

Fruits, by Herbert Shelton



"Figs or Pigs, Fruit or Brute?" is the title of a little book on fruitarianism which I have in my possession. The question is a pertinent one and its correct answer is freighted with increased

health and happiness for everyone. Dr. Alcott declared, and this at a time when the regular profession declared fruit to be practically without food value, that; 'The purest food is fruit. Fruit bears the closest relation to light. The sun pours a continuous flood of light into the fruits, and they furnish the best portion of food a human being requires for sustenance of mind and body.'

Botanically, fruits are the edible parts of plants that result from the development of pollinated flowers, such as peaches, oranges, cucumbers, tomatoes, peppers, nuts, beans, peas, etc. Although, scientifically, beans, peas, nuts and other such articles of food, are classed as fruits, popularly such seed, because they do not possess an edible capsule (we do eat the green pods of the bean), are not considered as fruits. Botanically, the wheat grain or other cereal is a fruit. We shall here consider under the term of fruit, however, only those foods that possess the edible capsule surrounding the seed and shall consider nuts and cereals in separate chapters.

The soft, delicious pulp of the peach, pear, plum, apple, orange, etc., constitute fine food and is prepared by the plant especially for export purposes. Primarily, seeds are produced for reproduction. Secondly, they are produced in great over abundance, that some

of these may be used as export products. Some fruits, such as the banana, We and the seedless orange, do not surround a seed. Other fruits, like the pomegranate, are largely seed, with but little

edible pulp.

Edible fruits exist in greater variety than any other form of foodstuffs; over 300 different edible varieties are known. The tropics are especially abundant in them. Long before Bichat proved, by comparative anatomy, that man is naturally frugivorous, the race had recorded this fact in a thousand ways. The very word frugal refers to fruit. Dr. Oswald tells us of the Romans of the Re-

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publican age that, "in their application of the word, a frugal diet meant quite literally a diet of tree-fruits."

Ancient peoples realized the great importance of fruits. The Bible is full of references to fruits and vineyards. The same is true of other ancient literature. Moses exempted the man, who had planted a vineyard, from military service. The pagans consigned the olive tree to Minerva, the date to the Muses and the fig and grape to Bacchus for protection.

"And the Lord God planted a paradise eastward in Eden and there He put the man whom He had formed. And out of the ground made the Lord to grow every tree that is pleasant to the sight and

good for food; And God took the man and put him into the Garden of Delight to dress it and keep it. And the Lord God commanded the man, saying, 'of every tree of the garden thou mayest freely eat'."

In these few words the writer of Genesis explains to us that man was originally a gardener or rather a horticulturist and lived upon the fruits of the trees. In this, many of the ancient myths, legends and tradition agree perfectly with Moses. These also picture man as living in a state of perpetual bliss with health, strength and a very long life, so long as he remained on his fruit and nut diet and as becoming depraved, weak, short-lived and diseased when he forsook this and took to a diet of meat. This early age of man was called the "Golden Age."

The tradition of the deluge has it that the first thing Noah did after the waters of the flood had subsided was to plant a vineyard.

The account of the spies sent by Joshua to investigate the land of Canaan tells us that they brought back "unto all the congregation, and showed them the fruit of the land."

The Latin poet, Ovid, pictures for us, a Golden Age when "Western winds immortal spring maintained," and when man lived on fruits, berries, and nuts. He says: "The teeming earth, yet

guiltless of the plough, and unprovoked, did fruitful stores allow." During this age there was no vice and crime. Then, after describing the horrible cruelties inflicted upon animals, in order to appropriate their flesh as food, he says:

"Not so the Golden Age, who fed on fruit,

Nor durst with bloody meals their mouths pollute."

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Referring to a subsequent "Silver Age," Ovid says:
"Then summer, autumn, winter did appear,
And spring was but a season of the year;
The sun his annual course obliquely made,
Good days contracted, and enlarged the bad.
The air with sultry heat began to glow;
The wings of winds were clogged with ice and snow;
And shivering mortals, into houses driven,
Sought shelter from the inclemency of heaven.
Those houses, then, were caves, or homely sheds;
With twining osiers fenced, and moss their beds,
Then ploughs, for seed, the fruitful furrows broke,
And oxen labored first beneath the yoke."

