERVINGS
Pork and water cress soup*	
or	
Chinese cabbage soup*	1 cup
Chicken subgum*	¼ recipe
Egg roll*	⅕ recipe
Fried rice with shrimp*	¼ recipe
Almond cakes*	2
Chinese tea	

PER PERSON: 1010 Cal., 78 g. Protein, 36 g. Fat (8 sat., 18 poly.) Fat Calories = 32%

1400- AND 1000-CALORIE MENUS (**see recipe*)

If you are not losing weight satisfactorily even when the 1800-calorie diet has been cut down somewhat, it is necessary to use a different set of menus. First, consult your physician and if he advises a diet of 1400 or even as low as 1000 calories, you will find the following menus helpful. You may think that these begin to approach the starvation level, but perhaps only such drastic reductions will suffice. Add more green vegetables to get more bulk with few calories if your reducing program will allow these. And remember that if your prescription is 1000 calories a day, you can get the same result on a 1200- or 1300-calorie diet if you will add an hour of extra exercise daily.

	1400 Calories TOTAL
BREAKFAST	
Cantaloupe	½
Buttermilk pancakes*	3
Syrup	3 tablespoons
Coffee	
CALORIES	390
PROTEIN, GRAMS	9
FAT, GRAMS (sat., poly.)	2 (1, –)
LUNCH	
Finnan haddie*	¼ recipe
on toast	1 slice
Tomato aspic	½ cup
Cottage cheese, country style	¼ cup
Skim milk	1 cup
CALORIES	400
PROTEIN, GRAMS	53
FAT, GRAMS (sat., poly.)	5 (–, 2)
DINNER	
Lake Owasso chicken*	⅙ recipe
Rolls	1
Lettuce and cucumber salad, tomato juice dressing*	generous
Melon balls in ginger ale	1 cup
CALORIES	640
PROTEIN, GRAMS	33
FAT, GRAMS (sat., poly.)	13 (3, 5)
TOTALS FOR THE DAY	
CALORIES	1430
PROTEIN, GRAMS	95
FAT, GRAMS (sat., poly.)	20 (4, 7)

1400 Calories

	TOTAL
BREAKFAST	
Orange juice	½ cup
Corn Flakes	1 cup
Sliced banana	½ banana
Skim milk	½ cup
Sugar	1 teaspoon
Coffee	
CALORIES	250
PROTEIN, GRAMS	8
FAT, GRAMS (sat., poly.)	1 (–, –)
LUNCH	
Macaroni and tuna casserole*	⅙ recipe
Baked tomatoes	1
Skim milk	1 cup
Danish dessert*	¼ recipe
CALORIES	600
PROTEIN, GRAMS	27
FAT, GRAMS (sat., poly.)	8 (1, 4)
DINNER	
Fegato alla Veneziana* (Liver and onions)	¼ recipe
Italian bread*	1 1½-inch piece
Green beans	1 cup
Raspberry rice Bavarian*	⅛ recipe
CALORIES	540
PROTEIN, GRAMS	33
FAT, GRAMS (sat., poly.)	12 (4, 4)
TOTALS FOR THE DAY	
CALORIES	1390
PROTEIN, GRAMS	68
FAT, GRAMS (sat., poly.)	21 (5, 8)

1400 Calories

	TOTAL
BREAKFAST	
Tomato juice	½ cup
Canadian bacon	1 ounce
Soft-boiled egg	1
Toast	2 slices
Jam	1 tablespoon
Coffee	
CALORIES	330
PROTEIN, GRAMS	17
FAT, GRAMS (sat., poly.)	10 (4, 1)
LUNCH	
Kidney bean salad*	¼ recipe
Muffins*	1
Skim milk	1 cup
Apples	1
CALORIES	420
PROTEIN, GRAMS	21
FAT, GRAMS (sat., poly.)	5 (1, 2)
DINNER	
Stuffed lobster tails*	2
Italian bread*	1 1½-inch piece
Green peas	1 cup
Cauliflower	1 cup
Honeydew melon with lemon	2- x 7-inch wedge
CALORIES	640
PROTEIN, GRAMS	35
FAT, GRAMS (sat., poly.)	11 (2, 6)
TOTALS FOR THE DAY	
CALORIES	1390
PROTEIN, GRAMS	73
FAT, GRAMS (sat., poly.)	26 (7, 9)

1400 Calories

	TOTAL
BREAKFAST	
Sliced oranges	1
Hot bologna sausage	¼-inch slice
Popovers	2
Jam	1 tablespoon
Coffee	
CALORIES	410
PROTEIN, GRAMS	15
FAT, GRAMS (sat., poly.)	13 (5, 2)
LUNCH	
Stuffed green peppers*	1
Whole-wheat bread*	2 slices
Sliced tomatoes	2
Cottage cheese, country style	¼ cup
Skim milk	1 cup
CALORIES	450
PROTEIN, GRAMS	31
FAT, GRAMS (sat., poly.)	3 (–, 1)
DINNER	
Potted calves' hearts*	¼ recipe
Potatoes boiled in their skins	1 medium
Mustard greens	generous
Leaf lettuce salad, tomato juice dressing*	generous
Fresh cherries	1 cup
CALORIES	550
PROTEIN, GRAMS	39
FAT, GRAMS (sat., poly.)	15 (6, 5)
TOTALS FOR THE DAY	
CALORIES	1410
PROTEIN, GRAMS	85
FAT, GRAMS (sat., poly.)	31 (11, 8)

1400 Calories

	TOTAL
BREAKFAST	
Applesauce	1 cup
Cream of Wheat	1 cup
Skim milk	¼ cup
Sugar	1 teaspoon
Coffee	
CALORIES	330
PROTEIN, GRAMS	6
FAT, GRAMS (sat., poly.)	1 (–, –)
LUNCH	
Lima beans and dried beef*	⅛ recipe
Perfection salad	1 cup
Boiled dressing*	1 tablespoon
Carrot sticks, celery	generous
Skim milk	1 cup
Fresh peaches	1
CALORIES	460
PROTEIN, GRAMS	30
FAT, GRAMS (sat., poly.)	5 (1, 2)
DINNER	
Swiss steak (commercial round steak)	3 ounces
Riced potatoes	1 medium
Carrots and onions	1½ cups
Cucumbers in vinegar	½ cucumber
Meringue	1
Crushed strawberries	½ cup
CALORIES	640
PROTEIN, GRAMS	30
FAT, GRAMS (sat., poly.)	12 (5, 1)
TOTALS FOR THE DAY	
CALORIES	1430
PROTEIN, GRAMS	66
FAT, GRAMS (sat., poly.)	18 (6, 3)

	1400 Calories TOTAL
BREAKFAST	
Grapefruit	½
English muffins, split and toasted	2 halves
Jam	1 tablespoon
Coffee	
CALORIES	310
PROTEIN, GRAMS	6
FAT, GRAMS (sat., poly.)	4 (2, 1)
LUNCH	
Lasagne al forno*	⅛ recipe
Skim milk	1 cup
Fruit salad	1 cup
Boiled dressing*	1 tablespoon
CALORIES	470
PROTEIN, GRAMS	32
FAT, GRAMS (sat., poly.)	9 (3, 3)
DINNER	
Rabbit à la Minnesota*	⅙ recipe
Fried rice*	⅙ recipe
Harvard beets*	½ cup
Strawberries in orange juice	1 cup
CALORIES	630
PROTEIN, GRAMS	40
FAT, GRAMS (sat., poly.)	17 (8, 6)
TOTALS FOR THE DAY	
CALORIES	1410
PROTEIN, GRAMS	78
FAT, GRAMS (sat., poly.)	30 (13, 10)

	1000 Calories TOTAL
BREAKFAST	
Pineapple juice	½ cup
English muffins, split and toasted	½
Jam	1 teaspoon
Coffee	
CALORIES	170
PROTEIN, GRAMS	3
FAT, GRAMS (sat., poly.)	2 (1, –)
LUNCH	
Polenta*	⅛ recipe
Fruit salad	1 cup
Boiled dressing*	1 tablespoon
Skim milk	1 cup
CALORIES	390
PROTEIN, GRAMS	29
FAT, GRAMS (sat., poly.)	5 (1, 2)
DINNER	
Rabbit à la Minnesota*	⅙ recipe
Beets with greens	1 cup
Oranges	1
CALORIES	460
PROTEIN, GRAMS	38
FAT, GRAMS (sat., poly.)	13 (7, 4)
TOTALS FOR THE DAY	
CALORIES	1020
PROTEIN, GRAMS	70
FAT, GRAMS (sat., poly.)	20 (9, 6)

	1000 Calories TOTAL
BREAKFAST	
Cantaloupe	½
Popovers	2
Jam	2 teaspoons
Coffee	
CALORIES	200
PROTEIN, GRAMS	7
FAT, GRAMS (sat., poly.)	5 (1, 2)
LUNCH	
Stuffed green peppers*	1
Whole-wheat bread*	1 slice
Sliced tomatoes	2
Cottage cheese, country style	¼ cup
Skim milk	1 cup
CALORIES	380
PROTEIN, GRAMS	29
FAT, GRAMS (sat., poly.)	3 (–, 1)
DINNER	
Potted calves' hearts*	¼ recipe
Mustard greens	1 cup
Leaf lettuce salad, tomato juice dressing*	generous
Fresh cherries	1 cup
CALORIES	450
PROTEIN, GRAMS	37
FAT, GRAMS (sat., poly.)	15 (6, 5)
TOTALS FOR THE DAY	
CALORIES	1030
PROTEIN, GRAMS	73
FAT, GRAMS (sat., poly.)	23 (7, 8)

	1000 Calories TOTAL
BREAKFAST	
Cantaloupe	½
Buttermilk pancakes*	1
Syrup	1 tablespoon
Coffee	
CALORIES	150
PROTEIN, GRAMS	4
FAT, GRAMS (sat., poly.)	1 (–, –)
LUNCH	
Finnan haddie*	¼ recipe
on toast	1 slice
Tomato aspic	½ cup
Cottage cheese, country style	¼ cup
Skim milk	1 cup
CALORIES	400
PROTEIN, GRAMS	54
FAT, GRAMS (sat., poly.)	5 (1, 2)
DINNER	
Lake Owasso chicken* (a one-dish meal)	⅙ recipe
Melon balls in ginger ale	1 cup
CALORIES	480
PROTEIN, GRAMS	29
FAT, GRAMS (sat., poly.)	12 (3, 4)
TOTALS FOR THE DAY	
CALORIES	1030
PROTEIN, GRAMS	87
FAT, GRAMS (sat., poly.)	18 (4, 6)

	1000 Calories TOTAL
BREAKFAST	
Orange juice	½ cup
Poached egg	1
on toast	1 slice
Coffee	
CALORIES	180
PROTEIN, GRAMS	9
FAT, GRAMS (sat., poly.)	6 (2, –)
LUNCH	
Kidney bean patties*	¼ recipe
Coleslaw	1 cup
Skim milk	1 cup
CALORIES	440
PROTEIN, GRAMS	21
FAT, GRAMS (sat., poly.)	9 (1, 5)
DINNER	
Fish fillets in consommé*	½ recipe
Spinach	1 cup
Fresh apricots	3
CALORIES	380
PROTEIN, GRAMS	60
FAT, GRAMS (sat., poly.)	2 (–, 1)
TOTALS FOR THE DAY	
CALORIES	1000
PROTEIN, GRAMS	90
FAT, GRAMS (sat., poly.)	17 (3, 6)

	1000 Calories TOTAL
BREAKFAST	
Grapefruit	½
Cream of Wheat	½ cup
Skim milk	¼ cup
Sugar	1 teaspoon
Coffee	
CALORIES	170
PROTEIN, GRAMS	5
FAT, GRAMS (sat., poly.)	1 (–, –)
LUNCH	
Baked onions, curry sauce*	1
Chutney	1 tablespoon
Carrot sticks, celery	generous
Skim milk	1 cup
CALORIES	240
PROTEIN, GRAMS	13
FAT, GRAMS (sat., poly.)	5 (1, 2)
DINNER	
Chinese-style beef with beans*	¼ recipe
Sweet and pungent chicken livers*	¼ recipe
Rice*	1 cup
Chinese tea	
CALORIES	590
PROTEIN, GRAMS	47
FAT, GRAMS (sat., poly.)	16 (7, 6)
TOTALS FOR THE DAY	
CALORIES	1000
PROTEIN, GRAMS	65
FAT, GRAMS (sat., poly.)	22 (8, 8)

	1000 Calories TOTAL
BREAKFAST	
Tomato juice	½ cup
Canadian bacon	1 ounce
Soft-boiled egg	1
Toast	1 slice
Jam	1 teaspoon
Coffee	
CALORIES	300
PROTEIN, GRAMS	16
FAT, GRAMS (sat., poly.)	11 (4, 1)
LUNCH	
Salad of peach halves,	2
Cottage cheese, country style	½ cup
Lettuce	2 large leaves
Swedish rye crisp	2 pieces
Skim milk	1 cup
CALORIES	320
PROTEIN, GRAMS	33
FAT, GRAMS (sat., poly.)	1 (–, –)
DINNER	
Stuffed lobster tails*	2
Green beans	1 cup
Cauliflower	1 cup
Honeydew melon with lemon	2- x 7-inch wedge
CALORIES	410
PROTEIN, GRAMS	25
FAT, GRAMS (sat., poly.)	10 (2, 5)
TOTALS FOR THE DAY	
CALORIES	1030
PROTEIN, GRAMS	74
FAT, GRAMS (sat., poly.)	22 (6, 6)

SECTION IV

RECIPES

Recipes capitalized in the text may
be located by consulting the Index.

The following recipes include those needed for the Menus of this book and also provide examples of many types of recipes that do not involve large amounts of saturated fats. We could add hundreds of recipes for delicious dishes of high nutritional quality, but any good cook can easily alter standard recipes and improvise within this general pattern. The rules are simple.

No food items are completely forbidden; adjustment of quantities is the problem. Meat fats, margarine, lard, solid shortening, butter, and milk fat should be reduced or replaced with liquid cooking and salad oils. In baking, about three fourths of a cup of oil, or a little less, is usually about right to replace one cup of shortening. Fish, sea food, and chicken can be used much more liberally than ordinary meats. Buy lean meats, discard the fat that cooks out, and baste or make gravies with the meat juice, wine, low fat sauces, or vegetable oil. Be generous with fruits and vegetables, especially in the top-quality fresh form. They appear to have some special virtues for cholesterol control besides being low in calories and fats and high in nutritive and satisfaction values. And remember that rich foods are essential only to bad cooks.

The saturated and poly-unsaturated values given for the recipes assume that, unless otherwise specified, "oil" means corn oil. Substituted for corn oil, safflower and sunflower seed oil produce greater cholesterol lowering; cottonseed and sesame oil are slightly less effective than corn oil; and still less effective are peanut and olive oils. More precise calculations for recipes using various oils can be made from the values given in Table 22.

Figures are given at the end of each recipe for the number of calories (Cal.), the amount of protein in grams, (g.), the amount of fat in grams, (g.), followed in parentheses by the amount of saturated (sat.) fat and of poly-unsaturated (poly.) fat.

APPETIZERS and SNACKS

CONNECTICUT COTTAGE CHEESE

From Connie and Charles O'Neill of Greens Farms

1 pound dry cottage cheese
¼ cup buttermilk
1 ounce Gorgonzola, Roquefort, or Blue cheese

Optional additions:

1 tablespoon chopped onion or chives
½ tablespoon finely cut chervil or fresh parsley

Soften cottage cheese in buttermilk, add Gorgonzola, Roquefort, or Blue cheese; mash and mix with a fork. Serve as canapé spread, or after dinner with crackers.

PER RECIPE: 560 Cal., 97 g. Protein, 11 g. Fat (6 sat., trace poly.)

COTTAGE CHEESE DIP

1 pound dry cottage cheese
½ cup buttermilk
1 tablespoon onion juice

Soak cottage cheese in buttermilk, then force through fine sieve. Add onion juice and beat thoroughly with egg beater or in electric mixer at high speed or in Waring Blendor. More buttermilk may be added to achieve desired consistency for dipping. Chill and serve with potato crackers.

PER RECIPE: 480 Cal., 93 g. Protein, 2 g. Fat (trace sat., trace poly.)

TUNA CANAPÉ SPREAD

1 can (7 ounces) tuna
2 sprigs parsley
1 tablespoon flaked tarragon leaves, fresh or dried
2 tablespoons Cooked Oil Dressing
Salt to taste

Drain tuna, and put through food chopper. Chop parsley finely (and 2 tarragon leaves if fresh tarragon is used). Blend thoroughly tuna, tarragon, parsley, and Cooked Oil Dressing. Taste for saltiness and add salt if needed. Pack firmly in small bowl or mold and chill. To serve, turn out on plate, garnish with fresh parsley, and surround with crackers. The flavor is improved if the spread is prepared several hours in advance of use.

PER RECIPE: 450 Cal., 59 g. Protein, 21 g. Fat (6 sat., 12 poly.)

RIPE OLIVES IN GARLIC

1 can ripe olives (9 ounces drained)
2 cloves garlic
Oil blend (1 part olive oil, 2 parts corn or cottonseed oil)

Discard the liquid from can of ripe olives. Add oil blend to cover olives. Peel and add garlic, cover the can, and store in the refrigerator for at least 24 hours before serving.

PER RECIPE: 470 Cal., 4 g. Protein, 41 g. Fat (5 sat., 4 poly.)

TINY CREAM PUFFS, CRAB-MEAT FILLED (*35 cream puffs*)

Cream puffs:

½ cup water
3 tablespoons oil
½ cup flour
½ teaspoon salt
2 eggs

Bring water and oil to boiling in a saucepan. Add flour and salt, continue to cook and stir until the ingredients form a ball (about 1 minute). Remove from the fire and beat in 2 eggs, one at a time, beating each in thoroughly. With a teaspoon space 35 mounds of batter on oiled cookie sheets, leaving 1 inch between each mound. Bake in 400-degree oven for 30 minutes. When the puffs are cool, split them three fourths of the way across. When ready to serve, fill with the following:

Crab-meat filling:

1 tablespoon oil
3 tablespoons flour
1 teaspoon salt
1 cup skim milk
2 tablespoons grated Cheddar cheese
6 ounces crab meat (cooked or canned)

In the top of a double boiler blend oil and flour. Add salt and skim milk. Cook over moderate heat, stirring constantly, until

just boiling. Add cheese, stir until it is melted, then add crab meat. Place over slowly boiling water and keep hot until ready to serve.

Just before serving, fill cream puffs with crab-meat mixture, return them to a 350-degree oven for 5 minutes. Heat a few at a time and serve them piping hot as appetizers.

PER RECIPE: 1250 Cal., 61 g. Protein, 77 g. Fat, (13 sat., 49 poly.)

GUACAMOLE

- 1 medium-sized onion
- 1 clove garlic
- 1 small canned green chili pepper
- 2 avocados
- ¼ cup tomato paste
- 1 teaspoon lemon juice
- ½ teaspoon salt

Chop finely the onion, garlic, and green chili pepper. Mash avocados, stir in onion, garlic, chili pepper, tomato paste, lemon juice, and salt. Serve with Norwegian flat bread or water crackers as an appetizer.

PER RECIPE: 810 Cal., 11 g. Protein, 73 g. Fat (16 sat., 18 poly.)

SAUCES and SALAD DRESSINGS

CREAM SAUCE OR WHITE SAUCE

- 1 tablespoon oil
- 2 tablespoons flour
- 1 teaspoon salt
- 1 cup skim milk

Measure into a saucepan the oil, flour, and salt. Mix well, add skim milk, cook over moderately hot fire, stirring constantly, until thick and just boiling.

PER RECIPE: 260 Cal., 10 g. Protein, 14 g. Fat (2 sat., 8 poly.)

BÉCHAMEL SAUCE

This basic sauce as made in France involves butter, cream, and egg yolks. However, many American cookbooks give recipes similar to the following:

- 1 tablespoon oil
- 2 tablespoons flour
- 1 teaspoon Ac'cent or MSG
- ½ cup Meat Stock
- ½ cup skim milk

Measure into a saucepan the oil, flour, and Ac'cent or MSG. Blend well and add Meat Stock and skim milk. Cook over moderately hot flame, stirring constantly, until thick and just boiling.

PER RECIPE: 220 Cal., 6 g. Protein, 14 g. Fat (2 sat., 8 poly.)

CHEESE SAUCE FOR VEGETABLES

- Cream Sauce
- ¼ cup grated cheese
- ½ teaspoon dry mustard

Prepare Cream Sauce, add cheese and mustard, and continue to stir over heat until cheese is melted.

PER RECIPE: 380 Cal., 17 g. Protein, 23 g. Fat (7 sat., 8 poly.)

VEGETABLE SAUCE FOR SPAGHETTI

- 3 onions
- 2 stalks celery
- 2 carrots
- 1 green pepper
- 1 clove garlic
- 1 tablespoon oil
- 1 small can (6 ounces) tomato paste
- 3 cups water
- 1 teaspoon salt
- 1 teaspoon Ac'cent
- ½ teaspoon basil or red pepper to taste may be added

Chop very fine the onions, celery, carrots, green pepper, and garlic; brown in oil for 5 minutes, stirring occasionally. Add the tomato paste, water, salt, and Ac'cent. Bring these ingredients to a boil, then allow them to simmer for at least an hour uncovered, stirring occasionally. Three hours' cooking improves the sauce.

PER RECIPE: 430 Cal., 12 g. Protein, 17 g. Fat (2 sat., 9 poly.)

MEXICAN SAUCE

- 1 green pepper
- 1 clove garlic
- 1 onion
- 2 tablespoons oil
- 1 can tomato paste
- ½ cup wine vinegar
- 2 tablespoons chili powder
- ½ teaspoon Tabasco
- ½ teaspoon salt
- Pinch orégano and thyme

Chop green pepper, garlic, and onion into very small bits. Cook in oil until tender. Add tomato paste, wine vinegar, chili powder, Tabasco, salt, and pinch of orégano and thyme. Simmer for ½ hour or longer. Use as spread for boiled corn on the cob.

PER RECIPE: 380 Cal., 7 g. Protein, 30 g. Fat (4 sat., 17 poly.)

RED WINE AND MUSHROOM SAUCE FOR FILET MIGNON

- 6 green onions
- ½ pound fresh mushrooms
- 2 cups red wine

Cut onions into small pieces. Clean the mushrooms and slice lengthwise.

Oil a heavy skillet lightly and heat over high flame. Put in cut-

up onions, cooking about 1 minute, stirring to prevent burning. Add mushrooms and wine. Continue cooking over high heat until wine is reduced to about ½ cup (¼ original volume).

This sauce may be prepared ahead of time, and be reheated just before being served.

PER RECIPE: 100 Cal., 6 g. Protein, 1 g. Fat (trace sat., trace poly.)

WHITE WINE SAUCE FOR SALMON

- 3 small green onions
- Leaves of 1 stalk of celery
- 4 peppercorns
- ½ teaspoon salt
- 2 tablespoons vinegar
- 1 tablespoon tarragon
- ½ cup dry white wine
- ½ cup water
- 4 sprigs parsley
- 2 teaspoons flour
- 2 tablespoons water

Chop onions, bulbs and tops. Boil gently with the celery leaves, peppercorns, salt, vinegar, tarragon, wine, and water until the volume has been reduced by one quarter. Strain into another saucepan.

Cut 4 sprigs of parsley into small bits with scissors. Blend flour with 2 tablespoons water. Add the parsley and the flour mixture to the sauce, stir, and cook until boiling.

PER RECIPE: 18 Cal., 0 g. Protein, 0 g. Fat

BASIC PUDDING SAUCE

- ⅔ cup brown sugar
- ⅓ cup white sugar
- 1 tablespoon cornstarch
- Pinch salt
- ¾ cup cold water
- 1 teaspoon vanilla, rum, or other flavoring

Mix thoroughly brown sugar, white sugar, cornstarch, and pinch of salt. Add the cold water, cook over medium heat, stirring constantly, until thick. Flavor with vanilla or other flavoring and serve hot.

PER RECIPE: 860 Cal., 0 g. Protein, 0 g. Fat

HONEY SAUCE

½ cup honey
¼ cup water
½ teaspoon vanilla

Heat honey, water, and vanilla in the top of a double boiler and serve hot with pudding.

Vary the sauce, if you wish, by substituting ¼ cup of orange juice for the water, and ½ teaspoon grated orange rind for the vanilla.

PER RECIPE: 500 Cal., 1 g. Protein, 0 g. Fat

FOAMY SAUCE FOR STEAMED GRAHAM PUDDING

½ cup sugar
½ cup confectioners' sugar
3 tablespoons oil
3 tablespoons water
¼ teaspoon salt
1 egg yolk
1 or 2 egg whites
½ teaspoon vanilla

In top of double boiler mix sugar, confectioners' sugar, oil, water, and salt, and stir until sugar crystals are dissolved. Add egg yolk, mix well, and cook over boiling water until sauce is thick and smooth (5 to 10 minutes). Remove from heat, fold in beaten whites of 1 or 2 eggs, add vanilla, and serve.

PER RECIPE: 1100 Cal., 9 g. Protein, 48 g. Fat (8 sat., 25 poly.)

SAUCE FOR ANGEL-FOOD CAKE

½ cup raspberry jam or other preserves
½ cup fresh orange juice

Simply stir the two ingredients together until well blended.

PER RECIPE: 490 Cal., 2 g. Protein, 1 g. Fat (trace sat., trace poly.)

CUSTARD SAUCE

1⅓ cups skim milk
2 egg yolks
⅛ teaspoon salt
¼ cup sugar
½ teaspoon vanilla

Scald skim milk in the top of a double boiler. In a small bowl beat egg yolks slightly with a fork, stir in salt and sugar, then add scalded milk slowly, stirring constantly. Return to double boiler, cook, and stir until mixture coats the spoon (2 to 3 minutes). Add vanilla, strain, and chill.

PER RECIPE: 430 Cal., 17 g. Protein, 11 g. Fat (4 sat., 1 poly.)

FRENCH DRESSING (*to serve 6*)

¼ cup oil
2 tablespoons vinegar
1 teaspoon salt
Seasoning (see below)

This is sufficient for salad to serve generously four salad enthusiasts or six ordinary adults. The dressing may be made in any multiple of these amounts and stored in glass shaker or jar, tightly covered.

OIL: Olive oil, Mazola, or Wesson oil may be used singly or combined. A very satisfactory combination is 3 parts of Mazola or Wesson with 1 part olive oil.

VINEGAR: Wine vinegar, cider vinegar, tarragon vinegar, or a combination of vinegar and lemon juice may be used.

SEASONING: A dressing of only oil, vinegar, and salt may be used, or any of the following seasonings may be added:
⅛ teaspoon black pepper or paprika or dry mustard
¼ teaspoon basil, tarragon, or other salad herbs
A pinch of curry powder
A few grains of red pepper or cayenne, or a dash of Tabasco

COMMENT: Any mention about how to make French dressing is sure to start an argument among gourmets, the only point of agreement being that catsup or other tomato seasoning should *never* be added. Some purists insist that anything besides oil, vinegar, and salt is desecration, but the majority will accept one or more (but not all!) of the seasonings listed above. We think ordinary folk will like the variation afforded by using, from time to time, a little pepper and mustard in one lot, salad herbs in another, and the piquancy of cayenne or curry in a third. The best garlic dressing, we think, has no other additions except, perhaps, pepper, and you may store a piece or two of garlic in the dressing (remove before serving!) but we prefer the garlic rubbed into the bowl just before the salad is mixed in it.

PER RECIPE: 500 Cal., 0 g. Protein, 56 g. Fat (8 sat., 32 poly.)

COOKED OIL DRESSING (*makes 1 cup*)

- 1½ teaspoons dry mustard
- 1 teaspoon salt
- Pinch red pepper
- 2 teaspoons powdered sugar
- 2 eggs
- 2 tablespoons oil
- ⅓ cup vinegar
- Water

Mix together mustard, salt, red pepper, and powdered sugar in top of double boiler. Beat eggs slightly, add oil, and pour onto dry ingredients slowly, stirring until thoroughly mixed. Measure ⅓ cup vinegar, add water to ½ cup mark, then add to mixture. Cook over boiling water, stirring constantly, until mixture thickens.

Dilute with milk before serving if desired.

PER RECIPE: 430 Cal., 12 g. Protein, 39 g. Fat (8 sat., 17 poly.)

BOILED SALAD DRESSING (*makes 1½ cups*)

(For fruit salad, cabbage salad, sandwiches)

- 3 tablespoons flour
- 2 tablespoons sugar
- ½ teaspoon dry mustard
- 1 teaspoon salt
- ¾ cup vinegar
- ¼ cup water
- 2 eggs

In saucepan mix flour, sugar, mustard, and salt. Add vinegar and water, and cook over medium heat, stirring constantly until thick. Stir in 2 well-beaten eggs. Cool and store in refrigerator. The dressing may be thinned with fruit juice for fruit salad, or with French dressing for cabbage salad. The usual serving is 1 to 2 tablespoons.

