"Applying a Straight Bat to Living"

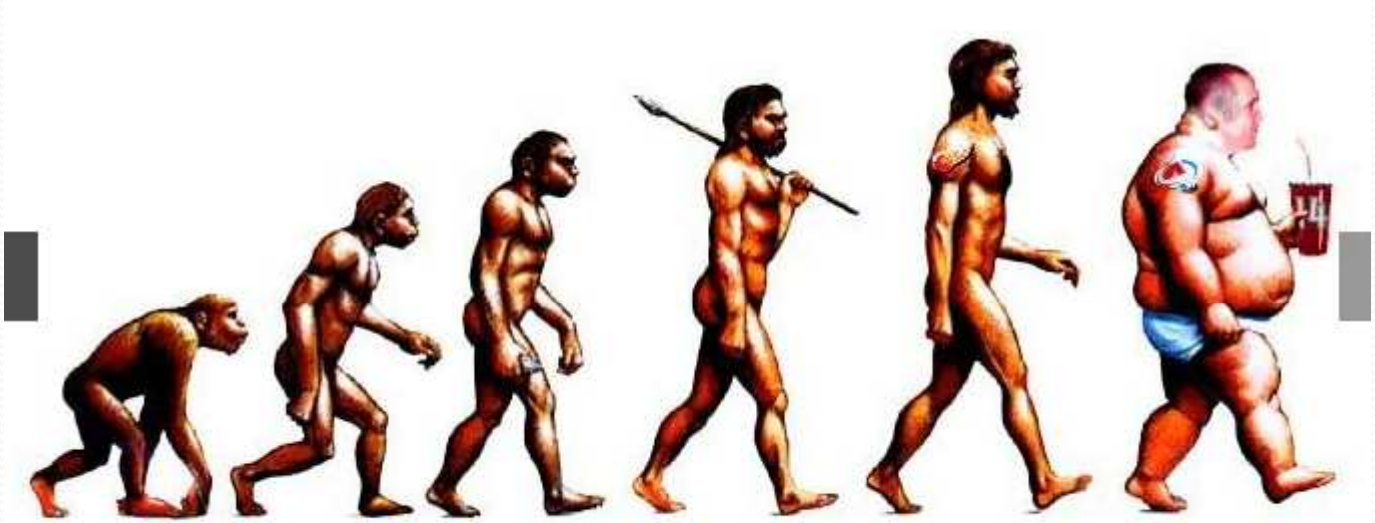
Food for life

Francesc Llauradó i Duran

As introduction…

- **Food is everything for humanity**. History of humanity is driven by food consumption and food production.
- Do we eat differently today from 50 years ago?
- The borderline between the developed countries and the rest of the countries is defined by food,
- **"We are what we eat… tell me what you eat and I will tell you where you live… and what is your social position!"**
- Food is probably the best medicine and at the same time the best poison for humans

Lets go to discuss about this large and important subject ***which all of us have an opinion… ENJOY IT !***



Evolution of man

Why we eat? …and continue eating…

- Early man ate only enough to meet his caloric requirements.
- Today we continue eating for very different reasons, but specially:

To gain euphoric feeling through the chemicals released in the body by the foods we eat:

Endorphins

Endorphins

Popular definition: Naturally occurring **substances released by the brain** that resemble opiates, and are theorized to be the brain chemicals **that make you feel happy and content.**

(Life Sciences & Allied Applications / Biochemistry) Any of a class of polypeptides, including enkephalin, occurring naturally in the brain, that bind to pain receptors and so **block pain sensation**

In 1993, an experiment was conducted to determine the power of endorphins.

Scientists inserted **electrodes into the brains of rats**. After the rats ran a maze, they could either **pull a lever**, which would, through the electrodes, **trigger the release of endorphins, or they could pull a lever that provided non-endorphin releasing food**. The observable results were that the rats chose endorphins, neglecting food, which, in some cases, resulted in death.

Each day we run our own maze, fueled predominately by food, rewarded by endorphins and the euphoric feelings they provide.

OBESITY

It is time for us to take responsibility for our own conditions and circumstances. Science knows that obesity is not genetic.

However, we must also recognize society's role in this epidemic.

The world we live in has changed dramatically in the past 50 years.

We have been separated from our friends, neighbors and nature by economics, housing, suburbia, and technology; **tempted by the constant images of food on television**, and lured by the instant gratification offered by the ever-present fast food chains.

Main source: several articles of Dr. Jeffry Weiss
Medical & Advisory Board – Insulite Laboratories

Table 1 shows us that the overall number of adults who are overweight or obese has continued to increase each decade. A BMI, or Body Mass Index, of 25 equates to a person who is 25% over their ideal weight.