Geology proper knows only one climate - a universal spring-like

climate which reigned from pole to pole. Then, there came a great change in earth's climate. Ovid describes man before and after this change. He pictures agriculture and dwelling in caves and houses, as succeeding the Golden Age. Almost without ex-

'i 2' the poets, philosophers and historians of antiquity picture
let of primitive man as being very simple and consisting large-
L' of fruits and nuts. Porphyry, a Platonic Philosopher of the
d century, after carefully investigating the subject of diet, tells
us that "the Ancient Greeks lived entirely on the fruits of the earth."
Making all allowances for the accretions of time and the loss of

accuracy which time brings to traditions, these ancient myths
embody important truths. They were not manufactured "out of
whole cloth." They are not only important as blurred pictures of
a more remote antiquity, but are also important as indications of
the importance the peoples of less remote times attached to fruits
and nuts. The myth of Prometheus, who first stole fire from heaven,
points back to a time when man did not cook his food; when he
was not a deformed, sickly, suffering creature as we see him today,
but a long-lived, healthy, happy being.

The Greeks always served two courses of fruits, while the
Romans, if they ate breakfast at all, had a fruit breakfast. The
third course of the principal daily meal of the Romans consisted
of a super-abundance of fruits from their own orchards. Rich
Romans planted fruit trees on the tops of high towers, and on the
tops of their houses. The ancient Cymnosophists, of India, lived
entirely upon fruits and green vegetables. It was a part of their
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religion to eat nothing which had not been ripened by the sun, and
made fit for food without any further preparation.

Fruits are rich in alkaline minerals and in those qualities or

characteristics which are called vitamins and complettins and also
in organic acids. Sweet fruits are especially valuable for their
delightful sugars, so easily digested (sometimes almost pre-digested),
which sustain the body with so little energy expenditure in digestion.

Fruit sugars are better than starch. Even bananas, commonly
condemned as indigestible, are a superior food and easily digested
if fully ripened. Fruit sugars require very little work in digestion and
consume far less energy than starch. "The ordinary dried figs
of commerce," says Dr. Densmore, "are said to contain about 68

per cent of glucose, which when eaten, is in the identical condition that the starch of cereal food is converted into after a protracted and nerve-forcing-wasting digestion." The same is true of grapes, dates, raisins, bananas, etc.

Starch is an almost insoluble carbohydrate and is converted into sugar in the process of digestion in rendering it soluble. The following brief description by Milo Hastings, of the storing of starch by plants and its later conversion into sugar is both interesting and instructive: "Many plants store future food material in this form of starch and later, when nature requires this material in soluble form so it can move and flow through the cells, the starch is changed into sugar.

"This is the change that occurs in the sprouting or making of

all grains, and malt syrup is sugar made in this fashion from the starch

Of the barley grain. Even the starch of the potato hum to sugar when the potato is planted, and sometimes after long storage we get a little of this sugary taste in our potatoes and wonder what is the matter with them.

"When we get starch in any form it is changed into sugar

before absorption from our digestive organs and yet after absorp-

tion some of this sugar is changed back into glycogen or 'animal starch,' which is stored in the liver, or to a lesser extent in the muscles, until it is needed as fuel for our muscles. Then before it is actually oxidized or burned in the muscles this product must again be changed back to sugar."

Fruits are rich in levulose (fruit sugar), which is the choicest of all sugars. It represents starch in a state of complete digestion

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and is ready for instant absorption and assimilation. It is the ready absorption of this sugar that renders fruit juices so refreshing

to the fatigued person.

The best source of sugar for the body is sweet fruits-grapes, dates, bananas, figs, raisins, etc. These sugars come to us almost

Cre-digested and well-balanced with minerals and vitamins. These

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its are wholesome, natural, delicious and are full of life-sustaining qualities. No cook, confectioner or manufacturer can even remotely imitates" delicious products of nature's solar-vital laboratory.