PER RECIPE: 330 Cal., 14 g. Protein, 11 g. Fat (4 sat., 1 poly.)

LEMON SALAD DRESSING FOR FRUIT SALADS (*makes ⅔ cup*)

- Juice of one lemon
- 1 teaspoon salt
- ¾ cup sugar moistened with 2 tablespoons warm water

Beat hard and chill.

PER RECIPE: 600 Cal., 5 g. Protein, 0 g. Fat

TOMATO JUICE SALAD DRESSING

- 1 tablespoon flour
- 1 cup tomato juice
- 1 tablespoon tarragon
- 2 tablespoons vinegar
- 1 teaspoon salt
- 1 clove garlic

Blend flour with tomato juice, add tarragon, vinegar, salt, and clove of garlic split in half. Cook and stir until just boiling. Remove the pieces of garlic. Chill. Chopped fresh parsley may be added just before serving.

This salad dressing is suggested for reducing diets where the added calories of other types of salad dressing would deprive the dieter of some other more satisfying food of equivalent calorie count.

PER RECIPE: 80 Cal., 3 g. Protein, 1 g. Fat (trace sat., trace poly.)

MAYONNAISES AND DERIVATIVES

Mayonnaise in *small* quantity is allowable in our diets. With our formula of three parts corn or cottonseed oil and one part olive oil, the result will probably lower your blood cholesterol, but that is not our only concern. Remember that one cup of mayonnaise equals 1800 calories, so a heaping tablespoonful will be close to 100 calories, all fat. Since you will restrict the quantity, you should have more than the usual interest in the quality, hence the recipes below.

PLAIN MAYONNAISE

- 2 egg yolks
- ¼ teaspoon salt
- ¾ cup corn or cottonseed oil
- ¼ cup olive oil
- 1 tablespoon vinegar
  or
  lemon juice

Place yolks and salt in mixer bowl, start mixer, and add oil a drop or two at a time until thickening starts, then oil can be added more rapidly. Add the vinegar or lemon juice when nearly finished.

PER RECIPE: 2070 Cal., 6 g. Protein, 231 g. Fat (36 sat., 101 poly.)

RED MAYONNAISE

Crush up the lobster coral and mix with plain mayonnaise to make a red mayonnaise for serving with lobster. For other purposes a good red mayonnaise can be made by mixing 1 tablespoon of powdered pimento in 1 cup of plain mayonnaise.

HOLIDAY MAYONNAISE

- 2 ounces canned mushrooms
- 1 small shallot
- 2 hard-cooked eggs
- 1 cup plain mayonnaise
- 1 tablespoon tarragon vinegar

Finely shred or chop mushrooms, shallot, and the egg whites, and sieve the 2 yolks. Mix with mayonnaise and tarragon vinegar.

PER RECIPE: 1820 Cal., 17 g. Protein, 195 g. Fat (33 sat., 81 poly.)

GREEN MAYONNAISE

In a minimum of salted water boil for 7 minutes a good loose handful (1 to 2 ounces) of parsley and water cress (and chervil if available). Drain, pulp through a fine sieve, and stir into 1 cup plain mayonnaise.

PIQUANT MAYONNAISE

To 1 cup plain or green or red (not lobster coral) mayonnaise add 1 teaspoon dry mustard powder and 2 dashes Tabasco sauce, or 1 tablespoon prepared horse-radish, and mix well.

SOUPS

MEAT STOCK FOR SOUP

Meat stock may be prepared at home, using soup bones, scraps of meat, water in which vegetables have been cooked, and other ingredients of your choice for added flavor. Recipes for meat stock will be found in any general cook book. Be sure to chill the stock and discard the fat which congeals on top before using.

For quick and easy meat stock there are many excellent brands of meat stock base and bouillon cubes on the market.

NOODLE SOUP (*to serve 4*)

- 4 cups Meat Stock
  or
  4 cups consommé
- ½ cup (1 ounce) noodles

Bring meat stock or consommé to full boil, add noodles, and continue boiling until noodles are done (10 minutes).

PER RECIPE: 180 Cal., 13 g. Protein, 1 g. Fat (trace sat., trace poly.)

POTATO AND ONION SOUP (*to serve 4*)

- 8 onions (medium size)
- 1 tablespoon oil
- 4 potatoes (medium size)
- 1 teaspoon salt
- 1 can consommé plus 3 cups water
  or
  4 cups Meat Stock
- 4 tablespoons grated Parmesan cheese

Peel onions and slice thinly. Cook over low heat in oil in large kettle or deep well. Add peeled, thinly sliced potatoes, salt, water and consommé, or 4 cups stock. Bring to a boil, then turn to low

heat and simmer for ½ hour or longer. Serve with grated Parmesan cheese.

PER RECIPE: 960 Cal., 28 g. Protein, 16 g. Fat (2 sat., 9 poly.) without cheese
1040 Cal., 35 g. Protein, 21 g. Fat (6 sat., 10 poly.) with cheese

BEAN AND GARLIC SOUP–*SPAIN* (*to serve 4*)

- 2 cups dried beans (navy, great northern, or baby lima)
- 1½ quarts cold water
- *Optional addition:*
- 1 tablespoon olive or other oil
- 8 small cloves garlic
- 2 teaspoons salt

Put beans in deep well or large kettle, add water, allow to soak overnight. Bring to a boil, add garlic and salt; simmer for 2 hours, or until beans are very tender. One tablespoon of olive or other oil may be added before serving.

PER RECIPE: 1280 Cal., 82 g. Protein, 6 g. Fat (1 sat., 3 poly.) without oil
1410 Cal., 82 g. Protein, 20 g. Fat (3 sat., 11 poly.) with oil

VEGETABLE SOUP (*to serve 8*)

- 2 quarts Meat Stock
- 8 carrots
- 1 pound tomatoes
- or
- 1 No. 2 can tomatoes
- 4 onions
- ½ cup barley
- 1 cup peas and/or green beans
- 1 teaspoon Ac'cent
- 1 pound spinach or other greens
- 4 tablespoons grated Parmesan cheese

Heat the Meat Stock. Peel carrots and slice thinly; peel and quarter tomatoes (or use 1 No. 2 can); peel and slice onions. When soup is boiling add these vegetables with barley and peas (and/or green beans), Ac'cent, and additional salt to taste. Cook slowly in open kettle until vegetables are tender. With scissors

cut up washed spinach and add to soup for last 3 minutes of cooking. Serve with grated Parmesan cheese.

PER RECIPE: 1100 Cal., 62 g. Protein, 8 g. Fat (2 sat., 4 poly.) without cheese
1180 Cal., 69 g. Protein, 13 g. Fat (5 sat., 5 poly.) with cheese

ASPARAGUS SOUP (*to serve 6*)

- 4 bunches (2 pounds) fresh green asparagus
- 1 slice of onion
- 4 cups Meat Stock
- 4 tablespoons flour
- 1 teaspoon salt
- ½ cup water
- 2 cups skim milk
- Paprika

Wash asparagus thoroughly; cut into small pieces, setting tips aside. Dice the slice of onion.

Cook asparagus stalks and onion in Meat Stock until tender. Strain and rub through a sieve. Blend flour and salt with water until smooth (most easily done by shaking in small tightly covered jar). Add to soup, continue to cook and stir until boiling; add milk and asparagus tips, heat until thoroughly hot. Serve with dash of paprika on top.

PER RECIPE: 490 Cal., 50 g. Protein, 3 g. Fat (trace sat., 1 poly.)

ZUCCHINI SOUP (*to serve 4*)

- 1 pound small zucchini
- 2 cups water
- 2 cups beef stock or consommé
- 2 tablespoons soy sauce
- ⅛ teaspoon black pepper
- 4 tablespoons grated Parmesan cheese

Slice unpeeled zucchini into thin rounds. Bring water to boil, add stock or consommé, soy sauce, and black pepper. While boiling, add zucchini and cook for 5 minutes. Serve sprinkled with Parmesan cheese.

PER RECIPE: 90 Cal., 7 g. Protein, 1 g. Fat (trace sat., trace poly.) without cheese
170 Cal., 14 g. Protein, 6 g. Fat (3 sat., 1 poly.) with cheese

SIMPLE POTATO SOUP (*to serve 4*)

1 pound potatoes
1½ tablespoons flour
2 cups skim milk
Optional additions:
1 tablespoon oil
1 cup consommé or Meat Stock
3 cups water
Salt to taste
1 cup dry white wine, replacing 1 cup water

Steam potatoes in their skins or boil in a little water, saving any that remains. Peel and mash the potatoes, work in flour (and 1 tablespoon oil, if used); then ½ cup of the skim milk (and the cooking water, if any). Add the rest of the skim milk, the consommé or Meat Stock, and 3 cups of water (or 1 cup of dry white wine and 2 cups of water). Boil gently for ½ hour. Pass through a sieve, add salt to taste, reheat, and serve with croutons fried in oil.

PER RECIPE: 550 Cal., 28 g. Protein, 1 g. Fat (trace sat., trace poly.) without oil
670 Cal., 28 g. Protein, 15 g. Fat (2 sat., 8 poly.) with oil

EASY ONION SOUP (*to serve 4*)

12 large onions
1 tablespoon oil
1 can (11 ounces) consommé
4 cups water
½ teaspoon salt
4 tablespoons grated Parmesan cheese

Peel and slice onions; cook slowly in oil in deep kettle until golden. Add consommé, water, and salt to taste. Simmer ½ hour or longer. Serve with grated Parmesan cheese to sprinkle on top. One cup white wine may be substituted for 1 cup water as an elegant version.

PER RECIPE: 740 Cal., 24 g. Protein, 14 g. Fat (2 sat., 8 poly.) without cheese
820 Cal., 31 g. Protein, 20 g. Fat (5 sat., 9 poly.) with cheese

CHINESE CABBAGE SOUP (*to serve 6*)

1 stalk Chinese cabbage
or
celery cabbage
½ green pepper
2 ounces lean pork
½ teaspoon oil
6 cups water
2 teaspoons salt
1 teaspoon cornstarch
2 tablespoons soy sauce

Slice thinly the Chinese cabbage or celery cabbage, green pepper, and lean pork. Brush the bottom of a kettle with oil, sauté in it for 2 minutes the pepper and pork. Add to the kettle 6 cups of boiling water, salt, and cabbage. Cover the kettle and simmer for 25 minutes. Combine cornstarch with soy sauce, add to kettle, stir until well blended.

PER RECIPE: 240 Cal., 22 g. Protein, 9 g. Fat (2 sat., 2 poly.)

PORK AND WATER CRESS SOUP (*to serve 4*)

2 ounces lean pork
1 slice onion
1 stalk celery
1 teaspoon salt
2 chicken bouillon cubes
4 cups water
¼ pound water cress

Remove any visible fat from pork and cut meat into tiny pieces. Dice onion and celery. Put pork, onion, celery, salt, chicken bouillon cubes, and water in a 2-quart kettle. Bring to a boil, stirring until bouillon cubes are dissolved, cover, and allow to simmer for 20 minutes.

Wash water cress, add it to the soup, bring to a boil, and serve immediately.

PER RECIPE: 150 Cal., 21 g. Protein, 6 g. Fat (2 sat., 1 poly.)

TOMATO MADRILÈNE (*to serve 4*)

2 teaspoons gelatin
2 cups tomato juice
Optional addition:
2 tablespoons dry sherry
1 can consommé

Soak gelatin in ½ cup of cold tomato juice. Heat (do not boil) remaining 1½ cups of tomato juice, dissolve gelatin in it, add con-

sommé and 2 tablespoons of dry sherry, if used. Pour into a covered container and chill in the refrigerator for at least 4 hours before serving.

PER RECIPE: 150 Cal., 14 g. Protein, 1 g. Fat (trace sat., trace poly.) without sherry
190 Cal., 14 g. Protein, 1 g. Fat (trace sat., trace poly.) with sherry

GAZPACHO ANDALUZ—*SPANISH COLD SOUP* (*to serve 6*)

Many versions of this refreshing summer soup were served to us in Spain. One of our hostesses, Señora Francisco Vivanco, wrote down the following recipe:

- 3 slices white bread
- ½ cup water
- 4 large tomatoes
- 1 onion
- 2 large cucumbers
- 2 green peppers
- ½ clove garlic
- ½ teaspoon salt
- 1 teaspoon vinegar
- 1 tablespoon olive oil
- 1 cup crushed ice

Soak bread in the water. Peel and cut up tomatoes, onion, and cucumbers. Seed and cut up green peppers. Add cut-up vegetables to soaked bread with chopped garlic, salt, and vinegar. Purée by forcing through a sieve or using a Waring Blendor. (In Spain a conical collander, called a *chino*, is used with a wooden paddle.) Add olive oil to purée and chill thoroughly. Just before serving add crushed ice.

If desired, reserve 2 tablespoons of each of the chopped vegetables, chop very fine, and sprinkle on top of soup just before serving.

PER RECIPE: 660 Cal., 22 g. Protein, 20 g. Fat (2 sat., 3 poly.)

GAZPACHO NO. 2 (*to serve 4*)

- 1 green pepper
- 2 tomatoes
- 1 medium-sized cucumber
- ½ cup (diced) other fresh garden vegetables (celery, carrot, etc.)
- 4 green onions, bulbs and tops
- 1 clove garlic
- 4 sprigs parsley
- ½ teaspoon salt
- ¼ teaspoon white pepper
- 2 teaspoons lemon juice
- 2 cups consommé
- 1 tablespoon oil blend (1 part olive, 2 parts corn or cottonseed)
- 1 cup crushed ice

Seed green pepper and tomatoes. Peel cucumber. Dice enough celery, carrot, or other fresh vegetable to yield ½ cup. Combine these ingredients in a Waring Blendor with onions, garlic, parsley, salt, white pepper, and lemon juice, or force the ingredients through a fine collander. Stir the puréed vegetables into consommé, add oil blend. Chill thoroughly. Just before serving add crushed ice.

PER RECIPE: 280 Cal., 11 g. Protein, 15 g. Fat (1 sat., 3 poly.)

CLAM CHOWDER (*to serve 12*)

From Virginia Andrus McGuire, Yonkers, New York

- 1 ounce salt pork
- 3 medium onions
- 3 large carrots
- 3 quarts water
- 1 can tomatoes
- 1 dozen (or more) large clams

Optional additions:

- 1 can corn
- 2 potatoes

Brown salt pork in skillet; remove pork. In pork fat cook onions, finely chopped, until golden. Transfer to large kettle.

Chop carrots finely (and potatoes, if used) and add to kettle with water and tomatoes. Simmer until vegetables are done.

Chop clams by hand, treasuring all juice. Add clams to soup and cook 20 minutes longer. Season with salt and pepper to taste,

and add clam juice (and canned corn, if used), cook only until thoroughly hot, and serve.

PER RECIPE: 610 Cal., 40 g. Protein, 19 g. Fat (6 sat., 4 poly.) without corn and potatoes
1020 Cal., 51 g. Protein, 21 g. Fat (7 sat., 5 poly.) with corn and potatoes

CUCUMBER AND YOGURT SOUP (*to serve 6*)

Adapted from *The Kitchen Garden Book* by S. Barr and S. Standard, Viking Press, 1956

- 5 cups yogurt
- 2 cucumbers
- 2 tomatoes
- 6 green onions
- 2 green peppers
- 1 clove garlic
- 3 tablespoons oil
- ½ teaspoon salt

Peel and cube the cucumbers. Chop coarsely tomatoes, onions, and seeded green peppers. Place these in a refrigerator dish rubbed with garlic, or add 1 clove garlic put through garlic press. Add oil to chopped vegetables, cover dish, and allow to stand several hours in refrigerator.

Serve the yogurt in 6 chilled soup plates; salt the vegetables and sprinkle them over yogurt. Serve very cold.

PER RECIPE: 1120 Cal., 48 g. Protein, 64 g. Fat (16 sat., 26 poly.)

BEANS and OTHER LEGUMES

KIDNEY BEAN PATTIES (*to serve 4*)

- 1 cup dried red kidney beans
- 1 quart water
- 2 tablespoons oil
- ½ cup chopped chives (or shallots, parsley, or combination)
- 1 lemon

Soak beans overnight in water. Cook over low heat until very tender. Drain off the bean stock and reserve.

Heat oil in a skillet, add chives, shallots, or parsley, or a mixture of all three; then add beans and cook, mashing with a fork. When beans are all mashed, add stock and continue cooking over a very low flame, stirring occasionally, until water has almost all evaporated. Form into patties and serve with a slice of lemon.

PER RECIPE: 960 Cal., 41 g. Protein, 31 g. Fat (4 sat., 18 poly.)

BAKED BEANS (*to serve 6–8*)

- 3 cups dried beans (pea beans, great northern beans, or navy beans)
- ¼ pound lean salt pork
- 1 small onion
- 1 tablespoon salt
- 3 tablespoons sugar
- ½ teaspoon dry mustard
- ⅓ cup molasses

Pick over beans, cover with cold water, and soak overnight. Next morning heat slowly (keep below boiling point) and simmer until the skins of a few beans tested on a spoon by blowing on them will burst and curl back.

Meantime, pour boiling water over salt pork and allow to stand for 10 minutes. Drain and cut pork into small pieces, discarding rind. Put salt pork and thinly sliced onion in large bean pot or casserole with cover. Drain beans, reserving liquid, and add to pot. Dissolve salt, sugar, dry mustard, and molasses in 1 cup of hot bean liquor and pour into pot, adding more bean liquor or boiling water until beans are just covered. Cover pot and bake

beans in slow oven (250 degrees) for 6 to 8 hours, adding boiling water as necessary.

PER RECIPE: 2700 Cal., 142 g. Protein, 38 g. Fat (12 sat., 9 poly.)

CURRIED LENTILS ON RICE (*to serve 4*)

- 1 cup lentils
- 2 cups stock or bouillon
- ½ teaspoon salt
- 1 onion
- 1 teaspoon curry powder
- 1½ cups cooked rice

Soak lentils in cold water overnight, drain, and cook slowly in stock, with salt, sliced onion, and curry powder. Cook 1 hour or longer until lentils are soft and mixture is like thick soup. Serve on hot rice.

PER RECIPE: 1750 Cal., 67 g. Protein, 4 g. Fat (1 sat., 2 poly.)

LIMA BEANS AND DRIED BEEF (*to serve 8*)

- 1 pound dried lima beans
- 4 carrots
- 1 onion
- 1 tablespoon oil
- 1 package (4 ounces) dried beef
- 2 tablespoons flour
- 1 teaspoon salt

Cover beans with cold water and allow to soak overnight. Bring slowly to a boil and simmer until the skins will curl back when lifted out in a spoon and blown upon (about ½ hour). Drain, reserving liquor, and put beans in casserole.

Slice carrots and onion, and cook in oil until onion is golden. Tear dried beef into small pieces and add to carrot-onion mixture and cook 2 minutes longer. Add flour and salt, blend into mixture, then add 1 cup reserved liquor and continue to cook, stirring, until thick. Pour this over the beans and add enough of the bean liquor to just cover beans. Cover casserole and bake in slow oven (250 degrees) for 2 hours or longer, adding more liquid as necessary.

PER RECIPE: 2060 Cal., 139 g. Protein, 28 g. Fat (7 sat., 13 poly.)

KIDNEY BEAN SALAD (*to serve 4*)

- 1 small onion
- 4 stalks celery
- 2 cups boiled kidney beans
  or
  1 No. 2 can kidney beans
- ¼ cup India relish
- ¼ cup Boiled Dressing
- 1 teaspoon salt
- ⅛ teaspoon pepper

Cut onion and celery in small pieces. Place in bowl with cooked kidney beans. (If canned beans are used, pour hot water over them to remove sauce, then cool.) Mix India relish with Boiled Dressing, add salt and pepper, and mix with beans. Chill thoroughly, and serve on lettuce.

PER RECIPE: 600 Cal., 34 g. Protein, 5 g. Fat (1 sat., 1 poly.)

HAITI PLATE NATIONAL (*to serve 8–10*)

Adapted from *The World's Favorite Recipes from the United Nations*, Harper and Brothers, 1951

- 1 cup dried kidney (or pinto) beans
- 3 cups water
- 1½ teaspoons salt
- 1 onion
- 1 clove garlic
- 3 sprigs parsley
- 2 tablespoons oil
- ½ teaspoon pepper
- ¼ teaspoon ground cloves
- 1 cup raw rice

Pick over and wash the beans, put in kettle with water, boil 5 minutes, remove from heat, add salt, and allow to soak for 1 hour.

Meanwhile chop onion, garlic, and parsley, sauté in 1 tablespoon of the oil; add pepper and cloves. Remove to casserole.

Drain the beans, reserving liquid. Add the remaining tablespoon of oil to that in skillet and sauté beans for 5 minutes over medium heat. Add beans to casserole. Measure bean water and add enough boiling water to make 5½ cups. Pour over beans, cover casserole, and bake in 250-degree oven for 2 hours or until beans begin to soften. Stir in raw rice and bake 1 hour longer, adding water if needed.

PER RECIPE: 1620 Cal., 57 g. Protein, 32 g. Fat (5 sat., 18 poly.)

CHILI–TEEN-AGE SPECIAL (*to serve 6*)

From Carrie Keys, Lake Owasso, Minnesota

- 4 medium-sized onions
- ½ pound ground beef
- 2 teaspoons salt
- ½ teaspoon pepper, or to taste
- 1 tablespoon chili powder, or to taste
- 2 17-ounce cans kidney beans
- 1 28-ounce can tomatoes

Optional addition:

- 4 stalks celery

Peel and slice onions. Pre-heat a 12-inch skillet. When it is hot, put in the onions, ground beef, salt, pepper, and chili powder; stir and cook for 5 minutes over high heat, add kidney beans and tomatoes (and chopped-up celery, if used); turn heat low and simmer for ½ hour or longer, stirring occasionally. Serve in bowls.

PER RECIPE: 1940 Cal., 117 g. Protein, 31 g. Fat (10 sat., 4 poly.)

GARBANZOS (*to serve 4*)

- 1 cup dry garbanzos (chick peas)
  or
- 2 cans garbanzos
- 2 green peppers
- 2 onions
- 2 tablespoons olive oil
- ½ cup tomato purée

Cover garbanzos with water and simmer until tender.

Seed the green peppers, and chop them and onions into small pieces; cook briefly in olive oil, add tomato purée and cooked, drained garbanzos; simmer for about ½ hour.

PER RECIPE: 1230 Cal., 53 g. Protein, 40 g. Fat (6 sat., 8 poly.)

VEGETABLES and SALADS

ASPARAGUS "SANDWICH" (*to serve 6*)

- 2 pounds fresh asparagus
- 1 teaspoon salt
- 1 loaf Italian Bread
- 1 tablespoon olive oil
- 1 tablespoon lemon juice
- ½ clove garlic
- 2 tablespoons grated Parmesan cheese

Wash asparagus and cut into 2-inch lengths. Cook in minimum amount of water with salt until tender (5 to 10 minutes). Split the loaf of Italian Bread lengthwise, moisten crust with water. Combine olive oil, lemon juice, and garlic (minced or put through garlic press) with drained asparagus, arrange on split halves of bread, sprinkle cheese on top, and heat in 350-degree oven until thoroughly hot (about 10 minutes).

PER RECIPE: 1720 Cal., 55 g. Protein, 20 g. Fat (4 sat., 4 poly.)

SAUTÉED BANANAS (*to serve 4*)

- 6 large ripe bananas
- 2 tablespoons oil
- 2 tablespoons lemon juice
- Pinch salt

Peel and halve bananas lengthwise, brown briefly on both sides in oil, reduce heat, sprinkle with lemon juice and pinch of salt, and simmer until soft and translucent. (An excellent accompaniment for any curried dish.)

PER RECIPE: 970 Cal., 10 g. Protein, 30 g. Fat (4 sat., 17 poly.)

FRIED GREEN BEANS (*to serve 4*)

- 1 pound fresh green beans, snap beans, or string beans
- ¼ cup water
- ½ slice bacon

Remove tips and any strings from beans, wash, and simmer in water in tightly covered pan until nearly tender (8–10 minutes). Meantime, cut bacon into very small bits and cook in large skillet

until nearly crisp. Add beans with liquid to bacon, and cook 1 or 2 minutes longer, stirring occasionally.

PER RECIPE: 170 Cal., 11 g. Protein, 3 g. Fat (1 sat., trace poly.)

WAX BEANS AU JUS (*to serve 4*)

1 pound wax beans
½ cup water
1 teaspoon salt
Pinch nutmeg

Remove the ends from beans, and simmer whole in water in covered pan until just tender (12 to 20 minutes, depending on age of the beans). Remove beans to warm serving dish and turn up heat under pan, cooking uncovered until liquid is reduced to 2 or 3 tablespoons; season with salt and a pinch of nutmeg. Pour over beans and serve.

PER RECIPE: 140 Cal., 10 g. Protein, 1 g. Fat (trace sat., trace poly.)

BEANS PAPRIKA (*to serve 4*)

1 pound fresh green beans
1 teaspoon salt
1 tablespoon oil
1 tablespoon paprika
1 tablespoon capers

Cook beans, whole, in a minimum of water to which salt has been added. Just before serving remove beans to hot serving dish. Stir oil, paprika, and capers into water in which beans were cooked, bring to boiling and pour over beans.

PER RECIPE: 270 Cal., 10 g. Protein, 15 g. Fat (2 sat., 8 poly.)

GREEN BEAN CASSEROLE (*to serve 4*)

1 pound fresh green beans
1 can cream of mushroom soup
1 (2-ounce) can sliced mushrooms
¼ cup skim milk
½ teaspoon salt

Wash beans and cut into pieces. Cook briefly in minimum amount of salted water, until partially tender; transfer to casserole. Combine soup, drained mushrooms, skim milk, and salt; pour over beans and bake in 350-degree oven for 30 minutes.

PER RECIPE: 520 Cal., 18 g. Protein, 25 g. Fat (9 sat., 2 poly.)

HARVARD BEETS (*to serve 6*)

8 medium-sized beets
½ cup sugar
1 tablespoon cornstarch
1½ teaspoons salt
½ cup vinegar

Remove tops from beets, wash them, and cover with boiling water. Add salt and simmer until tender (about 1 hour). Cool the beets until they can be handled easily, peel, and slice or dice them.

In the top of a double boiler, combine sugar, cornstarch, salt, and vinegar. Cook over medium heat, stirring continuously until the mixture is clear.

Add beets and allow them to stand over hot water for 30 minutes. May be prepared in advance and reheated before serving.

PER RECIPE: 600 Cal., 5 g. Protein, 1 g. Fat (trace sat., trace poly.)

BAKED BEETS JULIENNE (*to serve 4*)

1 pound beets (8 medium-small)
1 tablespoon lemon juice
2 tablespoons sugar
½ teaspoon salt
1 tablespoon oil
⅓ cup water

Peel beets and cut into thin strips. Select a casserole (1- to 2-quart size) with a tight cover. Put in the beets with lemon juice, sugar, salt, oil, and water. Cover and bake at 400 degrees for 45 minutes, stirring every 15 minutes.

PER RECIPE: 410 Cal., 5 g. Protein, 15 g. Fat (2 sat., 8 poly.)

BROCCOLI CASSEROLE (*to serve 4*)

2 pounds fresh broccoli
or
2 (10-ounce) packages frozen broccoli
1 (5-ounce) can water chestnuts
1 can cream of celery soup
1 teaspoon salt
½ cup bread crumbs

Cut broccoli into pieces easily handled in serving. Cook in a minimum of salted water until partially tender, about 5 minutes. Cut water chestnuts into thin slices. Arrange broccoli and water

chestnuts in casserole. Dilute soup with ½ can of water, pour over broccoli, top with bread crumbs, bake in 350-degree oven for 30 minutes.

PER RECIPE: 460 Cal., 31 g. Protein, 11 g. Fat (6 sat., 1 poly.)

CARROTS IN LEMON SAUCE (*to serve 4*)

Adapted from *The Kitchen Garden Book* by S. Barr and S. Standard, Viking Press, 1956

- 1 bunch carrots (2 pounds)
- 1 teaspoon salt
- 3 tablespoons lemon juice
- 1 tablespoon cornstarch
- 1 tablespoon honey
- ¼ cup chopped parsley

Cook carrots in minimum amount of water with salt and 1 tablespoon of the lemon juice. Blend cornstarch with remaining 2 tablespoons lemon juice. When carrots are tender, add cornstarch mixture to carrots with honey and parsley; stir until thickened.

PER RECIPE: 250 Cal., 5 g. Protein, 1 g. Fat (trace sat., 1 poly.)

CARROTS WITH PARSLEY AND GREEN ONIONS (*to serve 4*)

- 2 pounds carrots
- 4 green onions
- 6 sprigs parsley
- 1 tablespoon oil

Peel or scrape carrots and cook whole in minimum amount of salted water until tender (about 20 minutes). Remove from pan to cutting board and slice quickly into thin rounds.