Table 1

Increase in Prevalence (%) of Overweight (BMI > 25), Obesity (BMI > 30) and Severe Obesity (BMI > 40) Among U.S. Adults.			
	Overweight (BMI > 25)	**Obesity (BMI > 30)**	**Severe Obesity (BMI > 40)**
1999 to 2000	64.5	30.5	4.7
1988 to 1994	56.0	23.0	2.9
1976 to 1980	46.0	14.4	No Data
1964 to 1970	39.5	11.3	No Data
1950 to 1960	33.0	9.7	No Data

Source: CDC, National Center for Health Statistics, National Health and Nutrition Examination Survey. Health, United States, 2002. Flegal et. al. JAMA. 2002;288:1723-7. NIH, National Heart, Lung, and Blood Institute, Clinical Guidelines on the Identification, Evaluation and Treatment of Overweight and Obesity in Adults, 1998.

In Table2, we see that by every indicator – age, gender, and decade – the prevalence of overweight has become more and more systemic in our society.

Table 2

	Men Prevalence of overweight / obese (%)		**Women Prevalence of overweight / obese (%)**	
AGE (Years)	**1988 to 1994**	**1999 to 2000**	**1988 to 1994**	**1999 to 2000**
20 to 34	47.5	58.0	37.0	51.5
35 to 44	65.5	67.6	49.6	63.6
45 to 54	66.1	71.3	60.3	64.7
55 to 64	70.5	72.5	66.3	73.1
65 to 74	68.5	77.2	60.3	70.1
75 and older	56.5	66.4	52.3	59.6

Source: CDC, National Center for Health Statistics, National Health and Nutrition Examination Survey. Health, United States (Table 70) 2002.

Commenting on the prevalence of obesity in America, John Foreyt, Ph.D., obesity expert at Baylor College of Medicine, concluded that, "At the rate the average waistline is expanding in the United States, everyone will be overweight in another 100 years . . . It's not our genes that are the problem; it's our environment."

In the world we are 1.400 millions of overweight people and 500 mio of obese !

Caveman food... what do we know about the history of food for humans?

What did the caveman eat?

Different cavemen lived in different parts of the world, and of course the diet varied throughout the seasons.

Probably the main difference between what we eat and what the cavemen ate is that the cavemen ate a greater variety of foods.

This has a couple of advantages:

- **If there's something unhealthy about a particular food, he would tend to eat less of it.**

- **Eating a wide variety of foods would make it more likely that he'd encounter, at least in some of them, trace vitamins and minerals that his body needed.**

One way to start is to list the foods that **were not part** of any caveman's diet.

- Cereal grains (rice, wheat, barley, corn)
- Dairy products
- Refined sugar products
- Most alcohol; especially distilled
- Modern fruits (+sugar content)
- Large amounts of salt (at least for those not living near the sea)
- Foods that require cooking (Specially Boiling)

List of some general types of foods that would have the cavemen:

The diet was probably higher in protein than what we eat. The animals he was able to catch had a higher ratio of protein to fat in their flesh. (no feed with grains)

He ate much more of the animal, including the organs, bone marrow, tongue, eyeballs, which are higher in fat than muscle. The fat from these sources, however, is less saturated than the marbled fat you find in the high-priced cuts of beef today.

Cavemen living near the seashore or waterways where fresh-water fish were available similarly would find themselves eating a high protein to fat ratio.

In season, fruits and berries were available. The caveman fruits had considerably less sugar that what you'd find in today's fruit market.

Some grass seeds were eaten, many of which were probably the precursors to today's cereal grains, but the amounts were miniscule compared to what most people eat today.

Nuts were a good source of protein and fat.