Sweet fruits are superior to starches as a source of carbohy-

drates. Man is a sub-tropical animal and his craving for sweets is, undoubtedly, a survival of his habit of subsisting largely on the sweet fruits which grow so abundantly in the sub-tropics and top-

ics. Sweet fruits serve the same heat and energy purposes that starch

does and need almost no digestion. The digestion of starch foods

consumes much more energy than does the digestion of sweet fruits

Dr. Densmore, indeed, strenuously advocated a non-starch dietary

and insisted upon the substitution of sweet fruits for starch foods.

For he claimed, and rightly, that sweet fruits give the greatest amount of nourishment for the least amount of digestive strain.

Herbert Spencer, who stigmatized bread and milk and butter, as insipid, and who praised fruits because they were savoury and wholesome, declared that "the more the labor of digestion is economized, the more energy is left for the purposes of growth and atcion." He perceived, also, that considerable energy is consumed in converting starch into sugar, in making it available for use in the body.

Starch digestion takes place largely in the duodenum. Indeed, combined, as it usually is, with proteins and acids, starch is almost wholly digested in the duodenum, and has usually undergone considerable fermentation before it reaches there.

Starch must first be converted into sugar before the body can use it - fruit sugars have been converted from starch to sugar while ripening under the influence of the sun. The sun and the life force of tree having done this part of the work, man may save his energy by eating the fruit instead of cereals or potatoes, which certainly do not form any part of man's natural diet.

Fruits produce more food per acre than any other food, except pecans. Humboldt calculated that the ground required to produce thirty-three pounds of wheat or ninety-nine pounds of potatoes, -131-

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will produce four thousand pounds of bananas - a delightful fruit that is more valuable than both of these foods. Grapes and other fruits will all produce comparatively large yields.

A grapevine planted in 1775, at San Gabriel, Calif., now has a base eight feet and nine inches in circumference; its branches spread over an area of twelve thousand square feet - a space the size of a city lot 100 ft. by 120 ft It produces a ton of grapes a year. No tilled crop can equal fruits and nuts in the amount

ded. Fruit culture will simplify agriculture and lessen the farmer's

Fruits are commonly divided into three classes according to the amount of sugar and fruit acid they contain, viz., acid fruits, sub-acid fruits and sweet fruits. The most common fruit acids are malic, tartaric, citric and oxalic. These occur usually in acid salts of potassium, sodium or calcium.

Malic acid is found chiefly in apples, pears, currants, berries, pineapples, grapes and cherries. Tartaric acid is found in grapes. Citric acid is found in oranges, lemons, limes, grapefruit, tangerines, tangeloes, tomatoes, gooseberries and currants. Oxalic acid is found in small amounts in raspberries, tomatoes, grapes and currants, with but a trace of it found in apples, plums, oranges and lemons. Cranberries are rich in it. During the ripening process, fruit acids are slowly transformed into sugar. As the orange, for example, ripens, its acid content decreases and its sugar content rises.

The principal sweet fruits are dates, figs, sweet grapes, raisins, bananas, prunes and the pawpaw.

The chief subacid fruits are apples, pears, apricots, blackberries, blueberries, raspberries, cherries, grapes, peaches, persimmons, plums and practically all deciduous fruits.

The acid fruits are oranges, lemons, limes, pineapples, grapefruit, tangerine, tangeloes, strawberries, loganberries, cranberries, loquats and tamarinds.

The world teems with a profusion of kinds and varieties of edible fruits and no effort will be made here to consider all of them individually. A few of the more commonly known fruits will be briefly noticed. They will be considered alphabetically, rather than under their classifications.

Apples: These fruits are poor in vitamin C and are not especially rich in B, but added to a scurvy-producing diet, they prevent scurvy. They are also described as curative in scurvy.

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Apples contain calcium, phosphorus, sulphur, iron and magnesia.

Their phosphoric acid is in the most soluble form, while the iron in the apple is more easily taken into the blood than iron from any other source. Dr. Tilden especially recommends apples for rachitic children, and for building good bones and teeth. Dr. Claunch stated that cavities in his teeth healed while he was on an apple diet. There are many varieties of apples, all of them a delight to the sense of taste, and they are obtainable throughout the year.