While carrots are cooking, slice onions in small pieces, and cut parsley in bits with kitchen scissors.

Remove any water remaining in pan in which carrots were cooked, put in oil, onion, and parsley, and return the sliced carrots to the pan. Cook only until thoroughly hot, mixing well.

COMMENT: A guest cornered our cook (M.H.K.!) after eating this dish and asked, "What *did* you do to the carrots—they were delicious. My husband never eats carrots at home but tonight he had two helpings." It is so easy, but do not overcook! This dish can be kept warm, however, for half an hour or more without serious harm.

PER RECIPE: 480 Cal., 10 g. Protein, 17 g. Fat (3 sat., 9 poly.)

CARROT RING (*to serve 4*)

- 1 cup cooked carrots
- 1 tablespoon oil
- 3 tablespoons flour
- ½ teaspoon salt
- 1½ cups skim milk
- 2 eggs
- 2 pounds fresh peas
  or
- 1 package frozen peas

Put cooked carrots through coarse food chopper. In saucepan stir together oil, flour, and salt; add skim milk and cook over medium heat, stirring constantly, until thick. Separate eggs, and beat yolks with fork; add them to white sauce and cook sauce two minutes longer. Add carrots and fold in well-beaten egg whites. Pour into large ring mold, set it in pan of hot water, and bake 45 minutes at 325 degrees. Unmold on hot platter and fill center with cooked peas.

PER RECIPE: 790 Cal., 48 g. Protein, 28 g. Fat (6 sat., 10 poly.)

CABBAGE CUSTARD (*to serve 6*)

From Carrie Chaney Keys, La Jolla, California

- 2 cups skim milk
- 1 small cabbage
- 2 eggs
- 1 cup dry bread crumbs
- 1 teaspoon salt
- ⅛ teaspoon pepper
- ⅛ teaspoon nutmeg

Scald and cool skim milk. Shred or chop cabbage (4 cups). Pack into ring mold or baking dish. Beat eggs well, combine with milk, add bread crumbs, salt, pepper, and nutmeg; pour over cabbage. Set mold in pan of water and bake in moderate oven (350 degrees) for 45 minutes.

PER RECIPE: 780 Cal., 46 g. Protein, 16 g. Fat (5 sat., 3 poly.)

CABBAGE AU GRATIN (*to serve 4*)

- 1 medium-sized cabbage
- 1 tablespoon oil
- 2 tablespoons flour
- 1 teaspoon salt
- 1 cup skim milk
- 1 tablespoon grated Parmesan cheese

Cut cabbage in 1-inch wedges, cook briefly (5 to 10 minutes) in very small quantity of water. Drain and arrange in shallow baking dish.

In a saucepan mix oil, flour, and salt. Add skim milk and cook over moderate heat, stirring until thick. Pour this over cabbage, sprinkle cheese on top, and bake in hot oven (425 degrees) for 15 minutes.

PER RECIPE: 430 Cal., 20 g. Protein, 16 g. Fat (3 sat., 9 poly.)

CABBAGE WITH HORSE-RADISH SAUCE (*to serve 4*)

- 1 medium cabbage
- ¼ cup buttermilk
- ½ teaspoon horse-radish
- ½ teaspoon mustard
- ¼ teaspoon salt

Cut cabbage in 1-inch wedges and cook in small quantity of water until just tender. Drain off water into small saucepan and boil until reduced to ¼ cup. Add to this the buttermilk, horse-radish, prepared mustard, and salt, pour over cabbage, and serve.

PER RECIPE: 240 Cal., 15 g. Protein, 2 g. Fat (trace sat., 1 poly.)

SWEET-SOUR CABBAGE (*to serve 4*)

- 1 small red cabbage
- 2 apples
- 3 tablespoons vinegar
- 1 tablespoon brown sugar
- ¼ teaspoon allspice
- ⅛ teaspoon ground cloves

Shred cabbage, peel and slice apples. Place in covered pan, using just enough water to cover the bottom, and simmer until nearly tender (about 5 minutes). Stir in vinegar, brown sugar, allspice and cloves. Cook a few minutes longer, until cabbage is tender.

PER RECIPE: 320 Cal., 7 g. Protein, 2 g. Fat (trace sat., 1 poly.)

BRAISED CELERY WITH PEAS (*to serve 6*)

- 1 onion
- 2 tablespoons oil
- 8 stalks celery
- 1 bouillon cube
- ½ cup water
- 2 (10-ounce) packages frozen peas

Chop onion and brown in oil. Cut celery in ½-inch pieces, add to onion. Dissolve bouillon cube in ½ cup hot water, pour over celery and onion, cover pan, simmer for 15 minutes. Add peas,

continue to cook until peas are done, following directions on package.

PER RECIPE: 760 Cal., 36 g. Protein, 30 g. Fat (4 sat., 17 poly.)

BAKED EGGPLANT (*to serve 6*)

Adapted from *Family Circle's Reducing Diet Guide* by Dr. Norman Jolliffe, Simon and Schuster, 1952

- 1 medium-sized eggplant
- 1 medium-sized onion
- ¼ pound fresh or 1 ounce dried mushrooms
- 2¼ cups (1 No. 2 can) solid-pack tomatoes
- 1 teaspoon salt
- 1 teaspoon sugar
- ½ teaspoon paprika
- ½ teaspoon basil
- ¼ teaspoon thyme
- ⅛ teaspoon pepper
- ⅛ teaspoon cinnamon
- Bread crumbs or grated cheese

Peel eggplant and cut into ½-inch cubes; parboil in small amount of water for 6 minutes. Drain and reserve liquid. Return liquid to pan and boil until reduced to ¼ cup.

Chop onion, slice mushrooms, and combine with tomatoes, salt, sugar, seasonings, and the reduced cooking liquid. In casserole with cover arrange tomato mixture and eggplant in layers, beginning and ending with tomato mixture. Bake in moderate oven (350 degrees) 1 hour, or until eggplant is tender. Remove cover for last 10 minutes, add bread crumbs or grated cheese, and finish baking.

PER RECIPE: 470 Cal., 14 g. Protein, 4 g. Fat (1 sat., 1 poly.)

BRAISED FENNEL OR "ANISE" (*to serve 4*)

- 2 stalks fennel
- Salt and pepper to taste
- *Optional addition:*
- 1 tablespoon Meat Stock
- 1 tablespoon oil
- 1 tablespoon lemon juice

Trim fennel (Italian "finocchio") and split in half. Wash and put in shallow earthenware casserole with whatever water clings to it. Season with salt and pepper, sprinkle with oil and lemon juice. One tablespoon Meat Stock may be added if you wish.

Cover with aluminum foil and cook in medium oven (350 degrees) until tender (about ½ hour).

PER RECIPE: 240 Cal., 2 g. Protein, 15 g. Fat (2 sat., 8 poly.)

GARDEN CASSEROLE (*to serve 4*)

From Mrs. Edith Klepetar, St. Paul, Minnesota

- 4 tomatoes
- 2 green peppers
- ½ pound green beans
- 6 green onions
- 1 small summer squash
- ¼ cup raw rice
- Salt and pepper to taste

Peel tomatoes, seed the green peppers and quarter them. Remove tips from beans. Slice onions and squash. Put all vegetables in large casserole, sprinkle raw rice over them (to gather up the succulent juices), season with salt and pepper, and bake, covered, for about 1 hour at 350 degrees.

(Let your garden, or the selection at your market, be your guide; almost any combination of fresh vegetables may be cooked this way. Choose any tender, young and colorful vegetables which catch your eye.)

PER RECIPE: 490 Cal., 19 g. Protein, 3 g. Fat (1 sat., 1 poly.)

MUSHROOMS AND WATER CHESTNUTS, CHINESE STYLE (*to serve 4*)

- 1 pound fresh mushrooms
- 1 cup water
- 1 tablespoon oil
- ½ teaspoon salt
- 1 5-ounce can water chestnuts
- 1 5-ounce can bamboo shoots
- 2 tablespoons cornstarch
- 1 tablespoon soy sauce
- ¼ cup water

Clean mushrooms, split lengthwise, and pour 1 cup of boiling water over them. Allow to stand for 5 minutes, then drain, reserving the liquid.

Heat a 10-inch heavy skillet, add oil and salt. Sauté mushrooms about 5 minutes, until lightly browned. Add reserved liquid, water chestnuts, and drained bamboo shoots, cover skillet, and cook slowly until the mushrooms are tender—about 10 minutes.

Combine cornstarch and soy sauce with ¼ cup cold water, add to mushrooms, and continue to cook, stirring constantly until the sauce thickens. Serve at once.

PER RECIPE: 530 Cal., 16 g. Protein, 16 g. Fat (2 sat., 8 poly.)

BAKED ONIONS WITH CURRY SAUCE (*to serve 4*)

- 4 large Bermuda onions
- 1 clove garlic
- 1 small green pepper
- 1 tablespoon oil
- 1 teaspoon salt
- 2 tablespoons flour
- ½ teaspoon basil
- 1 teaspoon (or more) curry powder
- 1 cup tomato juice
- ¼ cup vinegar
- 1 teaspoon Worcestershire sauce
- 1 tablespoon prepared mustard

Parboil onions for 10 minutes. Drain and place in baking dish. Pour over them the following sauce, bake in 325-degree oven ½ hour, basting occasionally, and serve with boiled rice or on toast.

Sauce:

Chop garlic and green pepper into small pieces. Brown garlic in oil in saucepan for 1 minute; stir in salt, flour, basil, and curry powder, then add tomato juice and vinegar. Cook and stir until sauce thickens. Add green pepper, Worcestershire sauce, and mustard; simmer for 5 minutes.

PER RECIPE: 450 Cal., 11 g. Protein, 16 g. Fat (3 sat., 9 poly.)

PARTY PEAS (*to serve 4*)

- 1 cup diced celery
- ¼ cup water
- 1 package (10 ounces) frozen peas
- ¼ cup tomato paste
- 1 tablespoon mayonnaise
- 1 tablespoon lemon juice
- 1 teaspoon salt

Cook celery in water in tightly covered pan for 5 minutes. Add peas, bring to boiling, and cook 5 minutes, covered. Stir in tomato paste, mayonnaise, lemon juice, and salt. Cover and simmer over low heat for 5 minutes.

PER RECIPE: 340 Cal., 19 g. Protein, 12 g. Fat (2 sat., 3 poly.)

STUFFED GREEN PEPPERS (*to serve 4*)

- 4 large green peppers
- ½ teaspoon salt
- 2 stalks celery
- 1 onion
- 2 medium-sized tomatoes
- 1 cup cooked rice
- 1 tablespoon grated cheese

Remove stem ends, seeds, and veins, from peppers, and cook for 2 or 3 minutes in small quantity of boiling salted water. Drain and place in oiled baking dish. Put ½ inch of water in bottom of dish.

Cut the celery, onion, and tomatoes into small pieces; mix with cooked rice. Fill pepper cases with the mixture, top with grated cheese, and bake 30 minutes in 350-degree oven.

Variations of this basic filling can be made according to your ingenuity and the materials at hand. Almost any cooked vegetables or meat may be chopped and added.

COMMENT: The peppers as well as the filling should be eaten for full enjoyment and nutrition. The peppers are wonderful sources of vitamin C (ascorbic acid), as are the tomatoes.

PER RECIPE: 420 Cal., 15 g. Protein, 4 g. Fat (1 sat., 1 poly.)

BRIDE'S POTATOES (*to serve 4*)

- 4 medium-sized potatoes
- ½ teaspoon salt
- 2 tablespoons skim milk

Optional addition:

- 1 tablespoon grated Cheddar cheese

Select potatoes for uniformity of size and shape, scrub well with brush and water, bake at 400 degrees for 1 hour. Slice off tops, scoop out potato and mash it, adding salt and milk. Return mashed potato to the shells, sprinkle cheese over the top, if desired. Return to oven for 10 minutes to reheat.

COMMENT: Remember that the shell is eminently edible. The bride's efforts are wasted if you eat only the mashed-potato filling.

PER RECIPE: 410 Cal., 11 g. Protein, trace Fat without cheese
440 Cal., 13 g. Protein, 2 g. Fat (1 sat., trace poly.) with cheese

SCALLOPED POTATOES WITH ONION (*to serve 4*)

- 4 medium potatoes
- 2 onions
- 1 teaspoon salt
- 2 cups skim milk (approximately)

Oil a covered 2-quart baking dish or casserole. Peel potatoes and onions and cut into thin slices. Put these into the casserole in alternate layers, salting each layer, with potato on top and bottom. Pour skim milk over potatoes and onions until it comes just below top layer, cover dish, place on pie pan to catch any milk which may boil out, and bake for 1½ hours in 400-degree oven. The baking time may be reduced to 1 hour by heating the milk to boiling before pouring over potatoes.

PER RECIPE: 660 Cal., 30 g. Protein, 1 g. Fat (trace sat., trace poly.)

SAUTÉED GREEN TOMATOES (*to serve 4*)

- 2 large green tomatoes
- ½ teaspoon salt
- 1 tablespoon oil
- 2 tablespoons flour
- ½ cup buttermilk

Slice tomatoes but do not peel, dip in flour, season with salt, and sauté in oil until soft. Remove to warm serving dish. Mix 2 tablespoons flour with oil in pan, add buttermilk, and cook, stirring constantly, until thick; then pour over tomatoes.

PER RECIPE: 300 Cal., 9 g. Protein, 15 g. Fat (2 sat., 8 poly.)

STUFFED BAKED TOMATOES (*to serve 4*)

- 4 large tomatoes
- ¼ green pepper
- 1 small stalk celery
- 4 small green onions
- ¼ cup bread crumbs
- 1 teaspoon salt
- 1 tablespoon grated Parmesan cheese

Cut centers from tomatoes, and chop the pulp. Chop finely the green pepper, celery, and onions, and combine them with tomato pulp, bread crumbs, and salt. Stuff tomatoes with this mixture, place in baking dish, sprinkle cheese over tops, cover bottom of dish with ⅛ inch water, and bake in 375-degree oven for 15 minutes.

PER RECIPE: 250 Cal., 12 g. Protein, 4 g. Fat (1 sat., 1 poly.)

SPINACH À LA FLAMINIO (*to serve 6*)

- 2 pounds fresh spinach
- 2 tablespoons flour
- 2 tablespoons non-fat milk powder
- ¼ teaspoon salt
- ¼ cup grated Parmesan cheese

Wash spinach thoroughly. Drain well. Put through a food chopper, reserving all juices. Simmer the spinach and juices in a covered saucepan for 3 minutes.

Sift together flour, non-fat milk powder, and salt. Combine with cheese. Stir into the cooked spinach, transfer to an oiled ring mold, and bake for ten minutes in a hot oven (400 degrees).

PER RECIPE: 390 Cal., 33 g. Protein, 10 g. Fat (4 sat., 3 poly.)

SPINACH RING (EGGLESS) WITH MUSHROOMS (*to serve 4*)

- 1½ pounds spinach
- 4 tablespoons powdered skim milk
- 1 cup water
- 1 teaspoon salt
- ½ cup grated bread crumbs
- 1 pound fresh mushrooms
- 1 cup boiling water
- 1 tablespoon oil
- 2 tablespoons flour

Wash, drain, and chop raw spinach. Mix this in a bowl with powdered skim milk dissolved in 1 cup water. Add salt and bread crumbs. Bake in small casserole or 7-inch ring mold set in pan of hot water in 325-degree oven for 25 minutes.

Serve with creamed mushrooms prepared as follows:

Clean and slice mushrooms, pour over them 1 cup boiling water, and allow to stand for 10 minutes. Pour off liquid, but save it. Cook mushrooms in oil over medium heat for 15 minutes, stirring occasionally. Blend flour into oil in pan and add liquid saved from soaking mushrooms. Stir over medium heat until sauce thickens.

PER RECIPE: 630 Cal., 31 g. Protein, 20 g. Fat (3 sat., 10 poly.)

ZUCCHINI CASSEROLE (*to serve 4*)

- 1½ cups (2 ounces) noodles
- Boiling water
- 1½ pounds zucchini
- 1 green pepper
- 3 medium-sized tomatoes
- or
- 2 cups canned tomatoes
- 1 medium-sized onion
- Salt
- 1 tablespoon brown sugar
- ½ bay leaf
- Pinch ground cloves
- 2 tablespoons flour
- ¼ cup bread crumbs and/or 2 tablespoons grated Cheddar or Parmesan cheese

Add noodles to 2 quarts rapidly boiling, salted water, boil for 15 minutes. Drain and rinse with cold water.

Slice unpeeled zucchini; seed and slice green pepper. Chop tomatoes and onion. In a saucepan combine tomatoes and onion with 1 teaspoon salt, brown sugar, bay leaf, and cloves. Mix flour with ¼ cup cold water, add to saucepan; cook and stir until thickened.

Oil a 2-quart casserole. Spread the cooked noodles on the bottom, place the green pepper on top of the noodles, arrange the zucchini slices on top of the green pepper, pour the tomato mixture over all, cover the top with ¼ cup of bread crumbs and/or cheese. Cover the casserole and bake in moderate oven (350 degrees) for 1 hour.

COMMENT: Other summer squash may be substituted for the zucchini.

PER RECIPE: 870 Cal., 28 g. Protein, 7 g. Fat (2 sat., 4 poly.)

CHRISTMAS SALAD (*to serve 6*)

- 2 apples
- 2 tablespoons chopped ripe olives
- 2 tablespoons chopped pimento
- 2 tablespoons chopped maraschino cherries
- 1 teaspoon chopped minted cherries
- 1 lemon
- ¼ teaspoon salt
- 1 package lemon Jell-o

Cut apples coarsely and mix with ripe olives, pimento, maraschino cherries, and minted cherries; add juice of 1 lemon and salt. Fill individual molds with fruit mixture, and pour in enough

Jell-o to hold fruit. Chill and serve on lettuce with Boiled Salad Dressing.

PER RECIPE: 610 Cal., 14 g. Protein, 7 g. Fat (1 sat., 1 poly.)

FRENCH POTATO SALAD (*to serve 4*)

As a main dish for lunch.

- 1½ pounds small potatoes
- 2 tablespoons olive oil
- ½ cup dry white wine
- Salt and pepper
- 1 heaping tablespoon parsley
- ½ tablespoon shallots

Boil potatoes in their skins in a minimum amount of water to which is added ½ teaspoon of salt. When done but still firm, peel and cut them into slices while still warm. Pour over them olive oil and white wine. Sprinkle lightly with salt and black pepper. Chop up and add parsley and shallots, spring onions, or chives. Cover and let stand at a cool temperature (not in refrigerator) for several hours before serving. If placed in refrigerator, remove it from the cold soon enough to take the chill off before serving.

PER RECIPE: 840 Cal., 11 g. Protein, 29 g. Fat (3 sat., 2 poly.)

RUSSIAN SALAD (*to serve 4*)

- 1 head of lettuce
- 4 green onions
- ½ cucumber
- 2 ounces anchovies
- 1 cup cooked chicken
- ¼ cup French Dressing

Other raw vegetables may be added as desired—carrots, green peppers, radishes, cress, etc.

Any cooked meat may be used instead of chicken. The addition of a few slivers of cooked ham varies the flavor.

This is usually served in individual bowls.

PER RECIPE: 1100 Cal., 81 g. Protein, 82 g. Fat (15 sat., 40 poly.)

RAINBOW RING (*to serve 4*)

- 6 green onions, with tops
- 2 raw beets
- 1 cucumber
- 4 carrots
- ½ cauliflower

Chop onions and tops, heap in center of large serving plate. Peel and chop raw beets and arrange in ring around onions. Slice cucumber, unpeeled, and arrange around beets. Peel and slice carrots and arrange around cucumber. Break cauliflower into flowerets and arrange around carrots.

PER RECIPE: 240 Cal., 11 g. Protein, 2 g. Fat (trace sat., 1 poly.)

EGGS

SOUFFLÉ

The basis of a soufflé to serve 4 is 1 cup thick white sauce to which is added the yolks of 4 eggs, then the beaten whites. Grated cheese, very finely chopped raw or cooked vegetables, flaked cooked fish or sea food, or minced cooked meat may be used, and should be added to the white sauce when it is just boiling. Two favorites:

CHEESE SOUFFLÉ (*to serve 4*)

- 3 ounces Cheddar cheese
- 4 eggs
- 2 tablespoons oil
- 3 tablespoons flour
- ½ teaspoon salt
- 1 cup skim milk

Grate the cheese coarsely (about ½ cup). Separate the yolks from the whites of the eggs.

In a saucepan blend oil, flour, and salt. Add skim milk and cook over medium heat, stirring continuously until the sauce is thick and just boiling. Add the grated cheese, continuing to cook and stir until it is melted. Remove from fire and stir in egg yolks. Beat the egg whites until stiff, and fold into mixture. Turn into ungreased casserole (8 to 10 inches in diameter) and bake in moderate oven (350 degrees) for 35 minutes.

COMMENT: This easy cheese soufflé always brings compliments to the cook. It is not allowable if you have a real problem of cholesterol control, because it provides about 12 grams of saturated fat per person. But it is too good to miss as an occasional treat if you are otherwise within bounds in your diet and blood level. Call the family to the table before removing the soufflé from the oven, rush it in to them all seated and expectant and see the result!

PER RECIPE: 1060 Cal., 57 g. Protein, 78 g. Fat (26 sat., 19 poly.)

SPINACH SOUFFLÉ (*to serve 4*)

- 1½ pounds fresh spinach
- Basic soufflé

Wash spinach, cook in the water which clings to it until just tender (about 5 minutes), drain, and chop very fine or purée through strainer. Yields about 1 cup. Proceed as for Cheese Soufflé, adding puréed spinach instead of cheese to boiling white sauce. Serve with creamed mushrooms if desired.

PER RECIPE: 850 Cal., 51 g. Protein, 53 g. Fat (12 sat., 16 poly.)

MUSHROOM SOUFFLÉ

- ¾ pound fresh mushrooms
- 1 cup water
- 4 eggs
- 2 tablespoons oil
- 3 tablespoons flour
- ½ teaspoon salt

Clean mushrooms, chop finely or put through a food chopper. Cover them with 1 cup of boiling water, and allow to stand for 5 minutes. Drain and reserve liquor.

Separate yolks from whites of the eggs.

Heat oil in a saucepan, brown the mushrooms in it for 5 minutes; rub in flour and salt, add the mushroom liquor, and cook over moderate heat, stirring continuously, until the sauce is thick and just boiling. Remove from heat and stir in egg yolks. Beat egg whites until stiff and fold into the mixture. Turn into ungreased casserole (8 to 10 inches in diameter) and bake in moderate oven (350 degrees) for 35 minutes.

This recipe will serve 4 as a luncheon dish, but will serve from 6 to 8 preceding the main course at dinner.

COMMENT: Mushroom soufflé may also be prepared by adding the chopped sautéed mushrooms to boiling white sauce (see directions for Cheese Soufflé), but we think the above method produces a better flavor.

PER RECIPE: 690 Cal., 27 g. Protein, 51 g. Fat (12 sat., 16 poly.)

EGG ROLL (*to serve 4*)

Egg rolls are very thin pancakes filled, sealed, and fried in deep fat. To make pancakes:

2 eggs
½ teaspoon salt
½ cup water
½ cup sifted flour
½ teaspoon oil

Beat eggs slightly with a fork; set aside ¼ of this for the filling. To the rest add the salt and water, beat with egg beater or electric mixer until thoroughly blended. Sift flour into a bowl, add egg mixture gradually, continuing to beat until smooth.

Brush a 7-inch skillet with oil, heat until moderately hot, pour in enough batter to barely cover the bottom, cook for 1 minute on one side only, remove, place flat, and cool. Continue until all batter is used.

To make filling:

½ small carrot
1 small celery stalk
2 small green onions
½ cup cooked chicken
½ cup cooked shrimp
1 teaspoon salt
2 teaspoons oil
1 teaspoon sugar
Egg reserved from above
Oil for deep fat frying

Shred carrot and celery. Cook for 4 minutes in very little water; drain and cool.

Dice green onions, chicken, and shrimp, and add to carrot mixture with salt, oil and sugar.

Place 2 tablespoons of this mixture in the center of each pancake, seal the edges with the reserved egg. Chill in the refrigerator for ½ hour or longer.

In a heavy skillet heat 2 inches of oil to a moderate heat (360 degrees). Cook egg rolls in this until brown (about 15 minutes on each side), drain on absorbent paper for a few seconds, and serve while still hot.

PER RECIPE: 1030 Cal., 66 g. Protein, 60 g. Fat (10 sat., 23 poly.)

ASPARAGUS AND EGG ON TOAST (*to serve 4*)

Adapted from *Vogue* magazine, August 1, 1956, "Summer Succulent: The Vegetable Lunch," by Jon Stroup

1 pound fresh asparagus
2 tablespoons flour
1 teaspoon salt
Pinch nutmeg
2 hard-cooked eggs
4 slices toast

Wash, cut up, and cook asparagus in ½ cup water until tender (8–10 minutes). Drain cooking water into saucepan, add flour and salt mixed with ¼ cup cold water; cook and stir until thick. Add a pinch of nutmeg and return to asparagus.

Slice eggs thinly and arrange on toast; pour over them asparagus and sauce.

Tomatoes marinated in French Dressing and sprinkled with chopped chives and parsley make a good accompaniment.

PER RECIPE: 530 Cal., 29 g. Protein, 15 g. Fat (5 sat., 2 poly.)

CREAMED DRIED BEEF AND EGGS (*to serve 4*)

Creamed Dried Beef, using 4 ounces dried beef
4 hard-cooked eggs

Using 1 package (4 ounces) dried beef instead of 2 packages, prepare Creamed Dried Beef. Shell and quarter eggs, add to creamed beef, serve when thoroughly hot.

PER RECIPE: 1090 Cal., 84 g. Protein, 58 g. Fat (14 sat., 17 poly.)

FINNAN HADDIE WITH EGGS (*to serve 4*)

Creamed Finnan Haddie
4 hard-cooked eggs

Prepare Finnan Haddie in cream sauce. Shell and quarter eggs, add to creamed finnan haddie, and serve very hot.

PER RECIPE: 1230 Cal., 146 g. Protein, 39 g. Fat (9 sat., 10 poly.)

CURRIED EGGS (*to serve 4*)

Cream Sauce
1 teaspoon (or more to taste) curry powder
¼ cup cold water
4 hard-cooked eggs

Prepare Cream Sauce, add curry powder dissolved in water. Pour over egg halves; serve very hot.

COMMENT: A fine contrast of textures and flavors is obtained by serving curried eggs with boiled rice, chutney, crusty French bread, and a green vegetable.

PER RECIPE: 550 Cal., 33 g. Protein, 36 g. Fat (10 sat., 9 poly.)

BREADS

ITALIAN BREAD (*4 loaves*)

1 package dry yeast
or
1 yeast cake
½ cup lukewarm water
4 cups water
1 teaspoon sugar
1 tablespoon salt
12 cups unbleached white flour (3½ pounds)

Soak yeast for 5 minutes in ½ cup lukewarm water. Put in large mixing bowl with 4 cups of water, sugar, and salt. Mix until salt and sugar are dissolved, then stir in 5 cups (650 grams) of flour, beat well, and allow to rise in warm place for 1 hour. You may find it convenient to turn on your oven for 2 minutes, *turn it off*, and then put the bread bowl in the oven to rise.

Add approximately 7 cups of flour, to make a very stiff dough, stirring in as much as possible, then turning out on floured board and kneading in as much as the dough will take. Continue kneading for 2 minutes after all the flour is worked in, then return to bowl, cover and allow to rise to double in bulk (about 1 hour). Turn out on lightly floured board, knead briefly, cut into 4 equal portions and shape into long loaves. Place these on oiled cookie sheets, cover with a clean tea towel, and allow to rise for ½ hour. Bake for 10 minutes in 400-degree oven, reduce heat to 350 degrees and bake 30 minutes longer.

PER RECIPE: 5770 Cal., 168 g. Protein, 16 g. Fat (3 sat., 8 poly.)
PER LOAF: 1440 Cal., 42 g. Protein, 4 g. Fat (1 sat., 2 poly.)

OATMEAL BREAD (*6 loaves*)

Plan to bake this bread on a day when you will be at home most of the day—actual working time is only 35 minutes, but the overall time is about 6 hours. This recipe makes 6 loaves of about 1⅓ pounds each—freeze some to keep them fresh until needed.

- 2 cups rolled oats
- 1 tablespoon salt
- 1 tablespoon sugar
- 5 cups boiling water
- 1 yeast cake
  or
- 1 package dry yeast
- ¼ cup lukewarm water
- ⅓ cup brown sugar
- 3 cups lukewarm water
- 15 cups unsifted flour—white, unbleached (4⅓ pounds)

In a large bowl put rolled oats, salt, and sugar. Add the boiling water, stir well, and let stand until lukewarm. Then stir in the yeast, which has been soaked for 5 minutes in ¼ cup lukewarm water. Beat for 1 minute and allow to rise for 1 hour. (The oven preheated to about 100 degrees, and then *turned off*, is a convenient place to let the bread rise, and will retain enough heat for a good rising temperature for an hour.)