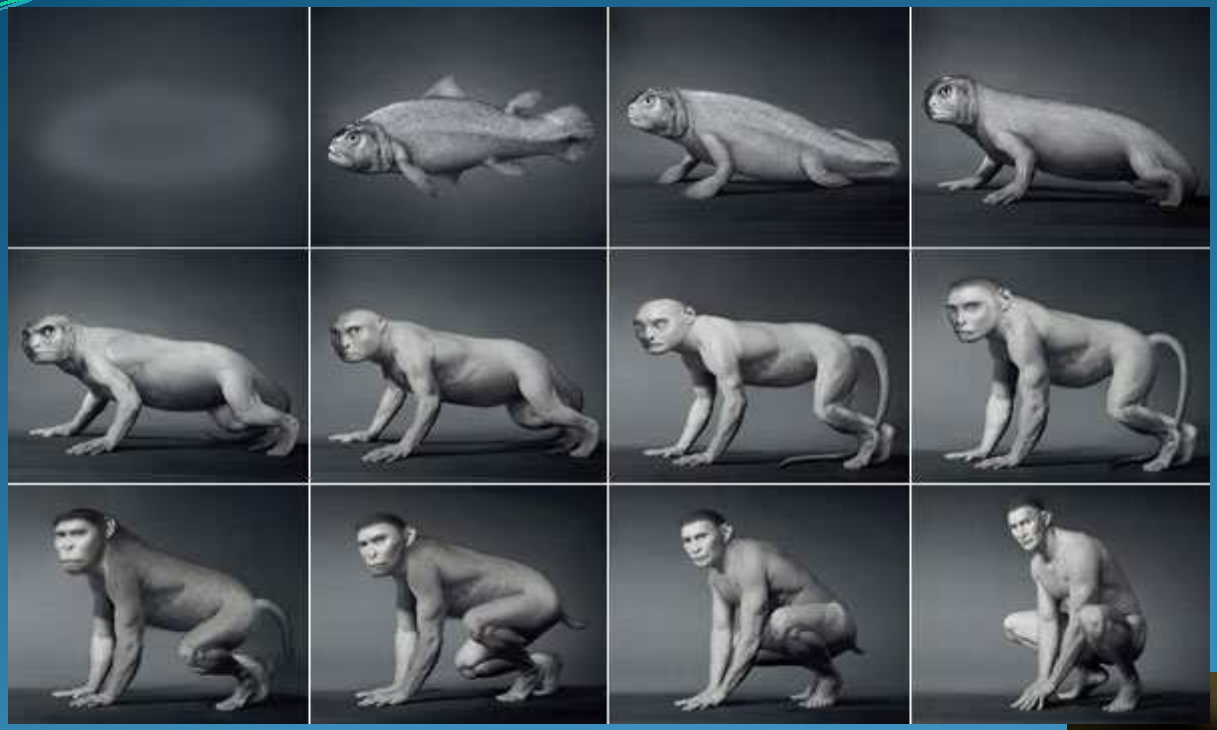
Roots, like yams and sweet potatoes were available in some places.

Root vegetables, like carrots, turnips, parsnips and rutabagas were available. For all the vegetables mentioned above, there was a high percentage of dietary fiber.

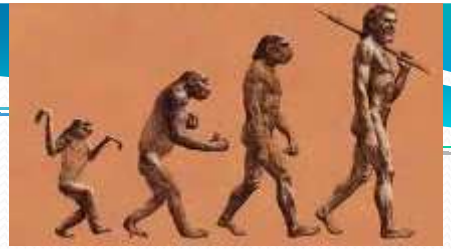
Sometimes it was easy to obtain eggs.

Some of the braver cavemen got to eat honey from time to time.

Some information comes from Tom Davis – “Caveman food”



How has been my evolution?



65.000.000 years in 5 minuts…

65,000,000 to 50,000,000 B.C.: The first primates, nocturnal and arboreal **ate a largely insectivorous diet**.

50,000,000 to 10,000,000 B.C.: A gradual shift in diet for these primates to mostly **frugivorous** in the middle of this period to mostly herbivorous towards the end of it, **including insects, meat, and other plant foods.**

Approx. 10,000,000 to 7,000,000 B.C.: Last common primate ancestor of both humans and the modern monkey's (Anthropoid mammals) family.

Approx. 7,000,000 to 3,700,000 B.C.: a fork occurs branching into separate primate lines, including humans.

The most recent DNA evidence shows that humans are closely related to both gorillas and chimpanzees, but most closely to the chimp. Most paleoanthropologists believe that after the split, **flesh foods began to assume a greater role in the human side of the primate family at this time.**

Approx. 3,700,000 B.C.: **First fully upright bipedal hominid**, Australopithecus afarensis, first known popularly from the famous "Lucy" skeleton.

3,000,000 to 2,000,000 B.C.: Australopithecus line diverges into sub-lines, one of which will **eventually give rise to Homo sapiens (modern man).**

It appears that global climate changed between 2.5 and 2 million years ago driven by glaciation in the polar regions.

In Africa it resulted in a breakup of the formerly extensively forested habitat into a "mosaic" of forest interspersed with savanna (grassland).

Many species had to adapt to differing conditions and availability of foodstuffs. **They ate somewhat differing diets, ranging from more herbivorous to more frugivorous**

2,300,000 to 1,500,000 B.C.: **first Homo habilis** ("handy man") first to **make stone tools at this time to hunt**. Subsisting on wild plant foods and scavenging and/or hunting meat. It is thought that they lived in small groups like modern hunter-gatherers but that the social structure would have been more like that of chimpanzees.