Avocado: The avocado is coming more and more into populari-

ty and as its cultivation increases, is destined to become one of the finest articles of diet on the American bill-of-fare. At present the best avocados we get in this country are raised in California. Florida and West Indian avocados are not as tasty as California avocados and do not possess the food value of the latter. A good California avocado

contains about 3.39% protein. This is about the protein content of milk and that of the avocado is equal to the protein of milk in its content of amino acids essential to growth and repair. It is low in carbohydrates, containing but 2.9% of these of which 1% is invert sugar. They are rich in a very tasty emulsified oil which has a high degree (about 93.8%) of digestibility. The total minerals of a good California avocado amount to 1.18% of the total edible portion. This includes an ample proportion of the bases: calcium, potassium, magnesium and sodium. It contains considerable iron while phosphorus is found in generous combination with its protein. Copper, essential to the assimilation of iron, and manganese are present in smaller quantities. The avocado contains liberal supplies of several of the vitamins. It is a good source of thiamin (B1) and riboflavin (B2 or C) and is a fair source of A and C (ascorbic acid). The avocado requires no preparation, but is ready to eat when it reaches the mellow stage. Due to its high fat content it is not wise to eat it with other protein foods.

Bananas: The banana is a tropical plant and together with figs, dates and a host of other such fruits, are demonstrations that nature has not designed sweet fruits for cold regions and juicy and sub-

acid fruits for the tropics. People who live on banana plantations consume them in large quantities and withstand the heat well. Figs and dates are favorite foods of the desert peoples.

Chemical analysis shows the banana to contain: water 73.3 per cent; protein 1.3 per cent; fat .06 per cent; total carbohydrates 2 per cent; mineral element £ per cent. The mineral content of
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the banana is largely potash, sodium and chlorine. Lime and iron exist in but small amounts.

Prof. Jafia says that green bananas contain: sugar .94, starch 22.26. Ripe bananas contain sugar 18.87, starch, .82. When bananas are thoroughly ripened the almost indigestible starch of the green banana has been converted into an almost pre-digested sugar ready for immediate absorption. A well-ripened banana is almost predigested. It is then good for food, not before.

Bananas are rich in vitamins A and B, which promote growth. The antiscorbutic vitamin C is abundant in bananas. Vitamin D, which is supposed to prevent rickets, is said by some investigators

to be deficient, although Berg declares it is present in sufficient quantity. Vitamin E, which is supposed to promote fertility, is present

although its quantity is supposed to be small.

Tested on rats, banana protein proves to be inadequate; yet there is a So. American parrot that lives exclusively on bananas and attains an age that makes the oldest rat look like a day-old infant. The fecal discharges of this parrot have the fragrance of bananas and are as inoffensive as bananas themselves.

Banana protein has been proven to be of about equal value

to those of pears and potatoes. "An abundant supply of bananas,"

says Berg, is a guarantee that the food will contain an excess of

bases," although there may be a partial lack of calcium salts. They are too poor in calcium to be adequate growth promoters. Bananas plus nuts, plus green vegetables would make an adequate diet for child or adult and for a pregnant or a lactating mother.

Berg says: "Bailey Ashford relates that Indigenes convalescing

from yellow fever, eat nothing but bananas, consuming from thirty

to forty of these fruits daily without any supplement whatever,

health and strength returning in a marvelously short time. I have myself proved that, after habituation to the strange diet, it is possible to live very well on bananas and butter, with a much lower consumption of protein than is requisite, for instance, upon a wheaten diet."

Thousands of rubber gatherers perform prodigious feats of mus-

cular strength and endurance on almost no other food than bananat

The banana is higher in nutritive value than any other fresh

-fruit. Mr. Mcfadden, who once declared the banana to be a complete food, thought one could live a life-time on it and be thoroughly nourished, providing only, that the bananas were eaten when thorough-

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ly ripened. He stated that he had known many athletes of more than ordinary ability to live almost entirely on bananas for an extended period and maintain their strength to a high degree on this food.

There is little doubt that a mature individual could live for

some time on bananas alone, without any appreciable decrease in

strength or health, and this is especially true if the bananas eaten had fully ripened on the tree. But bananas do not form a complete

food and one could not live a life-time on these alone. Mr. Mcfadden

made the above statement at a time when we knew less about the life-sustaining and growth promoting value of foods than now. He was not far from right, at that.