Dissolve brown sugar in 1 cup lukewarm water. Stir this into the oatmeal-yeast mixture, then add 2 cups more of lukewarm water. Stir in as much as possible of the 15 cups flour (this is approximate, as flours differ). Then turn bread out on floured board and work in the rest of the flour, continuing to knead for 5 minutes after all the flour is worked in. This does not make a very stiff dough.

Return to the bowl, cover with a clean dish towel and a plate or lid, and let rise for about 1 hour, or until doubled in bulk. Turn out again on lightly floured board, knead briefly, cut into 6 loaves, shape these and place in oiled pans. Cover again with clean towel and allow to rise for 30 minutes. Bake for 10 minutes in preheated 400-degree oven, then reduce heat to 350 degrees and bake for 45 minutes longer. Turn loaves out on rack to cool.

PER RECIPE: 7090 Cal., 224 g. Protein, 30 g. Fat (6 sat., 15 poly.)
PER LOAF: 1180 Cal., 37 g. Protein, 5 g. Fat (1 sat., 3 poly.)

WHOLE-WHEAT BREAD (*3 loaves*)

- 2 cups lukewarm water
- 1 cake compressed yeast
  or
- 1 package dry yeast
- 1 teaspoon sugar
- 1 tablespoon salt
- 2 cups white flour
- 2 cups water
- 2 tablespoons molasses
- 5 cups stone-ground whole-wheat flour

Measure 2 cups lukewarm water into a large mixing bowl, add yeast, and allow to soak for 5 minutes. Add sugar, white flour and salt and beat until thoroughly blended. Allow to rise for 1 hour at room temperature or in an oven which has been heated for 2 minutes at low temperature and then turned off.

Add 2 more cups of water, the molasses and whole-wheat flour, beat thoroughly, and again allow to rise for 1 hour. This makes a very soft dough. At the end of an hour, spoon dough into 3 oiled bread pans, allow to rise for 1 hour, bake for 10 minutes at 400 degrees, reduce the heat to 350 degrees, and continue to bake for 45 minutes longer.

PER RECIPE: 2920 Cal., 106 g. Protein, 14 g. Fat (3 sat., 7 poly.)
PER LOAF: 970 Cal., 35 g. Protein, 5 g. Fat (1 sat., 3 poly.)

BREAKFAST MUFFINS (*12 muffins*)

- 1 egg
- 2 tablespoons oil
- 2 cups flour
- 1 tablespoon baking powder
- ½ teaspoon salt
- 2 tablespoons sugar
- 3 tablespoons non-fat dry milk solids

Beat egg well, add oil and water. Sift together flour, baking powder, salt, sugar, and dry milk solids; stir quickly into liquid, spoon into oiled muffin pans, and bake 25 minutes in 400-degree oven.

PER RECIPE: 1310 Cal., 37 g. Protein, 36 g. Fat (6 sat., 17 poly.)

BUTTERMILK SCONES (*12–15 scones*)

- 2 cups flour
- 1 teaspoon salt
- 2 teaspoons baking powder
- 2 cups (about) buttermilk

Sift together the flour, salt, and baking powder. Add 2 cups

buttermilk (more or less—flours differ) to make a stiff dough. Turn out on floured board, roll out to about ¾-inch thickness, and cut with large round cookie cutter. Bake on ungreased aluminum skillet or griddle over medium heat. Cool, split in half, and toast cut side.

Serve with jam, marmalade, or honey.

PER RECIPE: 970 Cal., 40 g. Protein, 3 g. Fat (trace sat., 1 poly.)

HOT CROSS BUNS (*24 buns*)

- 4 cups flour
- 6 tablespoons non-fat dry milk solids
- 1 teaspoon salt
- 1 teaspoon cinnamon
- 1 cup currants
- ¼ cup chopped citron
- 1 cake yeast
  or
- 1 package dry yeast
- 2 cups lukewarm water
- ½ cup sugar
- 2 tablespoons oil
- Salt

Sift together flour, dry milk solids, salt and cinnamon, reserving part of it to dredge the currants and citron.

In a large mixing bowl, dissolve yeast in 2 cups lukewarm water. Add sugar and beat in sifted ingredients, then add floured currants and citron. Knead briefly on floured board; return to bowl, cover with tea towel and plate or lid, and let rise until double in bulk (about 1 hour). Again knead briefly on floured board, cut and shape into buns, and place these on oiled cookie sheet. Cover with towel and allow to rise additional ½ hour. Bake in 400-degree oven for 20 minutes. While still hot, brush tops with oil and sprinkle with salt. Allow to cool, and mark with cross of white icing.

Icing:

Add to 1 tablespoon hot water enough confectioners' sugar to achieve a spreading consistency. Flavor with ¼ teaspoon vanilla or almond extract.

PER RECIPE: 2950 Cal., 69 g. Protein, 34 g. Fat (5 sat., 18 poly.) without frosting
3440 Cal., 69 g. Protein, 34 g. Fat (5 sat., 18 poly.) with frosting

OVEN MILK TOAST (*to serve 4*)

- 4 slices bread
- 1 tablespoon oil
- ½ teaspoon salt
- ½ cup skim milk

Toast bread, brush with oil, sprinkle with salt, and place in shallow baking dish. Pour over the toast hot skim milk, and bake in hot oven (400 degrees) until top of toast is crusty (about 10 minutes).

PER RECIPE: 380 Cal., 11 g. Protein, 15 g. Fat (2 sat., 8 poly.)

BUTTERMILK PANCAKES (*to serve 4*)

- 2½ cups flour
- ½ teaspoon salt
- 1½ teaspoons soda
- *Optional additions:*
- 1 tablespoon sugar
- 1 egg
- 2 cups buttermilk
- 1 tablespoon oil

Sift together flour, salt, and soda. Beat egg well, add buttermilk and sifted ingredients. Bake on aluminum griddle (which needs no greasing). Makes 20 cakes.

PER RECIPE: 1250 Cal., 52 g. Protein, 9 g. Fat (3 sat., 1 poly.)

BAKING POWDER BISCUITS (*16 biscuits*)

- 2 cups flour
- 1 tablespoon baking powder
- 1 teaspoon salt
- 2 tablespoons non-fat dry milk solids
- ⅓ cup oil
- Water

Preheat oven to 425 degrees.

Sift together flour, baking powder, salt, and dry milk solids. Measure ⅓ cup oil and fill to 1 cup level with cold water. Pour into sifted ingredients, stir until mixture forms ball, then knead briefly in bowl. Turn out on waxed paper, pat or roll to ½-inch thickness, and cut with cookie cutter. Place on aluminum baking sheet, bake 10 to 12 minutes in hot oven (425 degrees).

PER RECIPE: 1500 Cal., 30 g. Protein, 75 g. Fat (11 sat., 42 poly.)

DUMPLINGS (*to serve 4*)

- 1 cup cake flour
- 1 tablespoon baking powder
- ½ teaspoon salt
- 1 egg
- ½ cup skim milk
- 2 chicken bouillon cubes
  or
- 2 cups chicken stock
- 3 tablespoons flour

Sift the flour, baking powder, and salt 3 times. Beat egg and skim milk together with a fork. Stir the liquid slowly into the sifted ingredients.

Prepare 2 cups of chicken bouillon (with cubes) or use 2 cups of chicken stock; thicken with flour in 10-inch skillet or saucepan. Dip a spoon into the simmering stock, then fill with dumpling mixture, and drop the batter into the stock, continuing until the dumplings are just touching. Cover pan and simmer dumplings for 2 minutes, turn and cook 2 minutes longer. Serve immediately.

PER RECIPE: 490 Cal., 22 g. Protein, 6 g. Fat (2 sat., 1 poly.)

CINNAMON TOAST (*to serve 4*)

- ⅛ cup sugar
- Pinch salt
- 1 teaspoon cinnamon
- 8 slices low-fat bread
- 1 tablespoon oil

Mix sugar with a pinch of salt and 1 teaspoon cinnamon, or to taste. Toast bread under broiler on both sides, remove from oven, brush 1 side lightly with oil, sprinkle with sugar mixture, return to broiler for 1 minute, serve at once.

PER RECIPE: 700 Cal., 21 g. Protein, 16 g. Fat (2 sat., 8 poly.)

STEAMED BROWN BREAD (*to serve 4*)

- ½ cup all-purpose flour
- ½ cup whole-wheat flour
- ½ cup corn meal
- ½ tablespoon soda
- ½ teaspoon salt
- ½ cup molasses
- ¾ cup water or skim milk

Sift together all-purpose flour, whole-wheat flour, corn meal, soda, and salt. Add molasses and water, or skim milk, and stir only until dry ingredients are moistened. Fill well-greased jelly glasses two thirds full of mixture, cover with waxed paper secured by jelly-glass lids or string, and steam for 1½ hours on a rack over boiling water in a covered kettle. Serve hot, cutting slices with string.

PER RECIPE: 1040 Cal., 20 g. Protein, 3 g. Fat (1 sat., 1 poly.) with water
1140 Cal., 26 g. Protein, 3 g. Fat (1 sat., 1 poly.) with skim milk

QUICK COFFEECAKE (*to serve 12*)

- 1½ cups sifted flour
- 2 teaspoons baking powder
- 2 tablespoons non-fat dry milk solids
- ½ teaspoon salt
- ¾ cup sugar
- ¼ cup oil
- 1 egg
- ½ cup water
- ½ cup brown sugar
- 1 teaspoon cinnamon

Sift together flour, baking powder, dry milk solids, and salt. Beat together in a bowl sugar, oil, and egg; add water, then the sifted dry ingredients. Spread batter in oiled 9-inch square pan. Mix together brown sugar and cinnamon, and sprinkle over top of cake. Bake 25 minutes in 375-degree oven.

PER RECIPE: 2220 Cal., 29 g. Protein, 63 g. Fat (10 sat., 33 poly.)

BLUEBERRY MUFFINS (*12 muffins*)

- 1 to 1½ cups blueberries
- 2 cups flour
- ½ teaspoon salt
- ¼ cup sugar
- 3 tablespoons non-fat dry milk solids
- 1 tablespoon baking powder
- 2 tablespoons oil
- 1 cup water

Dredge blueberries with ¼ cup of the flour. Sift together remaining flour, salt, sugar, dry milk solids, and baking powder. Combine oil and water; add to sifted ingredients, stirring only until flour is moistened. Stir in floured blueberries and spoon into oiled muffin tins. Bake 25 minutes in 400-degree oven.

COMMENT: Blueberry muffins are an easy treat for breakfast, lunch, or afternoon tea. You may sprinkle the tops with coarse

sugar before baking if desired; the calorie value of this small amount of sugar is negligible.

PER RECIPE: 1450 Cal., 34 g. Protein, 31 g. Fat (5 sat., 18 poly.)

BRAN MUFFINS (*about 20 muffins*)

2 cups flour
⅓ cup sugar
2 teaspoons salt
1 teaspoon baking powder
1 teaspoon soda
2 cups bran
1 egg
2 tablespoons oil
2 cups buttermilk
½ cup water

Sift together flour, sugar, salt, baking powder, and soda, then mix with bran.

Beat the egg, add to it oil, buttermilk, and water, then stir in the dry ingredients to moisten only; do not beat. Transfer immediately to oiled muffin tins, bake for 25 minutes at 400 degrees.

PER RECIPE: 1860 Cal., 61 g. Protein, 40 g. Fat (7 sat., 18 poly.)

PASTAS and OTHER CEREAL DISHES

RICE (*to serve 4*)

1½ cups rice
3 cups water
1 teaspoon salt

For rice which is not "gummy" cook it as the Chinese do. Wash rice in cool water, rubbing between the fingers to remove loose starch. Pour off the water and continue washing until the wash water is clear. If converted rice is used, no washing is necessary.

Bring to a boil in the top of a double boiler salted water. Add the washed rice and stir briefly. Then place the top of the double boiler over boiling water and keep at a slow boil for 20 minutes. The rice is ready to serve when all the water has been absorbed; no further washing is necessary.

PER RECIPE: 1040 Cal., 22 g. Protein, 1 g. Fat (trace sat., 1 poly.)

FRIED RICE (*to serve 4*)

6 green onions
or
1 small onion
1 stalk celery
½ green pepper
2 tablespoons oil
1 teaspoon salt
4 cups cold, cooked rice

Cut onions, bulbs and tops, and celery in thin slices. Seed and dice green pepper. In a preheated 12-inch skillet put oil and salt, add vegetables, and cook over moderate heat about 5 minutes, stirring occasionally. Now add cooked rice, stirring constantly until the rice is thoroughly heated.

PER RECIPE: 1100 Cal., 18 g. Protein, 29 g. Fat (4 sat., 16 poly.)

FRIED RICE WITH SHRIMP (*to serve 4*)

1 pound fresh shrimp
or
2 6-ounce cans of shrimp
1 tablespoon oil
2 eggs
1 teaspoon salt
Fried Rice

Cut shrimp into ½-inch pieces. Heat oil in heavy 12-inch skillet. Beat eggs slightly with a fork, add salt and turn into pan; fry until firm, remove from pan and cut into shreds.

Prepare recipe for Fried Rice in the same pan. Cook fresh shrimp with the vegetables. If canned shrimp is used, add it with the rice. Return shredded eggs to the pan with the rice, and stir until thoroughly hot.

PER RECIPE: 1570 Cal., 122 g. Protein, 31 g. Fat (10 sat., 18 poly.)

MONDAY RICE (*to serve 4*)
(Using leftover vegetables)

2 tablespoons chopped onion
1 clove garlic
¼ cup oil
1 cup raw rice
2 cups boiling water
2 green peppers
1 teaspoon salt
1 cup tomato purée
3 cups (or more) cooked vegetables (carrots, celery, beans, peas, etc.)

Sauté onion and garlic in oil over low heat until onion is transparent. Remove garlic. Add raw rice, cook and stir for 1 minute; add boiling water, peppers, diced, and salt. Cover pan and cook until rice is done, about 20 minutes. Stir in tomato purée and the cooked vegetables; continue to cook, stirring occasionally, until thoroughly hot.

PER RECIPE: 1370 Cal., 23 g. Protein, 58 g. Fat (8 sat., 33 poly.)

GREEN RICE (*to serve 4*)

2 cups cooked rice
¼ cup chopped parsley
2 tablespoons chopped almonds
⅛ teaspoon curry powder
½ teaspoon salt
¼ cup oil

Combine all ingredients, and heat in covered pan on top of stove or in oven until thoroughly hot.

PER RECIPE: 1010 Cal., 11 g. Protein, 66 g. Fat (9 sat., 34 poly.)

BAKED BROWN RICE (*to serve 4*)

2 medium onions
1 tablespoon oil
1 cup brown rice
Optional additions:
1 clove garlic
1 pound mushrooms
1 can consommé
1½ teaspoons salt
½ cup sherry

Chop onions and cook in oil until transparent. If garlic and mushrooms are used, brown in same pan. Add brown rice, cook, and stir 1 minute longer, and transfer to casserole with tight cover. Since the amount of liquid required for brown rice varies with the brand, follow directions on the package; include the consommé in the total liquid requirement for 1 cup of brown rice. If ½ cup of sherry is used, it should be included as part of the liquid total. Add salt to liquid, bring to boil, and pour over rice. Bake in slow oven (250 degrees) until rice is tender—about 1 hour. The liquid will be absorbed by the rice.

PER RECIPE: 1000 Cal., 24 g. Protein, 18 g. Fat (3 sat., 10 poly.)

ARROZ CON POLLO—*RICE WITH CHICKEN, SPANISH*
(*to serve 4–5*)

- 1 frying chicken (2–3 pounds)
- 2 small onions
- 1 clove garlic
- 1 Polish sausage
- 1 tablespoon oil
- 2 cups raw rice
- 4 cups water
- 1½ teaspoons salt
- ⅛ teaspoon saffron
- ½ teaspoon basil

Cut chicken into serving pieces. Slice onions, mince garlic, and cut sausage into small bits; sauté them briefly (about 5 minutes) in oil in heavy skillet. Add raw rice and cook 1 minute more, stirring continuously. Transfer to large casserole. Add to the water the salt, saffron, and basil, and bring to boiling. Pour over rice, cover casserole, and place in 350-degree oven.

In same skillet used before, brown the chicken pieces until golden (about 10 minutes). Add chicken to casserole, and continue to bake for 30 minutes longer, or until chicken and rice are tender.

(This, with a light salad, bread, and fruit, is a complete meal.)

PER RECIPE: 2660 Cal., 193 g. Protein, 107 g. Fat (34 sat., 23 poly.)

RISOTTO (*to serve 4*)

- 2 tablespoons oil
- 1 onion
- 1 cup raw rice
- ¼ pound lean ham
  or
- ¼ cup chicken giblets, cooked
  or
- ½ cup leftover cooked meat
- 2 cups hot Meat Stock or bouillon

Optional additions:

- ¼ cup mushrooms
- 2 stalks celery
- ½ cup green peas
- Pinch saffron
- 4 tablespoons grated Parmesan cheese

Wash rice. Cut up onion into small pieces. (Also cut up celery and/or mushrooms if used.) Heat Meat Stock or bouillon. Cut meat in strips.

In a heavy skillet heat the oil, add onion, and cook over moderate heat until golden, stirring occasionally. Add raw rice and cook and stir for 1 minute longer. Transfer to casserole with tight cover. Add pinch of saffron, cut-up meat, other vegetables if desired, and the hot stock. Cover and bake at 350 degrees for 45 minutes. Serve with grated Parmesan cheese to sprinkle on top.

COMMENT: Here is another Italian favorite for old and young alike. Many variations can be made. Try brown rice instead of white rice, substitute chopped green beans for the peas, and for the meat almost anything at hand will do—lean beef, veal, chicken, liver, heart, and so on.

PER RECIPE: 1360 Cal., 53 g. Protein, 40 g. Fat (8 sat., 18 poly.) using ham
1310 Cal., 29 g. Protein, 32 g. Fat (4 sat., 18 poly.) using giblets
1510 Cal., 65 g. Protein, 47 g. Fat (11 sat., 19 poly.) with optional additions

PAELLA (*to serve 8*)

Mrs. Gloria Grande's version
Madrid, Spain

- 1 frying chicken
- ½ teaspoon salt
- Juice of ½ lemon
- 1 pound shrimp (fresh, in shells)
- 3 tablespoons oil
- ½ cup chopped onion
- ½ cup chopped green pepper
- 1 tomato
- 2 cups rice
- 1 clove chopped garlic
- Pinch saffron (⅛ teaspoon)
- 1 tablespoon chopped parsley
- Salt
- 1 pound shelled peas (fresh, canned, or frozen)

Optional additions:

- Artichoke hearts
- Crab, lobster, mussels, or other sea food

Cut up chicken, cover with water, add salt and lemon juice, and simmer until tender, reserving the water in which it is cooked.

Boil shrimp 2 minutes in 2 cups of water. Save water and remove shells from shrimp.

Heat oil in heavy skillet. Add chopped onion and green pepper and cook until brown. Cut tomato in small pieces and add to mixture; add cooked chicken and continue to cook until chicken is brown. Add raw rice.

In a mortar mix garlic, saffron, and parsley with 2 tablespoons of the chicken broth. Add to mixture in skillet with salt to taste.

Add 5 cups combined fluid in which shrimp and chicken were cooked, and peas. Boil for 10 minutes. Transfer to shallow baking dish in which paella will spread out to about 2 inches in depth, and put in hot oven (400 degrees) for 10 minutes. Remove from oven, cover, and allow to stand for 5 minutes before serving.

PER RECIPE: 3640 Cal., 271 g. Protein, 86 g. Fat (29 sat., 33 poly.)

BAKED WILD RICE (*to serve 4*)

From Mrs. Harry Garland of San Francisco

- 1 cup wild rice
- 1 teaspoon salt
- 1 can consommé (10½ ounces)
- 1 cup sliced mushrooms
- ½ cup chopped onion
- 1 tablespoon oil
- ½ teaspoon nutmeg
- ½ cup dry sherry

Wash rice thoroughly. Soak it overnight in 1 cup of water. (Most of the water will be absorbed.) Add 2 cups of boiling water and salt; cook over low heat or in double boiler for 30 minutes, stirring occasionally. Add consommé and continue cooking until tender. Sauté mushrooms and onion in oil. Add to rice with nutmeg and sherry. Place in well-oiled casserole or 7-inch ring mold, set in a pan of hot water, and bake in a moderate oven (350 degrees) for 20 minutes.

PER RECIPE: 790 Cal., 31 g. Protein, 15 g. Fat (2 sat., 9 poly.)

RICE PILAFF (*to serve 8*)

- 2 cups rice
- 1 onion
- 2 large carrots
- 4 large stalks celery
- 12 sprigs parsley
- 1 tablespoon oil
- 1 teaspoon salt
- 4 cups boiling water

Wash rice in cold water, rubbing the grains together. Change the water and repeat until the wash water is clear. If converted rice is used, no washing is necessary.

Chop coarsely the onion, carrots, and celery. Cut up parsley with kitchen scissors.

Heat oil in skillet, brown onion in oil for 5 minutes; add carrots, celery, parsley, rice, and salt. Bring to a boil 4 cups of water.

Transfer rice mixture either to a 2-quart casserole or to the top of a double boiler. Add the boiling water. Bake at 350 degrees for 1 hour, or steam in the double boiler for 35 minutes.

PER RECIPE: 1600 Cal., 33 g. Protein, 16 g. Fat (2 sat., 9 poly.)

BAKED NOODLES (*to serve 4*)

- 1 cup noodles
- 2 quarts salted water
- 1 egg
- 1 cup skim milk
- 1 teaspoon salt
- 2 tablespoons grated Parmesan cheese

Boil noodles in salted water for 15 minutes. Drain, rinse, and place in oiled casserole. Mix together slightly beaten egg, skim milk, and salt and pour over noodles. Sprinkle Parmesan cheese on top. Place baking dish in shallow pan of hot water, and bake in 350-degree oven 45 minutes.

COMMENT: This recipe for baked noodles can form the basis of innumerable casserole variations if you add any odd bits of meat, fish, or vegetables.

PER RECIPE: 480 Cal., 28 g. Protein, 11 g. Fat (4 sat., 2 poly.)

LASAGNE AL FORNO–*BAKED NOODLES* (*to serve 6*)

- 1 large onion
- 1 clove garlic
- 2 tablespoons oil
- 1 teaspoon salt
- 1 can (6 ounces) tomato paste
- 1 cup Meat Stock, bouillon, or water
- 3 quarts boiling water
- 6 ounces wide noodles
- 1 pound skim milk dry cottage cheese
- ½ cup skim milk
- 4 ounces Mozzarella cheese ("Pizza cheese")
- ¼ cup grated Parmesan cheese

Chop onion and garlic, brown in 1 tablespoon of the oil, add salt, tomato paste, and Meat Stock, bouillon, or water, and simmer for half an hour. Meanwhile, bring to a boil 3 quarts salted water, add noodles and cook until tender (12–15 minutes). Drain

and rinse with cold water. Mix cottage cheese with skim milk and 1 tablespoon oil. Slice Mozzarella cheese.

Alternate in an oiled baking dish layers of noodles, Mozzarella slices, cottage cheese mixture, tomato sauce, and a sprinkling of grated Parmesan cheese until all ingredients are used, topping with grated cheese. Bake in 375-degree oven for 30 minutes.

COMMENT: Every Italian cook has several favorite recipes for lasagne and most of them are good. After experimenting a bit with variations on the general theme you will find that, in fact, it is hard to go wrong. If you can find fresh ricotta cheese, which is now available in some areas in the United States, use it instead of the cottage cheese for a more authentic lasagne.

You may add mushrooms or truffles, you may replace the tomato paste with white sauce or a can of baby food spinach or thinly sliced young zucchini or summer squash. You may experiment with your favorite herbs—orégano, thyme, rosemary—but be careful not to overdo it. Try adding a whole beaten egg to the cheese mix. And do not be surprised if your recipe for 6 is eaten by 4 persons!

PER RECIPE: 1880 Cal., 162 g. Protein, 61 g. Fat (18 sat., 20 poly.)

GNOCCHI DI PATATE—*ITALIAN POTATO DUMPLINGS* (*to serve 4*)

- 2 medium potatoes (¾ pound)
- 1½ cups flour
- ½ teaspoon salt
- 3 quarts boiling water

Cook potatoes in a small quantity of water, peel, and put through ricer. Gradually add flour, kneading until smooth. Form into long rolls about ¾ inch in diameter, cut into ¾-inch pieces, and roll these in flour. Cook for 12 minutes in rapidly boiling salted water, drain, and serve with your favorite spaghetti sauce (see Sauce recipes) and grated Parmesan cheese.

PER RECIPE: 800 Cal., 22 g. Protein, 2 g. Fat (trace sat., 1 poly.)

POLENTA (*to serve 4*)

- 1 teaspoon salt
- 3 cups boiling water
- 1 cup corn meal
- 1 cup cold water
- 4 tablespoons grated Parmesan cheese

Add salt to boiling water in top of double boiler, then stir in corn meal, which has been mixed with 1 cup cold water. Continue to stir as it cooks to prevent lumping. When thickened, place over boiling water in double boiler and cook for one hour. Turn into shallow casserole or serving dish, cover with the following sauce and Parmesan cheese.

Sauce: Shrimp Marinara

- 1 tablespoon oil
- 2 onions
- 1 clove garlic
- 1 No. 2 can tomatoes
- 1 teaspoon salt
- 1 pound cooked shrimp
- 1 teaspoon orégano

Sauté in oil the onions, sliced thin, and the garlic cut in small bits. Add tomatoes and salt, and cook over medium heat for 15 minutes; add shrimp and orégano, and cook 5 minutes longer.

PER RECIPE: 1500 Cal., 148 g. Protein, 30 g. Fat (8 sat., 15 poly.)

CANNELLONI (*to serve 8*)

Noodles:

M.H.K. was taught to make this by a friend in Naples. First the friend opened a kitchen window and removed 2 eggs from under the hens which were kept on the balcony in a cage. Then she reached her hand into the flour jar 2 or 3 times, putting a mound of flour on the marble-topped table, made a well in the center of the flour, broke the eggs into it, mixed the eggs and flour with a fork, and finally kneaded it with her hands. Then it was rolled out to paper thinness (20- x 24-inch sheet) and cut into appropriate sizes.

By experimenting, M.H.K. figured out the following quantities:

- 1½ cups flour
- 2 eggs
- 1 teaspoon salt
- ¼ cup cold water

Follow above procedure, cutting noodles in 3-inch squares.

Cook 10 minutes in rapidly boiling salted water, drain, and rinse with cold water.

Filling:

- 1 cup buttermilk
- 1 pound non-fat dry cottage cheese
- ½ teaspoon salt
- 1 egg
- ½ cup skim milk
- 2 tablespoons grated Parmesan cheese

Pour buttermilk over cottage cheese and allow to stand for 1 hour or longer. Force through a sieve, add salt and egg and beat thoroughly.

Put filling across centers of 3-inch-square noodles and roll them up; place side by side in shallow baking dish. Add skim milk to remaining filling and pour over rolls. Sprinkle with Parmesan cheese and bake for 20 minutes in hot oven (425 degrees).

COMMENT: If fresh ricotta cheese is available in your stores, use it instead of the buttermilk-cottage cheese mixture for the filling.

PER RECIPE: 1430 Cal., 141 g. Protein, 24 g. Fat (8 sat., 1 poly.)

MEATS

FEGATO ALLA VENEZIANA—*LIVER AND ONIONS, VENICE STYLE* (*to serve 4*)

- 4 large onions
- ½ teaspoon salt
- 1 tablespoon oil
- 1 pound calves' liver or baby-beef liver
- 2 tablespoons white wine (optional)

Cut onions into small pieces, add salt, and sauté in oil until golden. Cut liver into half-bite-size pieces, discarding skin and veins. Add liver to onions, cooking and stirring 2 minutes longer. White wine may be added just before serving.

PER RECIPE: 960 Cal., 92 g. Protein, 37 g. Fat (14 sat., 15 poly.)

SCALOPPINE (*to serve 4*)

- 1 pound veal steak, thinly sliced
- Salt and pepper
- ¼ cup flour
- 2 tablespoons oil
- ¼ cup water
- ¼ cup sherry or Marsala

Cut veal into serving-size pieces, and flatten as much as possible by beating with wood mallet or other flat tool. Salt and pepper veal to taste, dredge with flour, and brown in oil in heavy skillet over high heat. Reduce heat to simmer, add water and sherry, cover pan, and cook over very low heat until veal is tender (10–20 minutes). Overcooking should be avoided. Add more wine and water if liquid evaporates. Serve on hot plates with liquid from pan poured over meat.

PER RECIPE: 1100 Cal., 89 g. Protein, 69 g. Fat (22 sat., 17 poly.)

LINGUA PICCANTE–*BEEF TONGUE PIQUANT, ITALIAN* (*to serve 8*)

- 1 fresh beef tongue (3 pounds)
- 1 teaspoon salt

Sauce:

- ½ small onion
- 1 clove garlic
- 2 anchovies
- 2 sprigs parsley
- 1 tablespoon oil
- 1 tablespoon vinegar
- ½ cup tongue stock
- ½ tablespoon prepared mustard

Place tongue in sufficient boiling water to cover, add salt, and simmer until tender (about 3 hours). This can be done in the morning or the day before the tongue is to be served. Allow it to cool in the water in which it was cooked until it can be handled easily, then peel the tongue.

When the tongue is to be served, slice it and place the slices in a shallow casserole. Prepare the sauce as follows (this may also be done in advance):

Finely chop onion, garlic, anchovies, and parsley. In a small saucepan over low heat cook the onion in oil until it is tender, add the garlic, anchovies, vinegar, and ½ cup tongue stock and bring to a boil; allow to cook for 1 minute. Remove from fire, stir in mustard and parsley and pour over the tongue slices. Cover the casserole and put it in a 350-degree oven until the tongue is thoroughly hot.

PER RECIPE: 2450 Cal., 238 g. Protein, 164 g. Fat (76 sat., 11 poly.)

CREAMED DRIED BEEF (*to serve 4*)

- 2 tablespoons oil
- 2 packages (8 ounces) dried beef
- 5 tablespoons flour
- ¼ teaspoon salt
- 2 cups skim milk

Heat oil in a skillet. Break dried beef into bits, add to oil and cook for 5 minutes over moderate heat, stirring occasionally.

Work in flour and salt, add skim milk, continue to cook and stir until thick and just boiling. Serve on toast, rice, or macaroni.

PER RECIPE: 1010 Cal., 98 g. Protein, 43 g. Fat (12 sat., 17 poly.)

Creamed dried beef may also be prepared without oil as follows:

Mix well, in cup or shaker, 5 tablespoons flour, ½ cup cold water, and ¼ teaspoon salt. Heat 2 cups skim milk in saucepan, add flour-water mixture, cook and stir over high heat until boiling. Add 8 ounces dried beef torn into bits, reduce heat, simmer until beef is thoroughly hot.

PER RECIPE: 780 Cal., 98 g. Protein, 15 g. Fat (8 sat., 1 poly.)

MEAT AND VEGETABLE CURRY (*to serve 4*)

- ½ pound lamb leg roast
  or
  beef stewing meat
- 1 teaspoon salt
- 8 carrots
- 1 onion
- 1 small cauliflower
- 1 package frozen peas
  or
- 1 No. 1 can peas
- 2 tablespoons cornstarch
- 1 tablespoon curry powder, or more, to taste
- ¼ cup cold water

Remove visible fat from ½ pound lamb, or beef, cut into large bite-size pieces, place in kettle with water to cover and add salt. Cook over low heat for ½ hour. Add carrots cut lengthwise and onion, quartered, and cook ½ hour longer. Add cauliflower sections and peas, bring to a boil; thicken with cornstarch mixed with curry powder and dissolved in ¼ cup cold water, stir until thick; and simmer 10 minutes longer. Serve with boiled rice.

PER RECIPE: 1100 Cal., 56 g. Protein, 49 g. Fat (23 sat., 4 poly.) with lamb
870 cal., 50 g. Protein, 29 g. Fat (14 sat., 1 poly.) with beef

CHINESE-STYLE BEEF WITH GREEN BEANS (*to serve 4*)

Chinese dishes are quick-cooking, but time must be allowed for cutting up ingredients. This can be done well in advance.

- 1 clove garlic
- ½ small onion
- 1 pound green beans
  or
- 2 packages frozen green beans
- ½ pound beef, round, chuck, sirloin
- 1 tablespoon oil
- 1 teaspoon salt
- ½ cup beef bouillon
- 1 tablespoon cornstarch
- 1 tablespoon soy sauce
- ¼ cup cold water

Finely dice garlic and onion. Cut beans in 1-inch pieces. Cut beef into small thin slices.

If fresh beans are used, cook them in a small quantity of boiling water until nearly tender (5–10 minutes).

Preheat a heavy skillet, add oil and salt.

Add the cut-up beef, garlic, and onion and cook over high heat, stirring continuously until the meat is browned on all sides. Add the beans and bouillon, cover skillet, reduce heat, and cook for 10 minutes.

Mix together cornstarch, soy sauce, and ¼ cup cold water. Add this to meat, and continue to cook, stirring constantly, until juice thickens. Serve immediately with hot boiled rice.

PER RECIPE: 700 Cal., 52 g. Protein, 37 g. Fat (21 sat., 12 poly.)

POTTED CALVES' HEARTS (*to serve 8*)

- 3 onions
- 4 carrots
- 2 stalks celery
- 3 calves' hearts (1½ pounds)
- 9 sprigs parsley
- 2 tablespoons oil
- 1 small bay leaf
- 12 peppercorns
- 1 teaspoon salt
- 2 cups water
- 2 tablespoons flour

Slice onions, carrots and celery. Remove external fat from hearts, and cut out sinewy parts with scissors or sharp knife. Put 3 sprigs parsley and 2 onion slices into each heart and fasten openings with skewers or string.

Put oil in heavy skillet and brown hearts in it. Transfer hearts

to casserole, add celery, carrot, the rest of the onion, bay leaf, peppercorns, salt, and water. Cover and bake in 325-degree oven for 2 hours. Pour gravy into saucepan, thicken with flour mixed with ¼ cup cold water, and pour over hearts.

Hearts may also be simmered on top of stove in a Dutch oven.

COMMENT: This recipe was developed from an old Danish recipe and has been a great success in many trials with persons of provincial as well as of cosmopolitan tastes. Don't forget to serve all the juice you can spoon out of the casserole and indulge yourself, as do the French, by mopping it from the plate with bread. On one memorable occasion it was the main course served to a group of famous cardiologists, who savored it with Italian bread, Bardolino wine, and good shop talk, and acclaimed it as another reason for specializing on the heart!

PER RECIPE: 1280 Cal., 125 g. Protein, 55 g. Fat (25 sat., 19 poly.)

SHASHLIKS—*SHISH KEBABS* (*to serve 4*)

- 1 pound lamb, shoulder or leg
- 3 large tomatoes
  or
- 2 dozen tiny ones
- 1 pound mushrooms
- 2 large onions
- 1 small eggplant

Marinade 1

- 1 cup red wine
- ½ cup soy sauce
- 1 cup pineapple juice
- 1 teaspoon thyme
- 1 teaspoon rosemary
- ¼ cup Worcestershire sauce
- 1 onion, finely chopped
- ½ teaspoon pepper

Marinade 2

- 3 cloves garlic
- 1 cup sherry
- 1 cup orange juice
- 2 tablespoons vinegar
- 1 teaspoon basil
- 1 teaspoon rosemary
- ¼ cup chopped parsley
- ½ cup Worcestershire sauce
- ¼ cup honey

Cut lamb in 1½-inch cubes, cover with one of above marinades, and allow to stand 2 hours or longer (up to overnight) in refrigerator. Remove from refrigerator 1 hour before cooking.

Cut large tomatoes in eighths, clean mushrooms and remove stems, cut onions in 1-inch wedges, and peel and cube eggplant.

Arrange cubed meat and vegetables on skewers and cook in electric grill, under broiler in oven, or over outdoor fire, turning often and basting with marinade.

PER RECIPE: 1000 Cal., 122 g. Protein, 28 g. Fat (15 sat., 2 poly.)

SUKIYAKI (*to serve 4*)

Adapted to easily obtainable American ingredients

- 1 pound lean beef, round, chuck, or tenderloin, cut in paper-thin slices
- 1 pound green beans or wax beans
- 1 medium cabbage or 1 pound broccoli, spinach, Swiss chard, or beet greens
- 4 green peppers
- 1 pound mushrooms (optional)
- 8 large onions
- 8 stalks celery
- 2 cups very thin uncooked noodles or 1 can bean sprouts
- 1 tablespoon oil
- 1 bottle (5 fluid ounces) soy sauce (or use the Japanese shoyu if you can get it)
- Water
- Sugar

Cut, or have the butcher cut, beef into paper-thin slices. (This is more easily done if the meat is first frozen, but can be managed with a very sharp knife.)

Arrange the sliced beef on a large platter or tray with the vegetables cut into large bite-size pieces, keeping each vegetable somewhat separate from the other.

In a chafing dish at the table, or a large skillet over a slow fire out of doors, put 1 tablespoon oil and a small part of the meat, cooking and stirring until it is seared. Add 6 tablespoons soy sauce, diluted with enough water to reach a depth of about ½ inch in the bottom of the pan, and 2 tablespoons sugar, and stir until the sugar is dissolved. Then push the meat to one side of the pan and add a portion of each of the vegetables, cooking until *just* done (5–10 minutes). Serve these vegetables and meat immediately and add another portion to the pan, also adding soy sauce, sugar, and water as it evaporates. Serve the sukiyaki in bowls, with boiled rice in a separate bowl, or serve both together.

PER RECIPE: 1640 Cal., 155 g. Protein, 41 g. Fat (13 sat., 12 poly.)

VEAL CHOPS PACIFIC (*to serve 4*)

- 4 veal chops
  or
  2 slices veal round
- 2 cloves garlic
- ¼ cup salad oil
- 3 tablespoons soy sauce
- 1 tablespoon vinegar
- 2 tablespoons catsup
- ¼ teaspoon pepper

Trim veal, removing visible fat; if round is used, cut into serving-sized pieces. Combine crushed garlic, oil, soy sauce, vinegar, catsup, and pepper in a shallow pan and mix well. Put in meat and allow to marinate for 2 hours, or overnight in the refrigerator. Broil over red coals in outdoor grill, turning frequently and basting with the marinade for about 15 minutes or until nicely browned and tender. May also be cooked under the kitchen broiler.

PER RECIPE: 910 Cal., 89 g. Protein, 55 g. Fat (20 sat., 33 poly.)

ROAST LEG OF LAMB (*to serve 10*)

- 1 leg of lamb (5 pounds)
- ½ clove garlic
- 1 teaspoon salt
- 1 tablespoon flour

Remove the lamb from the refrigerator 1 hour before cooking. Preheat the oven to 450 degrees. Wipe the meat with a damp cloth. Make 4 or 5 gashes in the meat with a small knife and insert slivers of garlic. Place the meat on a rack in an open roasting pan, sprinkle with salt and flour. Roast for 30 minutes at 450 degrees, reduce heat to 300 degrees and cook for 2 hours longer, or until meat thermometer registers 182 degrees.

Gravy:

If gravy is desired, remove the juices from the bottom of the roasting pan with a baster ¾ of an hour before the meat is to be served. Transfer meat juices to an ice-cube tray, cool slightly, then place in freezing compartment of refrigerator for quick chilling. Make a smooth paste of ¼ cup flour, 1 teaspoon Ac'cent, 1 teaspoon salt, and ½ cup of water. Just before serving the roast, remove the juices from the refrigerator, discard the fat which has congealed on the top; combine the remaining juices with the flour

paste and 3 cups of water, cook, and stir until the gravy is thick and just boiling.

PER RECIPE: 3260 Cal., 500 g. Protein, 125 g. Fat (75 sat., 10 poly.)

ROLL-'EM-UPS (*to serve 4*)

1 pound round steak
1 large onion, sliced
1 clove garlic, minced
6 strips bacon, quartered
3 sprigs parsley, chopped
Salt

Slice steak very thin (¼ inch or less), and cut into 2- to 3-inch squares.

Salt each square, then place ½ slice of onion and a bit of garlic and parsley in the center, roll up the meat, wrap ¼ strip of bacon around the roll, and secure with toothpicks. Cook outdoors over charcoal, or place about 5 inches under kitchen broiler, turning frequently. The cooking time is about 10 minutes.

(If cooked outdoors, some fat inevitably drips into the fire, reducing the fat content of the recipe and necessitating a handy source of water for controlling the flames.)

PER RECIPE: 1400 Cal., 137 g. Protein, 86 g. Fat (19 sat., 5 poly.)

VEAL SHANKS IN CASSEROLE (*to serve 8*)

6 pounds veal shanks, with bone
Flour for dredging
1 tablespoon oil
6 onions
4 sprigs parsley, chopped
½ bay leaf
Salt
Water

Wipe veal shanks with clean damp cloth, rub with flour, and brown in oil in heavy skillet. Remove to large casserole or Dutch oven, add peeled onions, parsley, bay leaf, salt to taste, and enough water to cover the bottom. Cover casserole and cook in 325-degree oven until tender, 1½–2 hours. Add more water if necessary. Serve in casserole.

PER RECIPE: 2060 Cal., 216 g. Protein, 99 g. Fat (46 sat., 10 poly.)

STUFFED BREAST OF VEAL (*to serve 4*)

1 veal breast (about 3 pounds)
2 stalks celery
1 small onion
3 sprigs parsley
3 cups bread crumbs
1 teaspoon salt
½ teaspoon orégano
2 tablespoons oil
Optional addition:
1 No. 2 can tomatoes

Make a pocket in veal breast by cutting between the ribs and outer meat. Wipe meat with damp cloth and allow to come to room temperature.

Chop celery, onion, and parsley, and mix with bread crumbs, salt, orégano, and 1½ tablespoons oil. Put stuffing into pocket, fastening edges with skewers or string. Brush top of meat with remaining oil. Roast in covered pan in 325-degree oven 1½–2 hours, uncovering pan for last 15 minutes. Drained contents of a No. 2 can of tomatoes may be spread on top of roast for last 15 minutes if desired.

COMMENT: This is an old favorite in some parts of the world but has been forgotten in most American households. The orégano adds the right touch, we think, and will appeal to all who like the Italian cuisine.

PER RECIPE: 1880 Cal., 103 g. Protein, 68 g. Fat (21 sat., 20 poly.)

VEAL KIDNEYS KLEPETAR (*to serve 4*)

From Mr. Ernest Klepetar, St. Paul, Minnesota

2 veal kidneys (½ to ¾ pound)
4 green onions, bulbs and tops
½ cup skim milk
1 teaspoon Worcestershire sauce
Salt and pepper to taste

Remove fat from kidneys; trim and slice. Chop onions, bulbs and tops. Simmer onion and kidney in skim milk for about 20 minutes, turning frequently. Season with Worcestershire sauce and salt and pepper to taste. A favorite Sunday breakfast treat at the Klepetar house.

PER RECIPE: 430 Cal., 43 g. Protein, 21 g. Fat (9 sat., 1 poly.)

HAM AND LIMA BEANS (*to serve 4*)

- 6 stalks celery
- 2 tablespoons oil
- 2 tablespoons flour
- 2 cups water
- 1 package frozen baby lima beans
- 1 cup chopped cooked lean ham

Dice celery and cook in oil over low heat for three minutes. Blend flour with oil and celery, add water, continue to cook and stir until thickened. Combine this mixture with lima beans and ham in an oven-proof dish, bake at 350 degrees until beans are done, about ½ hour.

PER RECIPE: 990 Cal., 83 g. Protein, 51 g. Fat (12 sat., 20 poly.)

HAM SLICES, CHERRY SAUCE (*to serve 6*)

- 1 can (1 pound) pitted dark cherries
- 1 tablespoon flour
- ⅛ teaspoon salt
- 1 piece candied ginger
- 1 pound ready-to-eat ham, sliced ¾ inch thick

Drain cherries, reserving liquid. Blend flour and salt with cherry liquid, cook and stir until thickened. Chop ginger into tiny bits, add ginger and cherries to sauce, spread over slices of ham in shallow casserole, cover and bake in 350-degree oven until thoroughly hot.

PER RECIPE: 1460 Cal., 138 g. Protein, 47 g. Fat (15 sat., 9 poly.)

VEAL BIRDS (*to serve 4*)

- 1 pound veal steak, cut very thin
- 1 apple
- 1 onion
- 1 slice bread, crumbled
- ½ teaspoon salt
- 1 tablespoon oil
- 1 cup tomato juice

Cut veal in pieces about 3 x 5 inches. Peel and chop apple and onion, mix with crumbled bread and salt. Place some of this filling in the center of each piece of veal, roll and secure with heavy thread. Brown the "birds" in oil, add tomato juice, cover and simmer for about 1 hour.

PER RECIPE: 1140 Cal., 98 g. Protein, 52 g. Fat (18 sat., 10 poly.)

BEEF AND OLIVE PIE (*to serve 8*)

Adapted from *Helen Brown's West Coast Cook Book,* Little, Brown, 1952

Filling:

- 2 pounds lean beef
- 2 tablespoons olive oil
- 1 clove garlic
- ¼ cup dry vermouth
- 1 teaspoon salt
- Water
- 18 large green olives

Dough:

- ½ cake fresh yeast
  or
- 1½ teaspoons dry yeast
- ¾ cup lukewarm water
- 1 teaspoon salt
- 1½ cups flour

Two hours before dinner, soak yeast in ¾ cup lukewarm water, add salt and stir in 1 cup of the flour. Turn dough out on board, knead in approximately ½ cup flour. Return to bowl, cover and allow to rise in warm place.

Trim visible fat from beef, cut into bite-size pieces, brown in olive oil with garlic. Remove garlic, add vermouth, salt; and enough water to barely cover meat. Transfer to casserole, cover and bake at 350 degrees until beef is tender (about 1 hour).

Cut meat from 18 large green olives. Turn dough out on lightly floured board, knead briefly, and roll or pat into shape of casserole. Remove casserole from oven, increase oven heat to 375 degrees. Add olives to meat, top with dough, return casserole to oven, and bake until top is golden brown (20 to 30 minutes).

PER RECIPE: 2370 Cal., 243 g. Protein, 67 g. Fat (24 sat., 2 poly.)

RABBIT À LA MINNESOTA (*to serve 6*)

- 1 rabbit (2–3 pounds)
- Flour for dredging
- 2 tablespoons oil
- 1 teaspoon salt
- 8 onions, sliced
- 1 cup buttermilk

Cut rabbit into serving pieces, dredge with flour, and brown in oil in heavy skillet. Transfer to large casserole (2-quart or more) or Dutch oven, sprinkle with salt, cover with onions, and pour buttermilk over all. Cover casserole and bake in 325-degree oven until rabbit is tender, about 1 hour.

PER RECIPE: 1900 Cal., 210 g. Protein, 75 g. Fat (40 sat., 22 poly.)

POULTRY

CHICKEN SUBGUM (*to serve 4*)

- 2 chicken breasts
- 1 cup water
- 1 medium-sized green pepper
- ¼ head celery cabbage or Chinese cabbage
- 2 large stalks celery
- 3 small tomatoes
- 1 tablespoon oil
- 1 teaspoon salt
- 1 tablespoon cornstarch
- 2 tablespoons soy sauce
- ¼ cup water
- 1 can (5¼ ounces) water chestnuts
- 1 can (5 ounces) bamboo shoots

Simmer chicken breasts in 1 cup of water for 20 minutes. Save the water; cut the chicken into thin crosswise slices.

Seed green pepper and cut it into 16 pieces. Slice cabbage; remove strings from celery and dice finely; quarter tomatoes.

Parboil pepper pieces for 4 minutes; drain.

Heat oil in a large skillet, add the chicken, green pepper, cabbage, and celery, cook and stir over moderate heat for 2 minutes. Add the water in which the chicken was cooked and salt, cover skillet, reduce heat, and simmer for 5 minutes.

Blend cornstarch with soy sauce and ¼ cup of water; add to mixture in skillet with tomatoes, drained water chestnuts, and drained bamboo shoots; stir until thickened, and cook 2 minutes longer.

PER RECIPE: 800 Cal., 101 g. Protein, 18 g. Fat (4 sat., 16 poly.)

POLLO CACCIATORA—*CHICKEN ITALIAN HUNTER STYLE* (*to serve 4*)

- 1 frying chicken (about 3 pounds)
- 2 tablespoons oil
- 1 green pepper
- 1 clove garlic
- 3 tomatoes or 1 cup canned tomatoes
- 1 onion
- ½ cup dry white wine or dry sherry
- Salt and pepper to taste

Optional additions:

- 1 cup sliced fresh or canned mushrooms
- 1 stalk celery, chopped
- 1 carrot, chopped

Have chicken cut into serving pieces and sauté in oil until brown (about 10 minutes). Chop green pepper, garlic, tomatoes, onion (and celery and carrot, if used); add to chicken with wine and salt and pepper to taste. Cover and simmer slowly until chicken is tender (about ½ hour); mushrooms, if used, should be added for the last 15 minutes. If there is too much liquid when chicken is done, uncover and cook a few minutes longer.

PER RECIPE: 1540 Cal., 154 g. Protein, 72 g. Fat (19 sat., 26 poly.)

ROCK CORNISH GAME HENS, ROASTED (*to serve 4*)

- 4 Rock Cornish game hens (about 1 pound each) with giblets
- 2 cups bread crumbs
- 1 tablespoon oil for dressing
- Salt
- 2 teaspoons thyme
- 1 tablespoon oil for basting

If the Rock Cornish game hens are frozen, follow the directions on the package for preparing them for cooking.

Simmer the giblets in water to cover for ½ hour, drain and chop them, reserving the broth in which they were cooked. Combine the chopped giblets with bread crumbs, moisten them with 1 tablespoon oil and 2 tablespoons or more of the giblet broth, season them with 2 teaspoons salt and 2 teaspoons thyme, or to taste.

Rub the insides of the hens with 1 teaspoon salt, fill them loosely with the bread dressing, and place them breast up on a

rack in an open roasting pan. Brush the skins with oil, and roast the hens for 1 hour at 450 degrees. Baste frequently with a mixture of 1 tablespoon oil and ¼ cup of the broth in which the giblets were cooked.

PER RECIPE: 2540 Cal., 288 g. Protein, 97 g. Fat (25 sat., 29 poly.)

TURKEY STUFFING
(*approximate amount for 10-pound turkey*)

- 1 loaf dry French bread, crust and all
- 1 recipe corn bread
- 2 teaspoons salt
- 2 tablespoons thyme, or to taste
- ¼ cup oil
- ¼ cup skim milk

Break bread into small bits, mix with crumbled corn bread, add salt and thyme, and moisten with oil. Use milk in addition to the oil only if the bread is very dry.

PER RECIPE: 3810 Cal., 41 g. Protein, 125 g. Fat (17 sat., 60 poly.)

TURKEY GIBLET GRAVY

- Turkey giblets
- 3 cups water
- 2 tablespoons oil
- 6 tablespoons flour
- Salt to taste

Remove the external fat from the turkey gizzard. Simmer the gizzard, liver, and heart in the water for 1 hour. Chill the giblets in the broth in which they were cooked. When well chilled, remove any fat which has congealed on top of the broth. Remove giblets from broth, dice finely, brown for 2 minutes in oil. Stir flour into the oil, add the broth in which the giblets were cooked with salt to taste, cook and stir until thick and just boiling.

Giblet gravy can be prepared well in advance of the turkey dinner (the day before, if desired).

PER RECIPE: 630 Cal., 37 g. Protein, 48 g. Fat (4 sat., 17 poly.)

CHICKEN GALANTINE (*to serve 4*)

- 1 fryer (2½ pounds)
- 2 cups water
- 1 teaspoon salt
- 4 stalks celery
- 1 green pepper
- 1 can pimento (4 ounces)
- 4 green onions
- 1 tablespoon plain gelatin

Optional additions:

- 2 tablespoons Marsala or sherry
- 1 truffle, cut in slivers
- Pinch nutmeg
- 3 sprigs parsley

Cut chicken into serving pieces and use feet and combs if available. Simmer gently in salted water until tender (about 30 minutes). Remove chicken from broth, cool, remove bones, feet, combs, and skin, and arrange pieces of chicken in shallow casserole or mold. Chill broth and remove fat from top. Cut into moderately small pieces the celery, green pepper (seeded), pimento, and onions. Add chopped vegetables, and optional ingredients if desired, to chicken.

Soak gelatin for 5 minutes in ¼ cup of the cold broth. Bring ½ cup of broth to boil and dissolve gelatin in it. Add remaining broth, mix well, and pour over chicken. Chill in refrigerator until set.

COMMENT: This will prove a refreshing favorite for hot weather. It is easy enough to use for ordinary family fare and elegant enough for impressive entertaining, especially if some care is given to decorating the galantine by arranging halves of stuffed green olives and slices of pimento on the bottom of the dish. When ready to serve, place the dish briefly in hot water to loosen the gelatin and turn out upside down on the serving dish. White wine with soda water (dilute 1 to 3) goes well with this.

PER RECIPE: 920 Cal., 125 g. Protein, 37 g. Fat (12 sat., 8 poly.)

SWEET AND PUNGENT CHICKEN LIVERS (*to serve 4*)

- 3 green peppers
- ¾ pound chicken livers
- 1 tablespoon oil
- ½ teaspoon salt
- 1 cup chicken bouillon
- 4 slices pineapple
- 1 tablespoon cornstarch
- 1 tablespoon soy sauce
- ¼ cup vinegar
- ¼ cup sugar

Cut each green pepper into 6 pieces, parboil until nearly tender in boiling salted water—about 5 minutes. Drain.

Brown quartered chicken livers in oil with salt in heavy 10-inch skillet. Remove to hot serving dish and keep warm.

Put ⅓ cup of the bouillon, pineapple slices, and green peppers in skillet, cover and cook over very low flame about 10 minutes. Blend together cornstarch, soy sauce, vinegar, sugar, and remaining ⅔ cup bouillon, and add to skillet. Cook, stirring constantly, until thick, about 5 minutes. Pour over chicken livers and serve at once.

PER RECIPE: 850 Cal., 120 g. Protein, 29 g. Fat (9 sat., 13 poly.)

LAKE OWASSO CHICKEN (*to serve 4*)

- 2 onions
- 2 tablespoons oil
- 1½ cups raw rice
- 3 cups hot water
- 2 teaspoons salt
- 2 green peppers
- 1 pound green beans
- 3–4 pounds zucchini (other summer squash or eggplant may be substituted)
- 1 frying chicken (2½ pounds) cut in serving pieces

Slice onions and cook in 1 tablespoon oil in skillet until golden. Add raw rice and cook 1 minute longer, stirring constantly. Transfer onions and rice to large casserole. Add 3 cups hot water in which 1 teaspoon salt has been dissolved. Seed and slice green peppers and put on top of rice; next green beans with tips removed; then zucchini, sliced but not peeled; and finally the pieces of chicken, skin side up. Brush chicken with second tablespoon of oil, sprinkle with remaining teaspoon salt; cover casserole and bake for 1 hour in 350-degree oven.

PER RECIPE: 2640 Cal., 163 g. Protein, 67 g. Fat (16 sat., 26 poly.)

CHICKEN SALAD (*to serve 4*)

- 4 large stalks celery
- 6 small green onions
- 1 pimento
- 2 cups diced cooked chicken
- ½ teaspoon salt
- ¼ cup Cooked Oil Dressing

Cut vegetables into small pieces using both bulbs and tops of onions. Combine with chicken, salt, and Cooked Oil Dressing (thinned with skim milk if desired). Chill and serve on lettuce leaves.

PER RECIPE: 910 Cal., 158 g. Protein, 20 g. Fat (9 sat., 5 poly.)

BROILED CHICKEN (*to serve 4*)

- 1 2½-pound frying chicken
- ¼ cup oil
- ¼ cup vinegar
- 1 teaspoon salt
- ¼ teaspoon tarragon

Have the chicken cut into serving pieces. Combine remaining ingredients and marinate the chicken in the sauce for 1 hour. Broil chicken about 5 inches from heat source for ½ hour, turning once, and basting with marinade every 5 minutes.

PER RECIPE: 1030 Cal., 116 g. Protein, 59 g. Fat (20 sat., 40 poly.)

CHICKEN AND MUSHROOMS: FOIL-WRAPPED (*to serve 4*)

- 1 frying chicken (3 pounds)
- ½ pound fresh mushrooms
- ½ clove garlic
- 1 small onion
- 3 sprigs parsley
- 1 tablespoon oil
- Salt to taste

Cut chicken into serving pieces. Place each piece on a strip of heavy-duty aluminum foil large enough to triple fold at the edges.

Slice mushrooms. Chop finely the garlic, onion, and parsley. Brush chicken pieces with oil, sprinkle with salt. Add parsley, onion, garlic, and mushrooms to each package, seal well, and broil for 30 minutes on the coals of an open fire or in the oven.

PER RECIPE: 1160 Cal., 150 g. Protein, 57 g. Fat (16 sat., 18 poly.)