Bananas that are shipped are pulled green and are ripened after reaching the dealer. They are usually sold to the consumer

and eaten by him in only a partially ripened state. Often they are sold with green tips. More often, however, the banana is all yellow.

A yellow banana is still an unripe banana. A fully ripened banana

is flecked with little brown spots. It resembles the complexion of

a much freckled boy, except the banana freckles are darker and

become black. Fully ripened bananas are usually sold much cheaper

than the unripe ones because they do not keep long after ripening. It is just then, however, that they should be eaten.

No fruit that is pulled green and ripened afterwards, is as good

as are those that are permitted to ripen on the tree. The ripening process is less complete, their food value is not so great, their flavor is not so delightful. These things are due to two chief causes: (1)

they are deprived of the sap from the tree, and (2) they are deprived of the influence of the sun's rays.

I have been informed that if a stalk of bananas is placed in the

sunshine, with the end of the stalk in water, the bananas will ripen

almost as well as if they had been permitted to ripen on the tree and will have almost as delicious a flavor.

Bananas are excellent food for children and should be given

them instead of candy, cakes, pies, sugar, etc. They will supply

the child with the needed sugar in an easily assimilated form.

All children relish them and will prefer them to the above abdominal conditions. Give them well-ripened bananas and let them chew them well.

A lady once saw the writer give his little two year old son

a banana to eat, and thought it a crime that I did not mash the banana up well before giving it to the boy. She had a girl only a
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few months older and fed her bananas this way. It is the writer's

conviction that the wrong was on her side. Mashed bananas can be

swallowed without chewing, but the whole banana requires some chewing before swallowing. The mother chewed the food of her daughter with a masher, but this did not insalivate it. The daughter then swallowed it without insalivating it.

It is true that a well-ripened banana does not require much insalivation but it should be given all that naturally comes to it in the necessary chewing. Other than this, children should not be fed in a manner that encourages them to swallow their food without chewing it.

Popular and quasi-scientific opinion has it that the banana is

difficult to digest. So it is if eaten green,' as is usually the case, while they are still starch, the green starch being almost insoluble. In this state they are much like green apples, green peaches, etc., and may result in trouble when eaten. There are few foods that are more easily digested than a fully ripened banana, and surely none with a stronger appeal to the unperverted taste. The use of tobacco seems to deprive the user more or less of his natural relish offruit.

Berries: The acid of berries is chiefly citric, with small amounts of malic acid. All berries, except cranberries, are excellent foods.

The strawberry possesses a delicate, sweet-acid flavor and a delightful aroma. It is rich in iron and lime, containing about a fourth of a grain of lime to the ounce. It excels all other fresh fruit, except figs and raspberries, in richness in iron. Strawberries are richer in iron than most vegetables, being excelled only by green peas and fresh lima beans.

Cranberries, unlike other fruits, contain an excess of acid minerals.

Cherries: Over two hundred varieties of this excellent fruit are grown in the United States, and their composition varies with the variety. They are rich in sugar, minerals and vitamins.

Dates: A sweet fruit of the palm, the date is an excellent source of simple sugar. It is richer than most fruits in protein, being richer, even, than mother's milk and is relatively high in minerals.

Figs: A prince among the sweet fruits are the many varieties of this anciently cultivated fruit (or flower). Native figs were found growing in Mexico, Central and So. America when the New World was discovered. Many varieties are grown in this country, although few varieties are known to the general public. The mineral content

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of figs closely resembles that of human milk. They are rich in sugar and are excellent sources of vitamins.

Grapes: Grapes merit their title, "King of Fruits." They are rich

in iron and fruit sugar and vitamins. Their use in the famous "grape cures," of France and Southern Germany, has demonstrated their wonderful nutritive and "cleansing" value.

They contain from fifteen to thirty per cent sugar and, like most fruits, are low in protein. They are also rich in vitamin C.

Raisins: or dried grapes, are very rich in a readily assimilable

sugar.

Hates: A delicious fruit growing wild in Southern United States and known as red haws and black haws, according to their color, these fruits are deserving of cultivation and wider use.