DOUBLE BREAST OF VIBO FARM ROCK CORNISH HEN *(to serve 4)*

From the Waldorf-Astoria, modified

- 4 Rock Cornish game hens (1¼ pounds each, 1 bird to each person)
- Salt and pepper to taste
- Flour
- 1 egg
- 1 teaspoon oil
- 1 tablespoon water
- 1 cup fine bread crumbs (white bread)
- ½ cup grated cheese
- ¼ cup oil for frying

After cleaning the birds, remove the legs; split the double breast from the inside, remove the bones, flatten breast with a heavy knife. Season with salt and pepper to taste, roll in flour. Beat egg with the oil and water. Dip the birds in the egg mixture, then in a mixture of bread crumbs and cheese. Fry the birds in oil (the Waldorf uses butter) for 12 minutes (6 minutes on each side) until golden brown.

PER RECIPE: 2640 Cal., 365 g. Protein, 96 g. Fat (44 sat., 48 poly.)

CHICKEN PILAU *(to serve 6)*

From Jill Shulman, Hickory Valley Farm, Stroudsburg, Pennsylvania

- 1 frying chicken (2½ pounds)
- 1 cup water
- 2 cups rice
- 1 onion, sliced
- ¼ cup oil
- ⅛ teaspoon ground cloves
- ½ teaspoon cardamon seeds
- ½ teaspoon cinnamon
- 1 bay leaf
- 1 ounce almonds, chopped
- 1 ounce sultanas (white raisins)

Cut chicken into serving pieces and simmer, covered, in 1 cup of water until chicken is tender (20 to 30 minutes). Drain off the liquid and reserve it.

Braise rice and onion in 2 tablespoons of the oil, add cloves, cardamon seeds, cinnamon, and bay leaf. Add sufficient water to the broth in which the chicken was cooked to make 4 cups, pour over the rice, cover pan and simmer until rice is tender (about 30 minutes).

In a separate skillet brown the cooked chicken in 2 tablespoons oil. Heap cooked rice in center of heated platter, sprinkle chopped almonds and sultanas over rice, surround with pieces of chicken.

PER RECIPE: 3050 Cal., 152 g. Protein, 103 g. Fat (21 sat., 43 poly.)

SPECIALTY OF THE HOUSE *(to serve 4)*

- 4 slices (½ pound) cooked turkey breast
- 4 slices (2 ounces) Canadian bacon
- 4 slices (2 ounces) Mozzarella cheese

Arrange turkey slices in oiled oven-proof dish. Put 1 slice of Canadian bacon on each slice of turkey, and top with Mozzarella cheese. Bake in 400-degree oven until cheese is melted and slightly browned (10 to 15 minutes).

PER RECIPE: 820 Cal., 97 g. Protein, 34 g. Fat (12 sat., 4 poly.)

TURKEY RING *(to serve 4)*

- 1 tablespoon unflavored gelatin
- ¼ cup cold water
- 2 cups turkey broth
  or
- 2 cups broth made with chicken bouillon cubes
- 2 cups diced cooked turkey meat
- 1 cup chopped celery leaves, parsley, and green onion tops
- 1 carrot, diced

Soften gelatin in ¼ cup cold water; dissolve in hot broth. Add turkey and vegetables to gelatin mixture, pour into oiled ring mold, and chill until set.

PER RECIPE: 720 Cal., 115 g. Protein, 25 g. Fat (6 sat., 5 poly.)

FISH and SEA FOODS

ROLLED FILLETS OF PIKE (*to serve 8*)

- ½ cup bread crumbs
- 2 tablespoons chopped or grated onion
- 1 tablespoon chopped parsley
- ¼ teaspoon basil
- ½ teaspoon salt
- ½ clove garlic, cut fine, if desired
- ½ cup bouillon or consommé
- 4 fish fillets (2 pounds)
- 1 teaspoon oil

In a small bowl mix bread crumbs, onion, parsley, basil, salt, and garlic. Moisten these ingredients with 2 tablespoons bouillon, and spread over the fish fillets. Roll up fillets, securing with toothpicks if necessary, and place close together in shallow baking dish. Pour remainder of bouillon in bottom of dish and brush tops of fillet rolls with oil. Bake in 375-degree oven 20–30 minutes. Serve garnished with lemon wedges and sprigs of parsley.

COMMENT: While this recipe is specifically for pike, almost any fish fillets can be used with good results.

PER RECIPE: 940 Cal., 175 g. Protein, 11 g. Fat (2 sat., 5 poly.)

FISH FILLETS IN CONSOMMÉ (*to serve 4*)

- 1 pound fish fillets
- 3 green onions
- ½ teaspoon salt
- Pinch thyme and basil
- 1 can consommé
- 2 sprigs parsley
- 1 lemon

Spread fish fillets skin side down in flat oiled baking dish. Cut onions into small bits, and sprinkle these on top of fish, along with salt and pinch of thyme and basil. Dilute consommé as directed on can and pour enough over the fish to barely cover it. Bake in 350-degree oven 30 minutes. Serve garnished with parsley and wedges of lemon.

PER RECIPE: 420 Cal., 91 g. Protein, 3 g. Fat (1 sat., 1 poly.)

BAKED FROZEN FISH FILLETS (*to serve 8*)

- 1 cup fine bread crumbs
- ¼ cup grated cheese (Swiss preferably)
- 1 egg
- 2 pounds frozen fish fillets (partially defrosted)
- 1 teaspoon salt
- ¼ cup flour

Mix bread crumbs and cheese. Beat egg slightly with a fork. Season partially defrosted fillets with salt, and dip first into flour, then into egg, then bread-crumb-cheese mixture. Place on well-oiled baking pan and bake in 425-degree oven 15–20 minutes. Serve with wedges of fresh lemon.

PER RECIPE: 1340 Cal., 194 g. Protein, 23 g. Fat (8 sat., 5 poly.)

SHRIMP JAMBALAYA (*to serve 6*)

- 1 pound green shrimp
  or
- 2 cans (4½ ounces each)
- 3 cups water
- ¼ cup diced lean ham
  or
  Canadian bacon
- 2 tablespoons oil
- 1 onion
- 2 green peppers
- 1 clove garlic
- 1½ cups raw rice
- 1½ cups canned tomatoes
- ½ teaspoon salt
- ½ teaspoon thyme
- 1 bay leaf
- Pinch cayenne pepper
- 2 sprigs parsley

Boil green shrimp in water for 10 minutes. Drain, saving water. Shell and devein shrimp. (If canned shrimp is used taste liquid from cans for saltiness. If very salty, discard part of liquid. Add enough water to remaining part to make 2½ cups.)

Sauté ham in oil for 3 minutes. Dice onion, green peppers, and garlic, add to ham, and cook until tender. Add raw rice, stir briefly, then add tomatoes and 2½ cups shrimp water. Add salt only if fresh shrimp is used. Add thyme, bay leaf, and a pinch of cayenne. Cover and cook over very low heat, or over boiling water, for 30 minutes. Chop parsley and add with shrimp, heat thoroughly, and serve.

PER RECIPE: 1790 Cal., 90 g. Protein, 24 g. Fat (6 sat., 18 poly.)

SHRIMP ZIP (*to serve 4*)

- 1½ pounds raw shrimp
- 1 clove garlic
- 6 green onions
- ½ green pepper
- 1 tablespoon oil
- ½ cup dry white wine
- ¼ teaspoon Tabasco
- 1 teaspoon salt
- ¼ teaspoon dry mustard
- ½ cup dry bread crumbs

Cook shrimp for 15 minutes in boiling salted water; set aside to cool in water in which they were cooked. When cool, shell and remove veins and put in casserole or four individual baking dishes.

Cut into very small pieces the garlic, onions, and green pepper. Heat oil in skillet, add chopped vegetables, cook and stir for 2 minutes; then add wine, Tabasco, salt, and dry mustard, and simmer for 10 minutes. Pour this sauce over shrimp, top with bread crumbs, and bake in hot oven (425 degrees) for 15 minutes.

PER RECIPE: 650 Cal., 75 g. Protein, 20 g. Fat (3 sat., 10 poly.)

FINNAN HADDIE ON TOAST (*to serve 4*)

- 1 pound finnan haddie
- ½ green pepper
- Cream Sauce

Cover finnan haddie with cold water, bring very slowly to a boil, and simmer for 20 minutes. Drain, break into small pieces using 2 forks, and remove bones. Cut green pepper into small pieces.

Prepare Cream Sauce, add flaked finnan haddie and green pepper; place over boiling water until thoroughly hot. Serve on toast.

PER RECIPE: 710 Cal., 116 g. Protein, 16 g. Fat (2 sat., 9 poly.) without toast
920 Cal., 122 g. Protein, 17 g. Fat (2 sat., 9 poly.) with toast

CODFISH CAKES (*to serve 4*)

- ½ cup salt codfish
- 2 large potatoes
- 1 tablespoon oil

Wash codfish and cut into small pieces with scissors. Peel and cut up potatoes. Cook together in water until potatoes are tender. Drain off water, mash potatoes and codfish, and form into small cakes. Brown these in oil in frying pan.

PER RECIPE: 570 Cal., 52 g. Protein, 15 g. Fat (2 sat., 9 poly.)

STUFFED LOBSTER TAILS (*to serve 4*)

- 6–8 frozen lobster tails
- 1 small onion, minced
- 1 clove garlic, minced
- 2 sprigs parsley, minced
- ½ cup bread crumbs
- 2 tablespoons oil

Thaw lobster tails. Cut under shells with kitchen shears and remove them. Skewer tails in place to prevent curling, and place in broiler pan cut side down. Broil at medium heat, or 3–4 inches from unit in electric broiler, for 5 minutes. Turn cut side up and cover with dressing made by mixing together onion, garlic, and parsley, bread crumbs, and oil. Return to broiler 6–8 minutes longer, depending on size of lobster.

PER RECIPE: 1230 Cal., 80 g. Protein, 38 g. Fat (7 sat., 21 poly.)

MACARONI AND TUNA CASSEROLE (*to serve 4*)

- 2 cups macaroni or creamettes
- Boiling water
- 3 teaspoons salt
- 2 cups Cream Sauce
- 1 6½-ounce can tuna
- 2 stalks celery, sliced
- ½ green pepper, chopped
- 1 pimento, chopped
- 1 tablespoon grated Parmesan cheese

Cook macaroni in 3 quarts rapidly boiling salted water for 6 minutes (follow directions on package). Drain and place in oiled casserole.

Prepare a double recipe of Cream Sauce. Add to sauce the tuna, drained thoroughly, celery, green pepper, and pimento. Pour mixture over the macaroni, sprinkle cheese over the top, and bake at 375 degrees 20–30 minutes.

PER RECIPE: 1830 Cal., 104 g. Protein, 47 g. Fat (6 sat., 21 poly.)

NORFOLK OYSTERS (*to serve 4*)

1 cup raw rice
2 cups water
2 tablespoons oil
2 tablespoons flour
Skim milk
1 pint oysters including liquor
2 dashes Tabasco
Salt and pepper to taste
1 cup bread crumbs

Optional addition:

1 tablespoon grated Romano or Parmesan cheese

Cook rice in the water until all water is absorbed and rice is tender (about 20 minutes).

Prepare a white sauce with 1 tablespoon of the oil, 2 tablespoons flour rubbed into it, and the liquor from the oysters made up to 1 cup with skim milk. Cook and stir until thick and just boiling.

In an oiled casserole cover bottom with half the rice, cover with half the oysters, pour over it half the sauce, add Tabasco, and sprinkle with salt and pepper. Repeat with second halves, top with bread crumbs mixed with second tablespoon oil, and bake in 400-degree oven for 30 minutes. One tablespoon grated cheese may be added to the crumb topping.

PER RECIPE: 1610 Cal., 59 g. Protein, 38 g. Fat (6 sat., 20 poly.) without cheese
1630 Cal., 60 g. Protein, 39 g. Fat (7 sat., 20 poly.) with cheese

SCALLOPED OYSTERS (*to serve 4*)

¾ cup dry bread crumbs
¾ cup cracker crumbs
1 pint oysters including liquor
Salt and pepper to taste
2 tablespoons skim milk
2 tablespoons oil

Optional additions:

1 tablespoon chopped parsley
¼ cup finely chopped celery
Dash of paprika

Oil a shallow baking dish. Mix together bread crumbs and cracker crumbs. Put ½ this mixture in bottom of dish, cover with a layer of oysters, celery and parsley if used, and repeat once.

Season with salt and pepper, pour over it oyster liquor, the milk, and finally the oil. Bake in hot oven (450 degrees) for 30 minutes. Add dash of paprika, if desired, before serving.

PER RECIPE: 870 Cal., 39 g. Protein, 26 g. Fat (7 sat., 20 poly.)

BACALAO A LA LIONESA—*SPANISH CODFISH* (*to serve 6*)

1 pound salt codfish
4 medium globe onions
2 cloves garlic
6 sprigs parsley
4 large tomatoes
¼ cup oil
½ cup white wine
⅛ teaspoon pepper
Pinch sugar

Soak 1 pound of salt codfish in cold water to cover for 12 hours or longer. Discard water once or twice, rinse dish, and replace fish, covering well with fresh cold water. When cod is desalted, place in kettle with cold water to cover, bring to a boil, and continue to cook for 10 minutes; drain and allow to cool. Remove bones and skin if present.

Slice onions. Finely dice garlic. Cut parsley into small bits. Peel and cut up tomatoes.

Heat oil in a skillet, add onions, cook until golden. Add garlic and parsley, then tomatoes and wine. Cook over a brisk fire for 6 or 7 minutes; then add the fish, season with pepper and, if necessary, a little salt. Add a pinch of sugar and simmer for 30 minutes.

COMMENT: A very good version of Bacalao may be prepared with frozen codfish.

Thaw 2 pounds of frozen codfish, prepare the sauce as above, pour it over the fish, and bake it in an uncovered baking dish for 40 minutes in a 350-degree oven.

PER RECIPE: 1560 Cal., 166 g. Protein, 61 g. Fat (9 sat., 34 poly.)

HOT TUNA FISH SALAD (*to serve 6*)

- 1 onion
- 1 green pepper
- 3 stalks celery
- 2 (7-ounce) cans solid pack tuna fish
- 2 tablespoons oil
- 2 tablespoons mayonnaise
- ⅛ teaspoon basil
- ½ teaspoon salt

Chop coarsely the onion, green pepper, and celery. Drain tuna and break into pieces with a fork. Sauté onion in oil until transparent, add celery, green pepper, tuna fish, mayonnaise, basil, and salt; heat until thoroughly hot, stirring occasionally.

PER RECIPE: 1170 Cal., 96 g. Protein, 78 g. Fat (15 sat., 43 poly.)

LOBSTER TAILS WITH SHERRY (*to serve 4*)

- 1 pound frozen lobster tails
- 3 tablespoons flour
- 1 tablespoon paprika
- 2 tablespoons oil
- 1½ cups skim milk
- ½ teaspoon salt
- 3 tablespoons sherry

Cook lobster tails according to directions on package, cool slightly, and remove shells.

Blend flour and paprika with oil in a skillet, add skim milk and salt, cook and stir until thick and just boiling. Reduce heat to simmer, add cooked lobster tails and sherry, cover, and heat until thoroughly hot.

PER RECIPE: 800 Cal., 87 g. Protein, 37 g. Fat (4 sat., 21 poly.)

DESSERTS

APPLE BETTY (*to serve 4*)

- 8 apples
- 1 tablespoon water
- ¼ cup sugar
- ½ cup bread crumbs
- 1 tablespoon oil
- Sugar and cinnamon mixture (3 tablespoons sugar, 1 teaspoon cinnamon)

Peel and quarter apples and put into oiled baking dish. Sprinkle with sugar and water. Cover with bread crumbs, sprinkle first with oil, then with cinnamon-sugar mixture. Bake uncovered in 375-degree oven for 30 minutes; serve hot.

PER RECIPE: 1130 Cal., 5 g. Protein, 18 g. Fat (3 sat., 10 poly.)

APPLE WHIP (*to serve 6*)

From Mrs. Anna Williams Herrmann, Galveston, Texas

- ½ cup non-fat dry milk powder
- ½ cup cold water
- ⅛ teaspoon cinnamon
- Pinch nutmeg

} or ½ teaspoon vanilla

- Juice of 1 lemon
- 1 cup sweetened applesauce

Combine dry milk powder with the cold water and allow to stand in refrigerator for 1 hour or longer. Add lemon juice; beat until the consistency of whipped cream. Stir in sweetened applesauce, cinnamon and a pinch of nutmeg, or vanilla. Chill and serve.

PER RECIPE: 410 Cal., 22 g. Protein, 1 g. Fat (trace sat., trace poly.)

STUFFED BAKED APPLES (*to serve 4*)

- 4 large apples
- 2 walnuts
- ¼ cup raisins
- 4 tablespoons sugar

Core apples, place in baking dish. Break walnuts into pieces, mix with raisins, and fill centers of apples with this mixture. Add

1 tablespoon sugar to center and top of each apple. Cover bottom of baking dish with water. Bake in 375-degree oven for 30 minutes, basting 3 or 4 times during baking. Chill before serving.

PER RECIPE: 870 Cal., 5 g. Protein, 13 g. Fat (1 sat., 6 poly.)

APRICOT WHIP (*to serve 4*)

- 1½ cups dried apricots
- 3 cups warm water
- ½ cup sugar
- ¼ teaspoon grated lemon rind
- 2 tablespoons lemon juice
- 1 teaspoon baking powder
- ¼ teaspoon salt
- 3 egg whites

Wash apricots, cover with the warm water, and soak for 2 hours. Cover and simmer until very tender. Cool and press through coarse strainer, ricer, or food mill. Add sugar and cook slowly until very thick. Cool slightly, add lemon rind, lemon juice, baking powder, and salt. Fold in egg whites beaten stiff. Pour pudding into oiled mold or baking dish, set dish in pan of hot water, and bake 50 minutes at 350 degrees.

COMMENT: Canned apricots may be substituted to simplify this recipe, but there will be some loss of flavor. Other dried fruits (e.g. peaches, pears, or prunes) may be used in place of apricots, but variants made with the canned versions are even less flavorful than that made with canned apricots.

PER RECIPE: 1070 Cal., 23 g. Protein, 1 g. Fat (trace sat., trace poly.)

BLUEBERRY PUDDING (*to serve 8*)

From Mrs. Harold S. Diehl, Minneapolis, Minnesota

- 1½ quarts blueberries
- ½ cup sugar
- 1½ cups flour
- ½ teaspoon salt
- 1 tablespoon baking powder
- 1 egg
- ¼ cup oil
- 1 cup skim milk

Pick over and wash blueberries and put in shallow baking dish. Sprinkle over them ¼ cup of the sugar.

Sift together flour, salt, baking powder, and remaining ¼ cup sugar. Add egg, oil, and skim milk, mix quickly, and drop by spoonfuls on top of berries. Bake in 425-degree oven 10–15 minutes. Serve hot.

PER RECIPE: 2160 Cal., 37 g. Protein, 68 g. Fat (14 sat., 36 poly.)

DANISH DESSERT (*to serve 4*)

- 3 tablespoons cornstarch
- 2 cups fruit juice
- ¼–½ cup sugar

Usually made in Denmark with raspberry and currant juice, this dessert may be made with other fruit juices.

Dissolve cornstarch in ¼ cup cold fruit juice. Sweeten 1¾ cups fruit juice to taste, bring to boiling, stir in dissolved cornstarch, and continue to cook, stirring constantly over medium heat until pudding thickens. Pour into bowl or serving dishes, sprinkle top with 1 teaspoon sugar, and cool. Serve cold with milk if desired.

There is also a packaged Danish dessert on the market under the Junket trademark.

PER RECIPE: 590 Cal., 4 g. Protein, 1 g. Fat (trace sat., trace poly.)

DATE SOUFFLÉ (*to serve 4*)

- ½ pound dates
- ½ cup boiling water
- ¼ cup sugar
- ⅛ teaspoon salt
- 5 egg whites
- 1 tablespoon lemon juice

Seed and chop dates, and cook in the boiling water until soft; mash until smooth, or put through ricer. Add sugar and salt.

Whip egg whites until stiff but not dry. (This can be done with an electric mixer.) Gradually add the date mixture and lemon juice, continuing to beat. Pour into baking dish which has been rinsed with cold water, or into individual custard cups. Set baking dish in pan of hot water and bake in slow oven (325 degrees) for 1 hour. Serve cold with Vanilla Sauce.

PER RECIPE: 920 Cal., 22 g. Protein, 1 g. Fat (trace sat., trace poly.)

PRUNE WHIP (*to serve 4*)

- Whites of 3 eggs
- ½ cup sugar
- 1 5-ounce can strained prunes (infant food)

Beat whites of eggs with rotary beater or electric mixer until frothy. Gradually add sugar, 1 teaspoonful at a time, continuing to beat after each addition. The egg whites should be stiff by

the time all of the sugar has been added. Add strained prunes a little at a time, beating in well. Pile into a baking dish or custard cups, place in a pan of water, and bake in 325-degree oven for 1 hour. Serve chilled.

A favorite sauce to serve with this is Custard Sauce.

PER RECIPE: 570 Cal., 11 g. Protein, 1 g. Fat (trace sat., trace poly.) without sauce
810 Cal., 22 g. Protein, 7 g. Fat (2 sat., trace poly.) with sauce

RASPBERRY RICE BAVARIAN (*to serve 8*)

½ cup cold water
1 tablespoon gelatin
1 cup hot cooked rice
½ cup sugar
¼ teaspoon salt
1 cup evaporated milk, whipped
1 cup raspberries

Pour the cold water into a bowl and sprinkle gelatin on top. Place bowl in boiling water and stir until gelatin is dissolved. Add gelatin to hot cooked rice with sugar and salt. Beat well, cool, and, when it begins to thicken, fold in whipped evaporated milk and raspberries. Pour into a mold which has been rinsed with cold water, or into individual serving glasses, and chill.

PER RECIPE: 1040 Cal., 32 g. Protein, 21 g. Fat (11 sat., 2 poly.)

SNOW PUDDING (*to serve 6*)

1 tablespoon gelatin
1¼ cups water
¼ cup sugar
¼ cup lemon juice
¼ teaspoon salt
3 egg whites

Soak gelatin in ¼ cup cold water, then dissolve in 1 cup boiling water. Dissolve sugar in lemon juice, and add to gelatin. Chill until nearly set. Add salt to egg whites, whip until stiff. Beat gelatin mixture into egg whites, continuing to beat until it begins to thicken, then pour into bowl or dishes in which pudding is to be served. Chill thoroughly.

PER RECIPE: 290 Cal., 19 g. Protein, 0 g. Fat

WHITE MOUNTAIN (*to serve 4*)

From Mrs. Anna Williams Herrmann, Galveston, Texas

⅛ teaspoon salt
¼ teaspoon cream of tartar
3 egg whites
6 tablespoons sugar
½ teaspoon vanilla
Fresh or frozen fruit

Add salt and cream of tartar to the egg whites, beat until stiff with rotary beater or electric mixer. Add sugar a little at a time, continuing to beat after each addition. Beat in vanilla. Turn into top of double boiler and cook over slowly boiling water for 30 minutes. Do not stir.

Turn out on a platter and cover with fresh or frozen fruit.

PER RECIPE: 530 Cal., 10 g. Protein, 0 g. Fat

BAKED RICE PUDDING (*to serve 8*)

½ cup raw rice
3 cups skim milk
1 cup whole milk
⅔ cup sugar
½ teaspoon salt
Sprinkling of nutmeg

Combine ingredients in a baking dish. Bake for 3 hours in slow oven (325 degrees), stirring several times during first hour of cooking. Serve thoroughly chilled.

PER RECIPE: 1330 Cal., 41 g. Protein, 10 g. Fat (6 sat., 1 poly.)

SNOWBALLS (*to serve 4*)

¼ cup sugar
2 tablespoons oil
½ teaspoon vanilla
2 tablespoons water
½ cup cake flour
1 tablespoon non-fat dry milk solids
1 teaspoon baking powder
1 egg white
Pinch salt
1 cup strawberries
¼ cup sugar

Mix sugar with oil, add vanilla and water. Sift cake flour with dry milk solids and baking powder, and stir into sugar mixture. Beat egg white until stiff with pinch of salt, fold into batter. Fill greased custard cups ⅔ full, cover with waxed paper or foil, tied on, and steam for about 30 minutes.

Serve with crushed strawberries mixed with sugar, frozen berries, or other fruit.

PER RECIPE: 920 Cal., 12 g. Protein, 29 g. Fat (4 sat., 16 poly.)

STEAMED GRAHAM PUDDING (*to serve 10*)

½ cup molasses
1 cup buttermilk
½ teaspoon soda
½ teaspoon salt
2 cups graham flour
1 cup seedless raisins

Stir all ingredients together, pour into greased pudding mold with lid or into 1-pound coffee can, cover tightly, and steam 2½ hours. Serve with Foamy Sauce or Vanilla Sauce.

Leftover pudding can be wrapped in foil and reheated on rack in steamer.

PER RECIPE: 1700 Cal., 44 g. Protein, 6 g. Fat (1 sat., 3 poly.) without sauce
2800 Cal., 53 g. Protein, 54 g. Fat (9 sat., 28 poly.) with sauce

ORANGE SURPRISE SENONAISE (*to serve 4*)

From the Waldorf-Astoria

1 egg white
Pinch cream of tartar
Pinch salt
2 tablespoons confectioners' sugar
⅛ teaspoon vanilla
4 oranges
½ pint orange ice

To make the meringue: Beat egg white until frothy. Add pinch of cream of tartar and pinch of salt. Continue to beat until stiff, then gradually beat in confectioners' sugar. Flavor with vanilla. (Waldorf special hint: When making meringue, first chill the mixing bowl, then add a few drops of lemon juice! Wipe the bowl free of juice before adding the egg whites. This makes a much fluffier meringue.)

Slice tops from oranges. Scoop out pulp. Fill shells ¾ full with orange ice, top with meringue, and bake in 450-degree oven until the meringue is brown. Serve immediately.

PER RECIPE: 310 Cal., 6 g. Protein, 0 g. Fat

BAKED ORANGES CURAÇAO (*to serve 4*)

4 oranges
1 cup brown sugar
4 teaspoons oil
⅛ teaspoon salt
Juice of 2 oranges
2 cups water
2 ponies Curaçao

Cover oranges with cold water, bring to the boiling point, and simmer for ½ hour. Drain and cool enough to handle; slice off tops of oranges and scoop out about 1 tablespoon of pulp to make a hollow in orange. Fill the hollows with brown sugar (the remainder is used in the sauce), add oil and salt. Arrange oranges in a baking dish. Combine juice of 2 oranges and remainder of the brown sugar with the water; pour into the baking dish. Bake the oranges at 375 degrees for 1 hour, basting frequently.

After baking, remove sauce that is left to separate pan, boil until it is thick, add Curaçao, pour it over the oranges, and serve hot.

PER RECIPE: 1610 Cal., 10 g. Protein, 21 g. Fat (3 sat., 10 poly.)

FRUIT COMPOTE (*to serve 4*)

1 grapefruit
2 oranges
½ fresh pineapple
1 small bunch red grapes, Muscat or Malaga
Juice of 2 oranges
2 tablespoons sweet dessert wine, if desired

Peel and section grapefruit. Peel and slice oranges. Peel pineapple and cut into ½-inch pieces. Seed grapes. Mix all fruit in a 1–2 quart serving bowl, pour the orange juice (and sweet wine, if used) over it, and chill in the refrigerator for 1 hour or longer.

COMMENT: There are infinite variations of this Keys' family favorite (see Chapter 14).

PER RECIPE: 730 Cal., 9 g. Protein, 3 g. Fat (1 sat., 1 poly.)

ORANGE SHERBET WITH MANDARIN ORANGES
(*to serve 8*)

1 14-ounce can mandarin orange sections
1 6-ounce can frozen tangerine or orange juice
1 quart orange sherbet

Optional addition:

1 tablespoon Curaçao (50 calories more)

Thaw frozen juice and combine with mandarin orange sections. Curaçao may be added for extra tang. Chill thoroughly and serve over sherbet.

PER RECIPE: 1190 Cal., 17 g. Protein, 1 g. Fat (trace sat., 1 poly.)

GINGER ICE (*to serve 6*)

2 teaspoons gelatin
¼ cup cold water
¾ cup sugar
1 cup water
1 cup orange juice
½ cup lemon juice
¼ cup syrup from preserved ginger
2 egg whites
Pinch salt

Soak gelatin in ¼ cup cold water. Boil sugar and 1 cup water for 10 minutes. Dissolve the gelatin in the hot syrup. Cool it and combine with orange juice, lemon juice, and syrup from preserved ginger. Place the mixture in refrigerator tray until it begins to solidify (about ¾ hour). Turn it into a bowl and whip until fluffy.

In a separate bowl beat egg whites and pinch of salt until stiff; fold into mixture, and return to refrigerator tray. Freeze for 4 hours or more, stirring occasionally. Beat it with an electric beater or wire whisk before serving.

PER RECIPE: 1000 Cal., 15 g. Protein, 1 g. Fat (trace sat., trace poly.)

LEMON MILK SHERBET (*to serve 6–8*)

1¼ cups granulated sugar
⅓ cup lemon juice
¼ teaspoon lemon extract
Grated rind of 1 lemon
2 cups cold water
6 tablespoons non-fat dry milk powder

Stir sugar in lemon juice until dissolved. Add lemon extract and grated lemon rind. Add the cold water. Sprinkle powdered milk on top; beat until thoroughly blended. Pour into refrigerator tray and freeze firm. Remove to mixing bowl and beat with electric or hand beater until mixture becomes light and creamy. Return quickly to tray and allow to finish freezing.

PER RECIPE: 1150 Cal., 17 g. Protein, 1 g. Fat (trace sat., trace poly.)

MINTED STRAWBERRY DELIGHT (*to serve 6*)

1 tablespoon lemon juice
⅓ cup non-fat dry milk powder
1 cup sliced fresh strawberries
6 tablespoons sugar
2 tablespoons (about 5 sprigs) finely chopped fresh mint
2 egg whites

Set refrigerator control at coldest point.

Combine the water and lemon juice in a deep 1-quart bowl. Sprinkle milk powder over surface of water. Beat with rotary beater or electric mixer until stiff, about 8–10 minutes.

Combine strawberries with sugar and chopped mint. Fold strawberry mixture into whipped non-fat milk.

Whip until stiff the egg whites, and fold into mixture. Pile lightly into 1-quart refrigerator tray. Freeze until firm, then adjust refrigerator temperature to that normally used for storing ices or sherbets.

If desired, serve sweetened sliced strawberries over sherbet.

COMMENT: A delightfully refreshing finish to a meal on a hot summer day.

PER RECIPE: 520 Cal., 22 g. Protein, 1 g. Fat (trace sat., trace poly.)

STRAWBERRY DESSERT (*to serve 6*)

From Mrs. Mary Hornby, San Francisco, California

- 1 tablespoon gelatin
- ¼ cup cold water
- ¾ cup hot water
- 2 tablespoons lemon juice
- 3 egg whites
- 1¼ cups sugar
- 2 cups whole fresh strawberries

Soak gelatin in ¼ cup cold water for 5 minutes. Add ¾ cup hot water and stir until gelatin is dissolved. Add lemon juice and sugar, stir until dissolved; chill until gelatin begins to set.

Beat whites of eggs until stiff; beat gelatin mixture into egg whites with rotary beater or electric mixer. Stir in strawberries, pour into a mold which has been rinsed out with cold water, and chill.

PER RECIPE: 1160 Cal., 20 g. Protein, 1 g. Fat (trace sat., trace poly.)

EASY PIE CRUST MADE WITH OIL

(*sufficient for 1 double crust, or 2 pie shells*)

- ½ cup cottonseed or corn oil
- ¼ cup cold whole milk
- 2 cups sifted flour
- 1½ teaspoons salt

Measure oil and milk in a measuring cup; do not stir. Mix flour with salt in a bowl; pour in oil and milk, mix with flour. Press into a ball, and cut in halves. Place half between 2 sheets of waxed paper (12 inches square). Dampen table top to prevent slipping. Roll out until circle reaches edges of paper. Peel off top paper. Place pastry paper side up in 8- or 9-inch pie pan. Remove paper and fit crust to pan.

For a 2-crust pie, roll second half as above, slash for steam escape, and place over filling. Bake in hot oven (425 degrees) for about 40 minutes.

For pie shells, prick pastry in several places with a fork. Bake in hot oven (425 degrees) for 10 minutes.

Crust may be kept, unbaked, in freezer for use at any time. Cover with aluminum foil to retain moisture. To bake, remove foil, and put into hot oven without previous thawing.

PER RECIPE: 1820 Cal., 25 g. Protein, 115 g. Fat (18 sat., 65 poly.)

RHUBARB PIE—*OPEN FACE* (*to serve 6–8*)

- ½ recipe Easy Pie Crust
- 1½ pounds fresh rhubarb
- ½ cup sugar
- 4 tablespoons flour

Prepare ½ recipe of Easy Pie Crust Made with Oil. Reserve ¼ of pastry for lattice top; roll out remainder and line 8-inch pie pan.

Cut rhubarb in 1-inch pieces. Add sugar to flour, mix lightly with rhubarb, and turn into lined pie pan. Arrange cut strips of pastry on top, bake in hot oven (425 degrees) for about 45 minutes, until rhubarb is tender and crust golden.

PER RECIPE: 1470 Cal., 18 g. Protein, 58 g. Fat (9 sat., 32 poly.)

STRAWBERRY PIE (*to serve 6–8*)

From Elsie Foulke Haney, Duluth, Minnesota

- 1 quart strawberries
- 1 cup water
- ½ cup sugar
- 2 tablespoons cornstarch
- 1 baked pie shell, 8 or 9 inches (see Easy Pie Crust)

Select and hull strawberries; wash only if sandy. Cook ½ cup of the strawberries in water until soft. Put through a strainer, add sugar mixed with cornstarch, return to fire, cook and stir until just boiling. Set aside to cool.

Arrange the remaining berries in the cool pie shell, pour the sauce over them and chill the pie.

PER RECIPE: 1580 Cal., 18 g. Protein, 61 g. Fat (10 sat., 34 poly.)

BLACKBERRY COBBLER (*to serve 4*)

- 2 cups blackberries
- ½ cup sugar
- 2 tablespoons flour
- 1 cup water
- 1 cup sifted flour
- 2 teaspoons baking powder
- 1 tablespoon non-fat dry milk solids
- 2 tablespoons sugar
- 2 tablespoons plus 2 teaspoons oil
- ⅓ cup water

Put fresh blackberries (or drained canned berries) in a baking dish, combine ½ cup sugar, 2 tablespoons flour, and 1 cup water

and pour over berries. (If canned berries are used, measure berry juice instead of water and omit or reduce amount of sugar.) Put into oven (400 degrees) for 10 minutes.

Sift together 1 cup flour, baking powder, dry milk solids, and 2 tablespoons sugar. Combine oil with ⅓ cup water and stir into flour. Knead for a minute, pat out to shape of baking dish, and put on top of berries. Bake at 475 degrees 12 minutes.

PER RECIPE: 1460 Cal., 18 g. Protein, 42 g. Fat (6 sat., 22 poly.)

CRÊPES SUZETTE (*to serve 10*)

- 1 cup flour
- ¼ cup powdered sugar
- ½ teaspoon salt
- 2 eggs
- 1 cup skim milk
- 1 tablespoon oil (for frying cakes)

Sift together flour, powdered sugar, and salt. Combine eggs and skim milk; add ½ of this mixture to the dry ingredients and beat (with a spoon, egg beater, or electric mixer) until smooth. Gradually beat in the rest of the egg-milk mixture.

Heat a 5-inch skillet until a drop of water sizzles on it, brush with oil, and pour in about 2 tablespoons of the batter, enough to just cover the bottom of the skillet when it has been tilted from side to side. The cakes must be very thin. Fry the crêpe over moderate heat until brown on 1 side (about 1 minute), turn, and brown the other side. Roll up the crêpe and place it on a platter in a 150-degree oven to keep warm. Repeat until all the batter is used, brushing the skillet with oil each time before the batter is added.

Sauce:

- Grated rind of ½ lemon
- Grated rind and juice of 2 oranges
- 2 tablespoons granulated sugar
- 2 tablespoons powdered sugar
- 2 tablespoons Curaçao, Cointreau, or brandy

Combine rind and juice in a small saucepan with granulated sugar and powdered sugar; bring to a boil. Add Curaçao, Cointreau, or brandy; pour this hot sauce over the crêpes, touch with a lighted match, and carry, flaming, to the table. Serve the crêpes when the fire has burned out.

PER RECIPE: 1160 Cal., 34 g. Protein, 27 g. Fat (6 sat., 9 poly.)

ALMOND CAKES (*about 30 cakes*)

- 1½ cups flour
- 1 teaspoon baking powder
- ½ teaspoon salt
- ½ cup oil
- ¾ cup sugar
- 1 egg
- 1 teaspoon almond extract
- 2 tablespoons blanched almonds

Sift together flour, baking powder, and salt. Combine oil with sugar, beat in egg, almond extract, then flour mixture. If the dough is crumbly, add a few drops of water to form a stiff dough. Roll or pat out to ½-inch thickness, cut with 2-inch round cookie cutter. Mold edges with fingers to form smooth, rounded cakes; press 1 almond into center of each cake. Bake on ungreased cookie sheet in moderate oven (350 degrees) until cakes are a light golden tan (12–15 minutes).

PER RECIPE: 2330 Cal., 27 g. Protein, 127 g. Fat (19 sat., 67 poly.)

ANISE KUCHEN OR SPRINGERLE—*ANISE COOKIES* (*about 12 dozen cookies*)

From Elsie Foulke Haney, Duluth, Minnesota

- 4 tablespoons (¾ ounce) anise seed
- 4 cups flour
- 4 teaspoons baking powder
- ½ teaspoon salt
- 4 eggs
- 2 cups sugar
- 1 teaspoon vanilla

Grind up anise seed in a mortar or put through a pepper grinder. Sift with flour, baking powder, and salt.

Beat eggs, add sugar gradually, and continue beating until very light. (This will take ½ hour by hand, and about 10–15 minutes with an electric mixer.) Add vanilla, then fold in the sifted ingredients with a spoon. Roll out a little at a time, mark with a springerle board or rolling pin. Cut the squares, cover them with a cloth, and allow them to stand for 12 hours. Bake

on oiled cookie sheets in a moderate oven (300 degrees) until the under side of the cakes begins to tan.

PER RECIPE: 3450 Cal., 71 g. Protein, 26 g. Fat (9 sat., 2 poly.)

CRISP COOKIES (*about 125 thin cookies*)

- 4 cups bread flour
- 2 teaspoons baking powder
- 1 teaspoon salt
- ⅓ cup skim milk (or 1 tablespoon non-fat dry milk solids sifted with flour, and ⅓ cup water used as liquid)
- 2 egg whites
- 1 teaspoon vanilla
- 2 cups sugar
- ½ cup oil

Sift together flour, baking powder, and salt. Combine egg whites, skim milk, and vanilla.

Mix sugar with oil in a bowl. Add the liquid alternately with the sifted ingredients, until all is thoroughly mixed. Roll out to thin sheet, cut into shapes, sprinkle with sugar, and bake on ungreased aluminum cookie sheet in 375-degree oven for 6–7 minutes.

PER RECIPE: 4180 Cal., 56 g. Protein, 115 g. Fat (17 sat., 66 poly.)

OATMEAL RAISIN COOKIES (*about 80 cookies*)

- 1 package seedless raisins (15 ounces)
- ¾ cup sugar
- ⅞ cup oil
- 2 eggs
- 2½ cups flour
- 1 teaspoon soda
- ½ teaspoon salt
- 1 teaspoon vanilla
- 2 cups rolled oats, quick-cooking variety

Pour boiling water over raisins, allow to stand for 10 minutes, drain, and grind up. Mix sugar with oil, add and beat in eggs. Stir in ground raisins. Add vanilla. Sift together unsifted all-purpose flour, soda, and salt, and add them to mixture. Then stir in rolled oats. Drop with teaspoon on ungreased aluminum cookie sheet and bake at 375 degrees for about 10 minutes.

PER RECIPE: 5270 Cal., 74 g. Protein, 220 g. Fat (35 sat., 120 poly.)

ORANGE COOKIES (*about 30 cookies*)

- 1 teaspoon grated orange rind
- ¼ cup orange juice
- ⅔ cup light brown sugar
- ¼ cup oil
- 1 egg white
- 1½ cups sifted all-purpose flour
- ½ teaspoon soda
- ½ teaspoon baking powder

Grate rind of 2 medium oranges, and squeeze out juice. This is enough for both cookies and icing.

Measure brown sugar, tightly packed, mix with oil, beat in egg white, add orange juice and half of the grated orange rind. Sift flour with soda and baking powder, and stir into mixture. Drop with teaspoon on cookie sheet and bake about 8 minutes at 350 degrees.

Frosting:

- 2 tablespoons orange juice
- 1 teaspoon oil
- Pinch salt
- 1 cup powdered sugar

In small saucepan warm, but do not boil, orange juice, remaining orange rind, and oil. Add a pinch of salt. Stir in enough powdered sugar to achieve consistency for easy spreading (about 1 cup).

When cookies are cool, ice with frosting.

PER RECIPE: 2230 Cal., 22 g. Protein, 63 g. Fat (5 sat., 19 poly.)

KISSES (*about 25 kisses*)

- 2 egg whites
- ⅛ teaspoon salt
- 1 cup sugar, berry sugar, or powdered sugar
- ½ cup candied fruit bits (fruit-cake mix) or 1 cup chopped dates
- ½ teaspoon vanilla

Whip egg whites and salt until stiff but not dry, add sugar a little at a time, continuing to beat. Fold in ½ cup chopped candied fruit (or 1 cup chopped dates) and vanilla. Drop by spoonfuls on brown paper on baking sheet, bake in very slow oven (250 degrees) for ½ hour, turn oven off, and leave kisses in oven to cool gradually.

PER RECIPE: 1310 Cal., 11 g. Protein, 1 g. Fat (trace sat., trace poly.)

TEA CAKE (*to serve 16*)

Reminiscent of pound cake—very good without icing for tea or as dessert.

- 1 tablespoon grated orange rind
- ½ cup orange juice
- 2 eggs
- 1½ cups all-purpose flour
- 2 teaspoons baking powder
- 1 teaspoon salt
- 1 cup currants
- 1 cup sugar
- ⅓ cup oil
- ¼ teaspoon almond extract

Grate the rind of 2 small oranges, then squeeze out ½ cup of juice. Separate whites and yolks of eggs. Sift together flour, baking powder, and salt, and mix with the currants.

Whip the egg whites until stiff but not dry. Set aside. With same beater combine sugar, oil, and egg yolks, and beat thoroughly. Add orange juice and almond flavoring, mix well with sugar-egg-oil, then add sifted ingredients with currants. Fold in beaten egg whites and orange rind. Bake in oiled bread pan at 350 degrees for 1 hour.

PER RECIPE: 2570 Cal., 33 g. Protein, 86 g. Fat (15 sat., 43 poly.)

WHITE CAKE (*to serve 16*)

- 3 cups cake flour, sifted before measuring
- 1 tablespoon baking powder
- 1½ cups sugar
- ¼ teaspoon salt
- 6 tablespoons oil
- 3 egg whites
- 1¼ cups skim milk (or 4 tablespoons non-fat dry milk solids sifted with flour, and 1¼ cups water used as liquid)
- ½ teaspoon vanilla
- ¼ teaspoon almond extract

Sift together 3 times the sifted cake flour, baking powder, sugar, and salt. Work in oil with pastry blender. Beat egg whites until stiff but not dry, and fold into flour mixture. Add skim milk, vanilla, and almond extract, and beat for 1 minute. Pour into 3 8-inch cake pans, and bake at 375 degrees 20–25 minutes.

Frost with 7-minute white icing. If desired, mix ½ cup chopped figs and ¼ cup seedless raisins with ⅓ of the frosting to spread between the layers of the cake.

PER RECIPE: 3150 Cal., 43 g. Protein, 87 g. Fat (13 sat., 49 poly.) without icing
4330 Cal., 50 g. Protein, 87 g. Fat (13 sat., 49 poly.) with icing

APPLESAUCE SPICE CAKE (*to serve 16*)

From Henry Keys, Lake Owasso, Minnesota

- ⅓ cup oil
- 1 cup sugar
- 1 egg
- 1 cup sweetened applesauce
- 1¾ cups all-purpose flour
- 1 teaspoon salt
- 1 teaspoon soda
- 1 teaspoon cinnamon
- 1 teaspoon cloves
- 1 cup raisins
- 1 cup currants

In a large bowl combine oil, sugar, and egg, using rotary egg beater or electric mixer. Beat in sweetened applesauce.

Sift together flour, salt, soda, cinnamon, and cloves. Sift part of this mixture over raisins and currants. Add the rest of the flour mixture to the batter gradually, continuing to beat until smooth. Beat in the raisins and currants; transfer to an oiled 9- x 13-inch cake pan and bake in a moderate oven (350 degrees) for 40 minutes.

PER RECIPE: 3280 Cal., 29 g. Protein, 81 g. Fat (13 sat., 44 poly.)

SECTION V

TABLES

TABLE 16

CALORIES PER GRAM OF NUTRIENTS

The old rule is to estimate that one gram of pure dry carbohydrate or protein yields 4 calories and one gram of fat yields 9 calories. In ordinary United States measures this means 1816 calories per pound of carbohydrate or protein and 4086 calories per pound of fat. Actually, there is some variation in the calories per unit weight of nutrient, depending on the source, and more precise estimates are made with the factors recommended by the Food and Agriculture Organization of the United Nations as given below.

Nutrient Source	*Carbohydrate*	*Protein*	*Fat*
Milk and milk products	3.87	4.27	8.79
Eggs	–	4.36	9.02
Meats, fish, etc.	–	4.27	9.02
Cereals, crude	3.78	3.59	8.37
Cereals, 70–74% extraction	4.12	4.05	8.37
Potatoes	4.03	3.47	8.37
Vegetables	3.99	3.11	8.37
Fruits	3.60	3.36	8.37
Sugar	3.87	–	–
Vegetable fats, refined	–	–	8.84

TABLE 17

WEIGHTS OF COMMON MEASURES OF FOODS

Foods should be weighed for accurate estimation of the nutrients they contain. But the following tabulation for a few food items may be useful for rough estimations in the home.

Food Item	*Portion*	*Weight, grams*
Apple, raw	1 medium (2½″ diam.)	150
Bacon, fried	2 slices	16
Banana, raw	1 medium (1½″ x 6″)	150
Beans, dried, raw	1 cup	190
Beans, dried, baked	1 cup	260
Bread, white	1 slice, ½″	23
Butter, lard, oil	1 tablespoon	14
Cheese	1″ cube	28
Cocoa, breakfast	2 teaspoons	5
Corn Flakes	1 cup	25
Egg, whole	1 medium	54
Egg yolk	1 medium	18
Flour, wheat, all-purpose	1 cup, stirred	110
Frankfurter, cooked	1 (7″ x ¾″)	50
Jam, jelly, syrup	1 tablespoon	20
Mayonnaise	1 tablespoon	13
Milk, whole or skim	1 cup	244
Oatmeal, cooked	1 cup	240
Olives, canned	10 "mammoth"	65
Orange, raw	1 medium (3″ diam.)	215
Peanuts, salted	½ cup	70
Peas, shelled, raw	½ cup	75
cooked or canned	1 cup	60
Potato, white, raw	1 medium (2½″ diam.)	100
Potato chips	10 chips (2″)	20
Rice, white, raw	1 cup	190
white, cooked	1 cup	168
Shredded Wheat	1 biscuit (2½″ x 4″)	28

TABLE 18

FATTY ACID COMPOSITION OF FOOD FATS

The effect of dietary fats on the concentration of cholesterol in the blood depends on the fatty acids in the fats. The saturated fatty acids raise the cholesterol level, the poly-unsaturated, or poly-enes, have a weaker, opposing effect, while the mono-enes, which have only one point of unsaturation in the molecule, have little or no effect. These rules apply to the natural fatty acids; the unnatural mono-enes and poly-enes produced by hydrogenation tend to resemble saturated fatty acids in raising the cholesterol level.

The following table refers only to natural, i.e. *not* hydrogenated, fatty acids. Data from the Human Nutrition Research Division of the Agriculture Research Service, U. S. Department of Agriculture, from the Nutrition Division of the Food and Agriculture Organization of the United Nations, and from various recent research were supplemented by newer analyses of critical items in the Laboratory of Physiological Hygiene, University of Minnesota.

The values given below are estimated average values; different samples may show considerable variation.

Item	*% Saturated*	*% Mono-ene* *Oleic*	*Other*	*% Poly-ene* *Linoleic*	*Other*
ANIMAL FATS—FISH, TURTLES*					
1. Eel (*Anguilla vulgaris*)	18	45	–	37	
2. Haddock (*Melanogrammus aeglefinus*)	19	30	–	51	
3. Halibut (*Hippoglossus hippoglossus*)	20	39	–	41	
4. Herring (*Clupea harengus*)	19	23	–	58	
5. Pike (*Esox lucius*)	19	37	–	44	
6. Pilchard (*Sardina ocellata*)	27	20	–	53	
7. Salmon (*Salmo salar*)	15	32	–	53	
8. Trout (*Salmo trutta*)	27	38	–	35	

* Notes, listed by item number
1–11. Little or no linoleic acid is contained in these fats; the "other" fatty acids generally contain more than 2 double bonds.

Item	% Saturated	% Mono-ene Oleic	% Mono-ene Other	% Poly-ene Linoleic	% Poly-ene Other
9. Tuna (*Thunnus thynnus*)	25	30		–	45
10. Turtle, green (*Chelonia mydas*)	46	32		–	22
11. Turtle, sea (*Caretta caretta*)	46	31		–	23
ANIMAL FATS–MAMMALS					
12. Bear (*Ursus americanus*), body fat	12	65	5	12	6
13. Beef, heart	48	37	3	6	6
14. Beef, liver	52	25	3	10	12
15. Beef, flesh	49	45	3	2	1
16. Buffalo (*Bubalo bubalus*), flesh	58	47	3	1	1
17. Butterfat (cow)	58	36	2	3	1
18. Butterfat (goat)	62	30	2	5	1
19. Butterfat (human)	46	44	2	7	1
20. Goat (*Capra domesticus*), flesh	58	35	4	2	1
21. Horse, flesh	32	38	8	6	16
22. Lamb, flesh	52	39	4	3	2
23. Pork, flesh	40	47	3	9	1
24. Pork, liver	45	29	3	14	9
25. Rabbit, domestic, flesh	42	29	4	15	10
26. Rabbit, wild, flesh	36	30	4	18	12
27. Seal (*Phoca vitulina*), blubber*	18	31		–	51
28. Veal, flesh	48	42	2	7	1
29. Venison (*Cervus elaphus*), flesh	66	25	3	3	3
30. Whale (*Balaenidae*), blubber*	33	30		–	37
ANIMAL FATS–POULTRY					
31. Chicken, body fat	30	40	4	20	6
32. Chicken, egg*	33	46	9	7	5
33. Duckling, body fat	34	47	6	12	1
34. Turkey, body fat	28	44	4	21	3

27, 30. Note the similarity to fish.
32. Quickly variable according to feed of the hen; poly-ene may surpass 20% on special feed.

Item	% Saturated	% Mono-ene Oleic	% Mono-ene Other	% Poly-ene Linoleic	% Poly-ene Other
NUT FATS					
35. Almond	8	71	2	20	–
36. Brazil	20	51	3	26	–
37. Cashew	16	72	2	10	–
38. Filbert (Hazelnut)	5	69	6	17	3
39. Macadamia	16	60	21	3	–
40. Peanut	18	56	–	26	–
41. Pecan	7	72	1	20	–
42. Pistachio	10	69	1	20	–
43. Walnut, black	6	37	–	50	7
44. Walnut, English	7	17	4	64	8
OILS AND FATS–VEGETABLE					
45. Cacao butter, chocolate	57	39	2	2	–
46. Coconut	92	6	–	2	–
47. Corn	15	25	3	56	1
48. Cottonseed	26	23	–	51	–
49. Grape seed	18	20	5	50	7
50. Mustard seed*	6	22	49	16	7
51. Olive	10	82	–	8	–
52. Palm (red)	47	42	1	9	1
53. Peanut	18	56	–	26	–
54. Rape seed*	6	16	54	15	9
55. Safflower	10	12	–	78	–
56. Sesame	14	44	–	42	–
57. Soybean	15	25	1	52	7
58. Sunflower	12	20	–	68	–
SEED AND GRAIN FATS					
59. Barley	13	32	2	50	3
60. Chick-peas (*Cicer arietinum*)	9	52	1	38	–
61. Corn, kernel	15	25	3	51	1
62. Corn meal, white	12	38	4	45	1
63. Millet	32	22	3	37	6
64. Oatmeal, rolled oats	22	34	2	40	2
65. Oats	12	43	3	40	2

50, 54. The "other" mono-ene is erucic acid, similar to oleic acid but with 22 instead of 18 carbon atoms in the chain.

66. Pumpkin seed	17	39	1	42	1
67. Rice	17	44	1	37	1
68. Rye	16	13	1	62	8
69. Watermelon seed	16	33	1	49	1
70. Wheat, flour	15	32	2	47	4
71. Wheat, germ	16	23	2	52	7

TABLE 19

CHOLESTEROL CONTENT OF FOODS

FOOD	*CHOLESTEROL Mg. per 100 g.*	*FOOD*	*CHOLESTEROL Mg. per 100 g.*
Beef, flesh, lean or fat	100	Fish, herring	90
Beef, heart	140	Fish, mackerel	80
Beef, liver	250	Fish, salmon	60
Beef, kidney	350	Fish, sardine	70
Beef, tripe	150	Fish, sole	20
Butter	280	Fish, trout	60
Caviar	290	Fish, tuna (canned, drained)	70
Cheese, American cheddar	160	Ice cream, 12% butterfat	60
Cheese, blue	160	Lamb, flesh	100
Cheese, cream	130	Lard	110
Cheese, Swiss, Emmentaler	130	Lobster	200
Cheese, Swiss, process	145	Margarine, 65% animal fat	70
Chicken, dark meat	60	Milk, skim	3
Chicken, white meat	80	Milk, whole, 3.5%	11
Cream, 12% butterfat	40	Oyster	320
Cream, 20% butterfat	70	Pork, flesh, lean or fat	70
Duck	70	Pork, liver	340
Egg, yolk (1 large yolk = 17 g.)	1800	Veal, brain	1900
Egg, whole	550	Veal, flesh	100
Fish, carp	490	Veal, kidney	350
Fish, cod	60	Veal, liver	350
Fish, haddock	60		

TABLE 20

CALORIES IN NON-ALCOHOLIC BEVERAGES

Calories per ordinary serving are listed below. Note that an ordinary teacup or coffee cup as used today will not hold 8 fluid ounces (= one standard cup measure), so the "cups" indicated below were calculated as 6 ounces.

		CALORIES
1 "cup" (6 oz.)	tea or coffee, 2 tsp. sugar, 1 Tbsp. cream	70
1 "cup" (6 oz.)	tea, 2 tsp. sugar, lemon	35
1 cup (8 oz.)	caffe latte (see Recipes)	60
1 "cup" (6 oz.)	breakfast cocoa, usual recipe or pre-mix	220
1 glass (6 oz.)	orange juice, fresh or canned	85
1 glass (6 oz.)	pineapple juice, canned	120
1 glass (6 oz.)	lemonade, 2 Tbsp. juice, 2 tsp. sugar	40
1 glass (6 oz.)	ginger ale	65
1 bottle (6 oz.)	cola beverage	85
1 glass (6 oz.)	whole milk	125
1 glass (6 oz.)	buttermilk	70
1 glass (6 oz.)	skim milk	70
1 glass (6 oz.)	mineral water, plain or sparkling	0

TABLE 21

CALORIES IN ALCOHOLIC BEVERAGES

The table below gives the calories from alcohol, from other substances (almost entirely sugars), and the total from all sources, per common measure of average alcoholic beverages.

Alcohol provides 7.1 calories per gram. In alcoholic beverages it is customary to measure the alcohol as percentage by volume or by "proof," which is (in America) simply twice the alcohol volume per cent (i.e. 100 proof = 50 per cent alcohol by volume).

Since the density of alcohol at ordinary temperature is 0.79 grams per cubic centimeter, and 1 fluid oz. = 29.6 cc., we have:

1 cc. alcohol = 5.6 calories, and 1 fluid oz. = 166 calories

Item	*Alcohol Strength*	*Unit of Measure*	*Calories From Alcohol*	*Calories From "Other"*	*Calories Total*
Beer, 3.2	3.2%	12 oz. can	65	65	130
"strong"	6.0%	12 oz. can	124	65	189
Wine, dry table types	12–14%	4 oz. glass	87	24	111
Concord grape, "Kosher"	12–14%	4 oz. glass	87	40	127
dry Sherry	20%	3 oz. glass	100	24	124
Port, sweet Vermouth	20%	3 oz. glass	100	50	150
Champagne, *sec*	14%	3 oz. glass	70	15	85
Whiskies, brandies, rums	86 proof	1 oz. pony(1)	72	–	72
Gins, whiskies	90 proof	1 oz. pony	76	–	76
Gin, Gordon	94 proof	1 oz. pony	79	–	79
Whisky, U.S. Bonded	100 proof	1 oz. pony	84	–	84
Rum, Demerara	114 proof	1 oz. pony	96	–	96
Fruit cordials and liqueurs	80 proof	1 oz. pony	67	30	97
D.O.M., and Yellow Chartreuse	86 proof	1 oz. pony	72	30	102
Kirsch	96 proof	1 oz. pony	81	20	101
Green Chartreuse	110 proof	1 oz. pony	92	30	122
Martini cocktail(2)	65 proof	3 oz.	166	–	166
Manhattan cocktail(3)	60 proof	3 oz.	151	6	157

(1) A jigger is 1½ oz.; the smaller "pony" is often erroneously called a "jigger," especially in ordinary bars.
(2) One part dry Vermouth, 3 parts gin, plus ice.
(3) One part sweet Vermouth, 2 parts rye or bourbon whisky, plus ice.