Mangoes: The mango is a tropical fruit and has long been

cultivated by man. It does well in Florida, Southern Texas and in

a few sheltered spots in California, although the best mangoes our market affords come from Central America. It is one of the most delicious of fruits and is destined to grow in popularity.

Melons: All melons are excellent foods. There was an old

notion, fostered by the medical profession, that melons cause "chills"

and "fevers," remnants of which still exist and cause many people

to reject these foods. Three general types of melons are produced

in America. These are:

Casaba: Also known as the winter melon, is represented by

Several varieties, such as the casaba, honey dew, golden beauty,

Christmas melon and other types.

Musk-melon: Most musk-melons are commonly known as Can-

teloupes. There are many varieties called canteloupes. In the South the term musk-melon is reserved for one variety which is much larger than the others and is ridged or sectional. The persian melon and the banana melon belong to this group. The banana melon gets its name from its shape, similar to that of the banana, although it grows to great length and is large in diameter.

Watermelons: These are among the largest of our fruits, often weighing more than a hundred pounds. There are many varieties of water melon. It is common to describe the outer skin of the water melon as green; some of them are golden yellow. It is also common to refer to the inner part or meat as red; there are water melons with yellow meat.

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All kinds and varieties of melons are valuable for their minerals, vitamins, sugars and pure water.

Contrary to popular and professional belief, probably nobody is ever allergic to melons. My experience has been that so-called allergic individuals can take all the melons they desire without distress, if the melons are eaten alone. Melons do not combine well with other foods, except perhaps, other fruits.

Nectarines: are closely related to the peach and are sometimes classed as a variety of the peach. In appearance they seem to be a cross between a peach and a plum, as they have a smooth skin. The composition of the nectarine is similar to that of the peach, although its flavor is distinctive.

Oranges are rich in lime and other alkaline salts. They have a delightful flavor and may be relished by everyone. Their use combats "acidosis" and prolongs youth. These, with grapefruit, are our best agents in feeding the sick. As a cleansing diet, I prefer the grapefruit.

The experiments of B. Leichtentritt (on guinea pigs) in an effort to determine the relations between the presence of "accessory

food factors" in the diet and the course of tuberculosis provide

wonderful testimony in favor of acid fruits. When he added lemon

juice to a "basal diet" this made a very great difference. The

lemon juice improved the general nutrition of the pig - especially the fat storing power-and "raised its resistance to the tubercle bacillus." The bacillus was forced to live on the dead tissue and excreta (were restored to their normal saprophytic work) and forced to abandon their parasitic activities. The different diet compelled the bacillus to change its tactics and, if it continued to grow freely, did so without producing any definite toxic effect.

I have not discussed grapefruit (pomelo), lemons, tangerines, tangeloes, etc., under separate heads, because, in general, what is said of the orange applies also to these fruits. Even the pineapple is not greatly different from these foods. The orange is richer in sugar than most other citrus fruits. The Texas grapefruit is richly supplied with sugar and is not bitter. The pinks and ruby reds are very popular, though not superior in flavor or food value to the white grapefruit.

Papayas: Called also a "tree melon" because of its resemblance to a melon, this fruit grows on a giant herbaceous plant and not on a tree. It is a valuable and delicious fruit, but lacks all the magic

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and medicinal virtues with which the salesmen of papaya juice_ and

papaya extracts invest it. It is a tropical fruit but does well in Florida

and the Lower Rio Grande Valley section of Texas. It does not

stand shipping and must be eaten "on the ground" to be really ap-

preciated.

The vitamin content of the papaya is a feature that has attracted considerable attention. Bulletin No. 77 of the Department of

Agriculture tells us that the papaya contains four vitamins. The vitamin content according to international units per 100 gms., is about 2,500 units of vitamin A, 33 units of vitamin B and 70 units of vitamin C. Vitamin D is present but the amount is as yet, unde-

termined. This is a relatively high vitamin content.

Prescribing papaya with protein meals because of the presence

in it of the enzyme, papain, or vegetable pepsin, as an aid to digestion is wrong. Because of the presence of this enzyme in the fruit, it

should never be eaten with protein foods. Teaching the stomach to rely upon outside sources of digestive enzymes, instead of removing

the cause of digestive impairment, is a ruinous practice.

Pawpaws: The American Pawpaw must be distinguished from

the papaya, which is also sometimes spelled "papaw" and "pawpaw." Our pawpaw, a native of the United States, grows best in the Mis-

issippi Valley where it was highly valued by the Indians. Someday it will be more widely cultivated in America. Unfortunately, it does

not ship well and is but little known outside its native haunts. Carque says it is fully equal, if not superior, to the banana in nutritive value.

It surpasses all other varieties of fresh fruit in protein content, its

edible portion possessing 5.2 per cent protein. It is also rich in sugar.

Peaches: Flavored by the presence of a very small quantity of

hydro-cyanic acid and fruit ethers, the peach is one of the most

delicious of fruits. Low in protein and fat, comparatively rich in

sugar, the many varieties of peaches are chiefly valuable for their vitamins and the sodium, potassium and calcium that make up most of their mineral content.

Pears: Botanically related to the apple, pears are similar to

apples in composition, but contain more sugar and less malic acid. Pears are not especially rich in vitamin A.

Persimmons: Carque says the persimmon comes to us from

Jaan. This is true only of certain varieties. We have many varieties

U- persimmons that are native to the. Southern part of the United States, and they are more tasty than the Japanese persimmon, though
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smaller. He says that in color, the persimmon resembles the tomato. This is also true only of certain varieties. There are black persimmons. The persimmon is among the most delicious of fruits.

Plums and Prunes: The many delightful varieties of plums are rich in sugar, minerals and vitamins. The dried prune may contain seventy per cent sugar, hence deserves to be classed as a sweet fruit. Plums are not especially rich in vitamin A.

Tomatoes. are commonly classed as vegetables but we shall consider them as fruits. They are the equal of oranges, both in vitamins and in alkaline elements and are the finest of foods. For a long time tomatoes or "love apples" were regarded as poisonous and were grown in flower beds as ornaments. People would not eat them, although the Indians had eaten them for ages. The old physio-medicalists claimed that they contained mercury and would rot the liver. Regular medical men eschewed them because they "make the blood acid." There are still people who believe that tomatoes are poisonous and that they build acidosis. There are still physicians who proscribe the tomato in rheumatic cases.

The tomato contains 1.40 per cent alkaline salts as against .34 per cent acid salts. It is so predominantly alkaline that its use cannot be too strongly urged. The juice of the tomato ranks next to orange juice in its beneficial effects. We can recommend it to babies and adults in large quantities. Tomatoes should be eaten uncooked and properly combined.

Tomatoes are also rich in vitamin A.

THE FRUIT DIET

The great nutritional value of fruits is unquestioned by the well-informed. Supplemented with nuts, they form the ideal diet of man. All fruits are rich in vitamins and mineral salts and are especially valuable in preventing or remedying deficiency "diseases. Dr. Oswald says: "From May to September fresh fruit ought to form the staple of our diet."

A few years ago, in one of his articles in The New York Evening

Graphic, Mio Hastings wrote: "'A daily reader' without name, sex or address, notes that fruit is always recommended to purify the blood, drive diseases from the body, etc. He, or she, wants to know why we should not live all the time on this superior type of food and so maintain perfect health.

"The idea, with slight modification, has been tried. A generation

ago, Prof. Jaffa, of the University of California, made a scientific

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study of a group of fruitarians, only these persons included nuts in their fruit diet. The professor found them underweight and undersized folks, but all in fine health. He also calculated the total amount of food they ate and found, as measured in caloric units, that they were living on much less total food than the teachings of those times held to be possible.

"At the time this report was issued food authorities taught us that we all ought to overeat because the average man did overeat, and that we all ought to be somewhat fat because the average

man was overfat. Looking over that report today, we realize that these minimum eaters were really in first class physical condition and were living the way of long life and freedom from the ills of fleshpots. They were able to live on fruits by including nuts, which are very rich in protein and fat, neither of which elements exist in fruit proper to a sufficient degree to maintain normal life.

"The chief reason we cannot live on fruits is that they contain practically no protein. This is also one reason why adding them to the average diet is beneficial, for the average diet is too rich in protein. Going on a fruit diet is 'cleansing' chiefly because it is a protein fast, and most of the accumulated wastes and poisons of the body are of a protein nature."