TABLE 22

FOOD COMPOSITION—CALORIES, PROTEIN, FAT (TOTAL, SATURATED, AND POLY-UNSATURATED)

This table gives calories per pound and per 100 grams, and percentages of total weight made up of proteins, total fats, saturated fats (Sat.), and poly-unsaturated fats (Poly.) for the edible portions of the foods listed.

Most foods vary appreciably in nutrient composition, and the percentage of fat is particularly variable in meats, poultry, and fish. The fatty acid composition of food fats is also variable, especially in pork, lard, egg yolks, margarines, and shortenings. The values given below are approximate averages; in the case of the fats in some fruits and vegetables only rough estimates are available.

Further data, including vitamin and mineral contents, will be found in the publications listed in the Selected References under Food Composition Tables and Chemistry of Fats and Cholesterol.

Item	*Calories per lb.*	*Calories per 100 gm.*	*Protein %*	*Fat % Total*	*Fat % Sat.*	*Fat % Poly.*
BAKED GOODS						
Bread, Boston brown	1000	220	5	2	–	–
corn (using oil)	1000	220	7	5	–	2
French or Vienna, U.S.	1220	270	8	4	1	–
Italian (see recipe)	1180	260	8	1	–	–
white, average bakery	1250	275	8	3	1	–
Cake, angel-food	1220	270	8	–	–	–
fruit, dark	1610	355	5	13	3	–
sponge	1320	290	8	5	3	–
Crackers, graham	1770	390	8	7	2	1
soda	1910	430	9	9	3	1
Doughnuts, plain, cake	1930	425	7	22	6	9
raised	1630	360	6	13	2	5
Macaroni, spaghetti, etc., dry	1730	380	13	1	–	–
cooked	680	150	5	1	–	–
Noodles (containing egg) dry	1750	390	14	3	1	–

Item	*Calories* per lb.	*Calories* per 100 gm.	*Protein* %	*Fat %* Total	*Fat %* Sat.	*Fat %* Poly.
Pretzels	1680	370	9	3	1	–
Rolls, dinner	1410	310	9	5	2	–
sweet	1480	325	9	10	4	–
BREAKFAST CEREALS						
Bran Flakes	1320	290	11	4	–	2
Corn Flakes	1750	385	8	–	–	–
Farina ("Cream of Wheat") cooked	200	45	1	–	–	1
Oatmeal, cooked	290	65	2	1	–	1
Puffed rice	1770	390	6	–	–	–
Shredded Wheat	1635	360	10	4	–	2
DAIRY PRODUCTS						
Butter	3250	720	1	81	46	2
Buttermilk	160	35	3–4	–	–	–
Cheeses						
Blue, Gorgonzola, Roquefort	1680	370	22	32	18	–
Camembert	1360	305	20	25	15	–
Cheddar, natural	1790	395	24	33	18	1
processed	1730	380	22	32	18	1
Cottage, dry	435	95	23	–	–	–
creamed (skim milk)	485	110	18	5	3	–
Cream	1680	370	7	40	22	1
Edam	1380	305	27	20	12	1
Liederkranz	1350	300	16	25	15	1
Limburger	1790	395	24	32	19	1
Mozzarella, U.S. (N.Y.)	1245	275	28	18	10	–
part skim milk	1140	250	29	15	8	–
Parmesan, U.S.	1785	395	36	32	17	1
imported		400	33	30	16	–
Provolone, U.S.	2020	445	10	45	24	1
imported		370	26	29	15	–
Ricotta, U.S. (N.Y.)	615	135	9	11	6	–
part skim milk	570	125	11	9	5	–

Item	*Calories* per lb.	*Calories* per 100 gm.	*Protein* %	*Fat %* Total	*Fat %* Sat.	*Fat %* Poly.
Swiss, U.S.	1680	370	23	29	14	1
imported	1840	405	29	31	18	1
Cream, light (table)	930	205	3	22	12	1
whipping	1500	330	2	33	18	1
Goat milk	300	65	3	3	4	2
Ice cream, plain	950	210	4	12	7	–
low fat (soft-serve ice milk)	735	165	7	5	3	–
Malted milk powder	1840	405	15	9	5	–
Milk, whole fluid	300	65	3–4	3–4	2	–
dried whole	2235	490	26	27	14	1
high protein, low fat	340	75	7	2	1	–
non-fat, skim	160	35	3–4	–	–	–
dried skim	1630	360	36	1	–	–
evaporated	640	140	7	8	4	–
sweetened condensed	1450	320	8	8	4	–
Sherbet, milk	570	125	2	–	–	–
Yogurt	220	49	3	2	1	–
FATS, OILS, MARGARINES, SHORTENINGS						
Butter	3250	720	1	81	46	2
Lard, hard	4090	900	0	100	35	12
soft	4090	900	0	100	30	20
Margarine, old type "A"	3250	720	0	81	16	16
old type "B"	3250	720	0	81	19	9
old type "C"	3250	720	0	81	16	15
new type "E"	3250	720	0	81	13	24
new type "F"	3250	720	0	81	14	21
new type "G"	3250	720	0	81	24	31
Oil, coconut	4020	885	0	100	92	2
corn	4020	885	0	100	16	57
cottonseed	4020	885	0	100	28	51
olive	4020	885	0	100	12	8
peanut	4020	885	0	100	18	26
safflower	4020	885	0	100	12	78
sesame	4020	885	0	100	13	42
sunflower	4020	885	0	100	10	72

Item	*Calories* per lb.	*Calories* per 100 gm.	*Protein* %	*Fat %* Total	*Fat %* Sat.	*Fat %* Poly.
Shortening, old type "A"	3950	870	0	98	24	13
old type "B"	3950	870	0	98	27	16
new type "C"	3950	870	0	98	25	28
Suet, beef	3780	840	2	93	48	2
FISH, SEA FOODS						
Abalone, raw	470	105	22	1	–	–
Anchovies	780	170	19	10	2	5
Anchovy paste	920	200	20	12	3	5
Bass, black, raw	450	100	21	2	–	1
Bluefish, raw	430	125	21	4	1	2
baked	700	155	27	5	–	3
Bonito	730	160	24	7	1	4
Clam juice	50	10	1	–	–	–
Clams, raw	360	80	13	1	–	–
canned	230	50	8	1	–	–
Codfish, raw	340	75	17	–	–	–
dried	1700	375	82	3	1	1
Crab meat	380	85	16	2	–	1
canned	470	105	17	2	–	1
Crayfish (fresh water)	330	70	16	–	–	–
Eel, raw	690	160	18	9	2	4
Finnan haddie	440	100	23	1	–	–
Haddock, raw	260	80	18	–	–	–
fried in oil	730	160	19	6	1	–
Halibut, raw	570	125	19	5	1	–
broiled	820	180	26	8	2	–
Herring, Atlantic	860	190	18	13	3	7
Lake	640	140	19	7	1	–
Pacific	430	95	17	3	1	–
Atlantic, kippered	950	210	22	13	3	7
Lobster, raw	235	90	16	2	–	1
canned	410	90	18	1	–	–
Mackerel, raw	665	190	19	12	2	6
canned (Pacific)	820	180	19	11	–	5
Oysters, raw	380	85	10	2	–	1
Pike, walleye	360	80	19	1	–	–
Pilchards (Pacific sardine), Tomato pack	980	215	18	15	4	8
Pompano	750	165	19	10	2	5

Item	*Calories* per lb.	*Calories* per 100 gm.	*Protein* %	*Fat %* Total	*Fat %* Sat.	*Fat %* Poly.
Salmon, Pacific Chinook, raw	1000	220	17	17	4	9
Pacific Chinook, broiled	770	170	28	6	1	3
sockeye or red, canned	770	170	20	10	2	5
chum, canned	640	140	22	5	1	–
coho or silver, canned	750	165	21	8	2	–
pink or humpback, canned	660	145	21	6	1	2
Chinook or king, canned	910	200	20	13	3	–
Sardines (Atlantic), canned, drained solids	980	215	26	11	2	5
Scallops, raw	360	80	15	–	–	–
Shad, raw	560	170	19	10	2	5
Shrimp, canned, dry pack or drained solids	590	130	27	1	–	–
Sole, raw	350	80	17	1	–	–
Squid, raw	360	80	16	1	–	–
dried	1380	305	62	4	1	2
Swordfish, raw	520	115	19	4	1	2
broiled	795	175	27	6	1	3
Trout, eastern brook, raw	430	95	19	2	–	1
Tuna, canned, drained solids	910	200	29	8	2	5
FLOURS, MEALS, STARCHES						
Barley, Scotch	1585	350	9	1	–	–
Corn grits, cooked	230	50	1	–	–	–
Corn meal, whole	1630	360	9	4	1	2
degermed	1630	360	8	1	–	1
Farina meal	1680	370	11	1	–	–
Oatmeal (rolled oats) uncooked	1800	400	14	7	2	3
Rice, brown	1630	360	8	2	–	–
white	1630	360	8	–	–	–
wild	1660	365	14	1	–	–
Rye flour, dark	1450	320	16	3	–	–
Starch (e.g. cornstarch)	1630	360	–	–	–	–

Item	Calories per lb.	Calories per 100 gm.	Protein %	Fat % Total	Fat % Sat.	Fat % Poly.
Tapioca, dry	1630	360	1	–	–	–
Wheat flour,						
all-purpose white	1660	365	11	1	–	–
cake flour	1660	365	8	1	–	–
whole	1500	330	13	2	–	1
Wheat germ	1630	360	25	10	2	3
FRUITS						
Apples	270	60	–	–	–	–
Applesauce,						
sweetened, canned	370	80	–	–	–	–
unsweetened, canned	210	50	–	–	–	–
Apricots	230	50	1	–	–	–
dried	1180	260	5	1	–	–
Avocados (California)	1040	245	2	18	4	2
Bananas	360	90	1	–	–	–
Blackberries	270	60	1	1	–	–
Blueberries	270	60	1	1	–	–
Cantaloupe	90	20	1	–	–	–
Cherries, red, raw	270	60	1	1	–	–
Cranberry sauce, canned	910	200	–	–	–	–
Currants, red	250	55	1	–	–	–
Dates, dried	1290	285	2	1	–	–
Figs, canned, sweetened	520	115	1	–	–	–
dried	1225	270	4	–	–	–
Gooseberries	180	40	1	–	–	–
Grapefruit	180	40	1	–	–	–
Grape juice, Concord	315	70	–	–	–	–
Grapes, Concord	315	70	1	1	–	–
Malaga, seedless, Tokay	300	65	1	–	–	–
Honeydew melon	135	30	1	–	–	–
Lemon	120	30	1	–	–	–
Olives, green, pickled	585	130	2	11	2	1
ripe, pickled	845	190	2	14	2	2
Oranges	205	45	1	–	–	–
Peaches, raw	205	45	1	–	–	–
canned, sweetened	315	70	–	–	–	–
Pears, raw	300	65	1	–	–	–
canned, sweetened	315	70	–	–	–	–

Item	Calories per lb.	Calories per 100 gm.	Protein %	Fat % Total	Fat % Sat.	Fat % Poly.
Pineapple, fresh	185	60	–	–	–	–
canned	355	60	–	–	–	–
Pineapple juice, canned	220	50	–	–	–	–
Plums	230	50	1	–	–	–
Prunes, dry	1190	270	2	–	–	–
Raisins, dry	1220	270	2	–	–	–
Raspberries, red	250	55	1	1	–	–
red, frozen	430	95	1	–	–	–
Rhubarb, fresh	80	20	1	–	–	–
Strawberries, raw	160	35	1	1	–	–
frozen	470	105	1	1	–	–
Tangerines	185	45	1	–	–	–
Watermelon	90	30	1	–	–	–
MEATS						
Beef, corned, medium fat	1310	290	16	25	12	–
corned, canned	980	215	25	18	9	–
dried	925	205	34	6	3	–
flank, prime	2680	590	9	60	29	1
flank, good	2180	480	13	48	23	–
flank, commercial	1900	420	15	40	19	–
loin, prime	2000	440	13	43	21	–
loin, good	1540	340	15	31	15	–
loin, commercial	1330	290	17	25	12	–
rib, prime	2040	450	13	44	21	–
rib, good	1540	340	16	31	15	–
rib, commercial	1250	280	17	23	11	–
round, prime	1300	290	17	24	12	–
round, good	1030	230	19	17	8	–
round, commercial	880	190	19	13	6	–
Lamb, leg, medium fat	1040	230	18	18	7	–
rib, medium fat	1525	350	15	32	12	1
shoulder, medium fat	1285	295	16	25	10	–
Pork, leg, medium fat	1540	340	15	31	12	1
leg, fat	1860	410	13	40	16	1
leg, thin	1210	270	17	22	9	1
loin, medium fat	1320	290	16	25	10	1
luncheon meat, canned	1370	300	23	23	9	1

Item	*Calories per lb.*	*Calories per 100 gm.*	*Protein %*	*Fat % Total*	*Fat % Sat.*	*Fat % Poly.*
salt, fat	3420	785	4	85	40	3
shoulder meat, canned	1770	390	14	37	15	1
smoked ham	1765	390	17	31	12	1
smoked bacon, lean	2400	530	12	53	21	1
smoked bacon, med. fat	2860	630	9	65	26	2
smoked bacon, fried	2770	610	25	55	22	4
smoked Canadian bacon	1040	230	22	15	6	1
spare ribs (60% refuse)	1590	350	15	32	13	1
Rabbit, domestic	790	175	21	10	4	1
wild	590	130	21	5	2	–
Veal, flank, medium	1100	309	17	27	12	–
loin, medium	800	176	19	11	5	–
quarter (excluding kidney), medium	840	184	19	12	5	–
rib, medium	910	201	19	14	6	–
shank, medium	680	151	20	8	4	–
Venison	610	135	20	6	3	–
NUTS, NUT PRODUCTS						
Almond	2720	600	19	54	4	11
Brazil	2930	645	14	66	13	17
Cashew, roasted	2630	580	19	48	8	3
Chestnut	860	190	3	2	–	1
Coconut meat, dried	2525	555	4	39	34	–
Filbert (Hazelnut)	2370	522	18	50	3	10
Peanut, roasted	2540	560	27	49	11	15
Peanut brittle	2000	440	8	16	3	–
Peanut butter (natural)	2610	575	26	51	13	13
Pecan	3160	695	9	71	5	14
Pistachio	2574	567	18	55	5	10
Walnut	2950	650	15	64	4	40
POULTRY AND EGGS (values are for edible portion, free of bones and shells)						
Chicken, boned, canned	1720	380	14	36	10	8
broiler	680	150	20	7	2	2

Item	*Calories per lb.*	*Calories per 100 gm.*	*Protein %*	*Fat % Total*	*Fat % Sat.*	*Fat % Poly.*
fat hen	1360	300	18	25	7	6
fryer, dark meat	500	110	21	3	1	1
fryer, white meat	480	105	23	1	–	–
giblets (fryer)	500	110	20	4	1	1
liver	640	140	22	4	1	1
roaster	910	200	20	13	3	2
Duck, domestic	1450	320	16	20	10	3
wild	1020	225	21	16	5	2
Eggs, raw, whole	750	165	13	12	4	–
raw, yolk	1640	360	16	32	11	–
Goose, domestic	1650	365	16	34	12	7
Pheasant	660	145	24	5.2	1	1
Quail	730	160	25	6.8	2	1
Squab	770	170	11	13	4	3
Turkey, raw	1085	270	20	20	6	3
SALAD DRESSING						
Boiled, recipe*	385	85	4	3	1	–
Cooked, recipe*	900	198	5	18	4	7
"French," bottled	1790	390	1	43	5	24
"French," recipe*	2660	586	0	65	9	37
French, true, olive oil	2660	586	0	65	9	5
Mayonnaise, recipe*	3540	780	0	86	13	38
Mayonnaise, true, olive oil	3540	780	0	86	12	7
Salad dressing, bottled	1743	384	1	48	7	29
SAUSAGES AND VARIETY MEATS						
Brain, calf	550	120	9	12	4	?
Heart, beef	500	110	17	4	2	–
calf	590	130	15	7	3	–
Kidney, beef	610	135	15	8	2	2
calf	520	115	17	5	1	1
lamb	500	110	17	4	1	1
Liver, calf or baby beef	630	140	19	5	2	1
pork	610	135	18	5	2	1
Pigs' feet, pickled	910	200	17	15	6	1
Sausages						
Bologna	1220	270	14	22	9	1
Cervelat, soft	1340	295	19	25	11	1
Frankfurter, beef	1290	285	15	23	11	–

Item	Calories per lb.	Calories per 100 gm.	Protein %	Fat % Total	Fat % Sat.	Fat % Poly.
Liverwurst	1200	265	17	21	8	5
Polish	1240	270	16	23	11	1
Pork, link	1210	265	14	23	11	–
Salami, dry	2040	450	25	38	16	1
Sweetbreads, beef	1270	280	14	25	?	?
Tongue, beef	910	200	16	15	7	–
calf	570	125	19	5	2	–
lamb	880	195	14	15	7	–
Tripe, beef	430	95	19	2	1	–
SUGARS AND SWEETS						
Candy, butterscotch	1860	410	0	9	4	–
caramels	1880	415	3	11	7	–
chocolate creams	1790	395	4	14	7	–
milk chocolate	2270	500	6	32	18	–
Chocolate syrup	950	210	1	1	1	–
Citron, candied	1425	315	–	–	–	–
Ginger, candied	1540	340	–	–	–	–
Glucose (dextrose, corn sugar)	1590	350	0	0	0	0
Honey	1335	295	–	–	0	0
Jams, marmalades	1265	280	–	–	–	–
Jellies	1140	250	–	0	0	0
Maple syrup	1160	260	0	0	0	0
Molasses, blackstrap	980	215	0	0	0	0
light	1140	250	0	0	0	0
Sugar, brown	1670	370	0	0	0	0
confectioners'	1750	385	0	0	0	0
white (cane or beet)	1750	385	0	0	0	0
Syrup (85% cane, 15% maple)	1210	270	0	0	0	0
VEGETABLES—FLOWER, FRUIT, SEED						
Artichoke (50% waste)	135	30	2	–	–	–
Bean sprouts	210	25	3	–	–	–
Beans, lima, green	590	130	8	1	–	–
lima, dry	1490	330	21	1	–	–
navy and others	1530	340	21	2	1	1

Item	Calories per lb.	Calories per 100 gm.	Protein %	Fat % Total	Fat % Sat.	Fat % Poly.
navy and others, baked	590	130	6	3	–	–
red, kidney	1525	335	23	2	1	1
snap, green	160	35	2	–	–	–
snap, green, canned	90	20	1	–	–	–
snap, green, frozen	160	35	2	–	–	–
Broccoli	135	30	3	–	–	–
frozen	110	25	3	–	–	–
Cauliflower	110	25	2	–	–	–
Chick-peas (*garbanzos*), dry	1630	360	21	5	1	2
Corn, sweet, on cob (65% waste)	110	25	1	–	–	–
canned	315	70	2	–	–	–
Cucumbers	45	10	1	–	–	–
Eggplant	110	25	1	–	–	–
Green peppers	110	25	1	–	–	–
Hominy, canned	320	70	1	–	–	–
Lentils (entire seed), dry	1530	340	25	1	–	–
Okra	160	35	2	–	–	–
Peas, green	450	100	7	–	–	–
green, canned	315	70	3	–	–	–
green, frozen	340	75	6	–	–	–
split, dry	1565	345	25	1	–	–
Pimento, canned	125	25	1	–	–	–
Pumpkin	135	30	1	–	–	–
Squash, summer, zucchini	90	20	1	–	–	–
hard, winter	180	40	1	–	–	–
Tomato juice, canned	110	20	1	–	–	–
Tomato paste	480	110	5	–	–	–
Tomatoes	90	20	1	–	–	–
canned	90	20	1	–	–	–
green	90	20	1	–	–	–
VEGETABLES—LEAF, STEM						
Asparagus	90	20	2	–	–	–
Beet greens	116	25	2	–	–	–
Broccoli, stem	155	35	3	–	–	–
Brussels sprouts	200	45	4	1	–	–

Item	*Calories per lb.*	*Calories per 100 gm.*	*Protein %*	*Fat % Total*	*Fat % Sat.*	*Fat % Poly.*
Cabbage	115	25	1	–	–	–
cooked	115	25	1	–	–	–
Cauliflower, stem	80	20	2	–	–	–
Celery	100	20	1	–	–	–
Chinese cabbage	80	20	1	–	–	–
Endive	90	20	2	–	–	–
Fennel (finochio)	110	20	2	–	–	–
Lettuce, head type	65	15	1	–	–	–
Mustard greens	130	30	2	–	–	–
Sauerkraut	75	15	1	–	–	–
Spinach	90	20	2	–	–	–
boiled	90	25	3	–	–	–
Water cress	110	20	2	–	–	–
VEGETABLES—ROOTS, TUBERS						
Beets (roots only), peeled	205	45	2	–	–	–
cooked	180	40	1	–	–	–
canned	155	35	1	–	–	–
Carrots	180	40	1	–	–	–
cooked	135	30	1	1	–	–
Onions, Bermuda or globe	200	45	1	–	–	–
boiled	180	40	1	–	–	–
Parsnips	360	80	1	1	–	–
boiled	270	60	1	1	–	–
Potato chips, hard	2450	540	7	37	12	4
Potato chips, soft	2450	540	7	37	6	20
Potatoes, sweet	570	125	2	1	–	–
sweet, boiled	570	125	2	1	–	–
white	380	85	2	–	–	–
white, boiled	380	85	2	–	–	–
Rutabaga	180	40	1	–	–	–
Turnips, white	135	30	1	–	–	–
white, boiled	115	25	1	–	–	–

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28. EPPRIGHT, ERCEL S.; SWANSON, PEARL; and IVERSON, CARROLL A. (Editors): *Weight Control—A Collection of Papers Presented at the Weight Control Symposium.* Iowa State College Press, Ames, Iowa. 1955. Modern research papers on overweight. Not too technical for most readers.

29. FISHBEIN, MORRIS (Editor): *Heart Care. An Authoritative Guide by Twenty Experts.* Hanover House, Garden City, New York. 1960. Reliable and readable for everyone. A.K. wrote the diet chapter.

30. GELVIN, E. PHILIP, and MC GAVACK, THOMAS H.: *Obesity—Its Cause, Classification and Cares.* Hoeber-Harper, New York. 1957. A short, authoritative discussion by two physicians long experienced with the problem of obese patients.

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32. JOLLIFFE, NORMAN: *Reduce and Stay Reduced.* (2nd Ed.) Simon and Schuster, New York. 1957. One of the best books for the general reader on the why of overweight and what to do about it.

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35. LEDERMAN, M.: *The Slim Gourmet.* Simon and Schuster, New York. 1955. Shows how to eat well without too many calories.

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39. ROSENTHAL, SYLVIA: *Live High on Low Fat.* J. B. Lippincott, Philadelphia. 1962. The wife of a doctor-coronary patient feeds him well.

40. SMITH, ALMA PAYNE, and CALLAHAN, DOROTHY: *The Low Sodium, Fat-Controlled Cookbook.* Little, Brown, Boston. 1960. Dedicated to the citrus fruit industry but full of useful recipes with data on calories, sodium, total fat, and saturated fat.

41. STEAD, EVELYN S., and WARREN, GLORIA K.: *Low-Fat Cookery.* (New revised, enlarged edition.) McGraw-Hill, New York. 1959. The wives of two top-flight physicians feed their husbands, good friends of ours, on these menus.

42. SWANK, ROY L., and GRIMSGAARD, AAGOT: *Low-Fat Diet Recipes.* University of Oregon Books, Eugene, Oregon. 1959. Useful recipes and advice from a professor of neurology and his research associate.

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45. BENEDICTINE SISTERS OF PEKING: *The Art of Chinese Cooking.* Charles E. Tuttle, Tokyo. 1956.

46. BROBECK, FLORENCE: *Cooking with Curry.* M. Barrows, New York. 1952.

47. BROWN, HELEN: *Helen Brown's West Coast Cook Book.* Little, Brown, Boston. 1952.

48. CARBIA, MARIA A. DE: *Mexico Through My Kitchen Window.* Houghton Mifflin, Boston. 1961.

49. CHAMBERLAIN, SAMUEL: *Bouquet de France.* Gourmet, New York. 1954.

50. CHAN, SOU: *The House of Chan Cookbook.* Doubleday, Garden City, New York. 1952.

51. DAVID, ELIZABETH: *Italian Food.* Alfred A. Knopf, New York. 1958.

52. FARMER, FANNIE MERRITT: *The Boston Cooking School Cook Book.* Little, Brown, Boston. 1951.

53. FENG, DOREEN YEN HUNG: *The Joy of Chinese Cooking.* Grosset & Dunlap, New York. 1954.

54. FIRUSKI, ELVIA, and FIRUSKI, MAURICE (Editors): *The Best of Boulestin.* William Heinemann, London. 1952.

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56. LIN, TSUIFENG, and LIN, HSIANGJU: *Cooking with the Chinese Flavor.* Prentice-Hall, New York. 1956.

57. LOW, HENRY: *Cook at Home in Chinese.* Macmillan, New York. 1954.

58. MAZZA, IRMA G.: *Accent on Seasoning.* Little, Brown, Boston. 1957.

59. METZELTHIN, PEARL V.: *World Wide Cook Book.* Julian Messner, New York. 1939.

60. MILORADOVICH, MILO: *The Art of Fish Cookery.* Garden City Books, Garden City, New York. 1949.

61. MULVEY, RUTH WATT, and ALVAREZ, LUISA MARIA: *Good Food from Mexico.* M. Barrows, New York. 1950.

62. PEPPER, BEVERLY: *Potluck Cookery.* Doubleday, New York. 1955.

63. PINTO, MARIA LO: *The Art of Italian Cooking.* Doubleday, New York. 1950.

64. PLATT, JUNE, and KERR, SOPHIE: *The Best I Ever Ate.* Rinehart, New York. 1953.

65. PRATZ, CLAIRE DE: *French Home Cooking.* E. P. Dutton, New York. 1956.

66. PRIESTNALL-HOLDEN, IVIE: *750 Dishes from Overseas.* Macmillan, New York. 1943.

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69. SIMON, ANDRÉ L.: *Food.* Burke, London. 1949.

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71. SORCE, ROSE L.: *La Cucina.* Cresset Press, London. 1955.

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Books on Wines—A Baker's Dozen

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82. DIRECTOR, ANNE: *The Standard Wine Cook Book.* Garden City Books, Garden City, New York. 1948. Free from the bizarre concoctions of the wine-cookery poseur.
83. HEALY, MAURICE: *Stay Me with Flagons.* Michael Joseph, London. 1950. The light touch of the urbane man of letters.
84. JAMES, WALTER: *A Word Book of Wine.* Phoenix House, London. 1959. From *abboccato* to *zymase* in a useful little encyclopedia.
85. JUNIPER, WILLIAM: *The True Drunkard's Delight.* Unicorn, London. 1933. A classic work of humorous scholarship.
86. LICHINE, ALEXIS: *Wines of France.* Alfred A. Knopf, New York. 1960. Comprehensive and entertaining coverage by an expert among experts.
87. LUCIA, SALVATORE P.: *Wine as Food and Medicine.* Blakiston, New York. 1954. The best book on the subject, written by a discriminating enthusiast.
88. MARRISON, L. W.: *Wines and Spirits.* (Penguin Books) Spottiswoode, Ballantyne & Co., London. 1957. Technical and historical aspects covered by a chemist who also writes novels.
89. MASSEE, WILLIAM EDMAN: *Massee's Wine Handbook.* Doubleday, Garden City, New York. 1961. A good introduction concentrated on French wines.
90. MELVILLE, JOHN: *Guide to California Wines.* Doubleday, New York. 1955. Sprightly, reliable.
91. SELTON, CHARLES: *Wine in the Ancient World.* Routledge & Kegan Paul, London. 1957. A classical scholar's exercise that will also delight some ordinary folk.
92. SIMON, ANDRÉ: *Drink.* Horizon Press, New York. 1953. One of England's leading pundits writes somewhat super-elegant essays on history.
93. WAUGH, ALEC: *In Praise of Wine and Certain Noble Spirits.* William Sloane Associates, New York. 1959. The well-known novelist rambles gracefully around the subject.

GENERAL INDEX

RECIPE AND MENU INDEX

Numbers in ordinary type refer to page numbers on which the individual recipes will be found. Numbers in brackets indicate pages on which these recipes are used in menus.