Dr. Gibson says of the nut and fruit diet: "In the light of the

latest notations in the science of human nutrition, there is no activity

in the human system, no process of digestion, assimilation, and

nutrition, no nervous expenditure or structural strain, that cannot be sustained and maintained to its highest constitutional potency by a judicious dietetic balance of fruit and nuts. The former gives it sugar for the maintenance of fats and heat of the system; its organic salts to sustain the chemical composition and metabolic balance of the blood; its acids for breaking up tissue congestions, due to accumulation of waste matter; while the nut, with its storage of nitrogen and fat, furnishes material for anatomic repairs, and lubrication of the various joint movements. Finally the carbons contained in both the fruit and nut unite to generate the cerebro-vital explosions which set free the energies of high tensioned nervous life."

Dr. John Bound (England) reports that, "In 1854 cholera attacked the Midland counties; there were many deaths in Staffordshire and elsewhere, but the fruit-growing and cider-making villages -141-

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of Herfordshire escaped. The physicians of that time attributed

this to the custom of eating fresh fruit; it is certain that the villagers

did not peel their apples, and so consumed vitamins freely, it being a fact that the vitamins exist near the peel in all such fruits."

Dr. Gibson says: "The gains accruing to an individual from

a well-established nut-and-fruit-diet would be far reaching. His

domestic economy, by virtue of the time-and-labor-saving simplicity of a mostly fireless housekeeping would give rise to surprising assets. Furthermore, the relation between man and his associates in the animal kingdom would find a perfect moral and ethical adjustment. There would be no justification for killing or taking of life, for the sake of life; no dependence on animal sacrifice for our existence. Released from this awful task of compulsory 'slaughter of the innocents,' man would rise into a living protective power of peace and good will to every creature within his zone of influence, aiming at a consecration in place of a desecration of expressions and opportunities of life. His attitude towards his dumb and helpless neighbors would be serene, sweet and peaceful, with no grim implement of murder, concealed in the caressing hand."

Because of the rapidity with which fruits leave the stomach, and the readiness with which they decompose after they have been broken up, fruit is best eaten alone and not in combination with other foods. A fruit meal is the ideal.

Under all conditions and circumstances fruits should be taken

alone and not eaten at the same meal with other foods. Fruits

digest in the intestine, not in the mouth and stomach, and should

not be held up in the stomach to await the digestion of other foods

before being passed on to their own digestive fields.

Sugar on fruit means fermentation. Two sugars do not go well together. Cane sugar and beet sugar must be converted into simpler sugar before they can be utilized. Fruit sugars do not. Cane and beet sugar tend to prevent the absorption of fruit sugars until they both ferment.

Preserved fruits are confections, not fruit. We do not advise them. Canned fruits have little to recommend them.

The use of fruit juices as desserts and as appetizers, so strongly advocated in some quarters, is pernicious. The practice is based on the belief that we must secure all of the needed food elements at each meal. It is advocated in total disregard of the limitations

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of the digestive enzymes. Such eating guarantees indigestion to everyone who practices it.

Drinking fruit juices at all hours of the day, instead of water,

is a sure road to indigestion. Fruit juices are foods, not drink, and should be taken as foods. Troubles arising from the misuse of fruits should not be blamed on the fruits.

Dried fruits are superior to bread in nutritive value, besides which they supply the bases so commonly lacking in cereals and cereal products. Sulphured fruits should never be employed. Sun dried fruits are best. Eat them dry or soak them but do not cook them. Fruits should never be cooked. Nor should they be frozen. They should be eaten ripe, fresh and uncooked. Their taste is not always as agreeable in this stage, but they are richer in vitamins before fully ripened. They lose vitamins in ripening. Fruits like vegetables have more vitamin C in proportion as they are green. Fruits in general, like many nuts, are poor in vitamin A.

Allergies to fruits are commonly not that at all. The troubles attributed to allergy are, in almost every instance due to misuse of the fruit. Eaten in proper combinations, people who imagine they are allergic to fruit, find they have no difficulty with them. Placing these "fruit allergic" people on a diet of fruits, using the very fruits to which they are supposed to be allergic, proves them not to be allergic.