1,700,000 to 230,000 B.C.: **Evolution of Homo habilis into the "erectines,"*** collectively referred to as Homo erectus. Similar in height to modern humans but **with a smaller brain**, hunting activity increased over habilis, so that **meat in the diet assumed greater importance.** However it plants still made up the largest portion of the subsistence.

* Australopithecenes had a 450 cc brain, habilines a 450-600 cc brain and erectines a 900 cc brain. At this point started the human social lifestyle.

The erectines were the first human ancestor to control and **use fire**. It is thought that perhaps because of this, but more importantly because of other converging factors--such **as increased hunting and technological sophistication with tools**--that about 900,000 years ago in response to **another peak of glacial activity and global cooling** ; the erectines **were forced to adapt** to an increasingly varied savanna/forest environment by being able to alternate opportunistically between vegetable and animal foods to survive, and/or move around nomadically

NO SIGNIFICANT CHANGES….

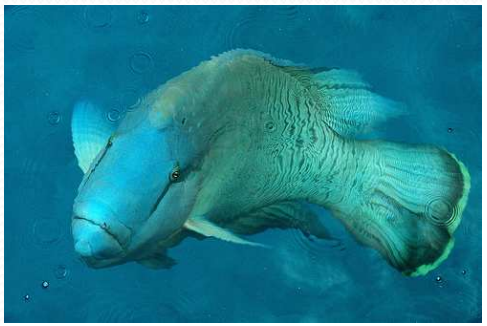
500,000 to 200,000 B.C.: Archaic Homo sapiens (our immediate predecessor) appears.

150,000 to 120,000 B.C.: Homo sapiens neanderthalensis--or the Neanderthals--begin appearing in Europe, reaching a height between 90,000 and 35,000 years ago before becoming extinct.

140,000 to 110,000 B.C.: First appearance of anatomically modern humans (Homo sapiens).

UNTIL…

130,000 to 120,000 B.C.: Some of the earliest evidence for seafoods (molluscs, primarily) in the diet by coastal dwellers appears at this time. Common use of seafoods by coastal aborigines becomes evident about 35,000 years ago, but widespread global use in the fossil record is not seen until around 20,000 years ago and since.



40,000 to 35,000 B.C.: The **first "behaviorally modern" human** beings--as seen in the sudden explosion of new forms of stone and bone tools, **cave paintings and other artwork**.

40,000 B.C. to 10-8,000 B.C.: Last period prior to **agriculture** in which human beings universally subsisted by hunting and gathering. Paleolithic peoples **did process some of their foods**, simple methods like pounding, grinding, scraping, roasting, and baking.

35,000 B.C. to 15-10,000 B.C.: The Cro-Magnons (fully modern pre-Europeans) thrive in the cold climate of Europe via **big-game hunting**, with meat consumption rising to as much as 50% of the diet.

25,000 to 15,000 B.C.: **Coldest period of the last Ice Age**, with arid environment and much more difficult conditions of survival to which plants, animals, and humans all had to adapt.

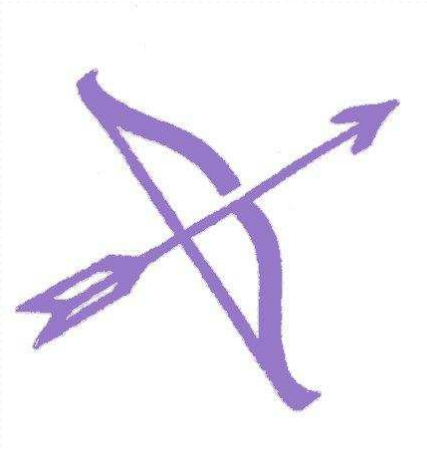
Humans adapted by <u>increasing their hunting of the large mammals such as mammoths, horses, bison and caribou</u> which flourished on the open grasslands, tundra, and steppes which spread during this period. **<u>Storage of vegetable</u>** foods that could be consumed during the harsh winters was also exploited.

Shelters: home in the pre-historic sense

20,000 B.C. to 9,000 B.C.: Transitional period known as the "Mesolithic," during which **the bow-and-arrow appeared**, and **gazelle, antelope, and deer were being intensively hunted**, while at the same time precursor forms of **wild plant and game management began to be more intensively practiced**.

At this time, wild grains, including wheat and barley by 17,000 B.C.--before their domestication--were being gathered and ground into flour .

By 13,000 B.C. Were **harvesting wild grains intensely and it was only a small step from there to the development of agriculture.**



Also during this time, ritual and **magico-religious** sanctions protecting certain wild plants developed, initiating a new symbiotic relationship between people and their **food sources that became encoded culturally** and constituted the first phase of domestication well prior to actual cultivation. Protections were accorded to certain wild food species.

"MODERN LIFE"

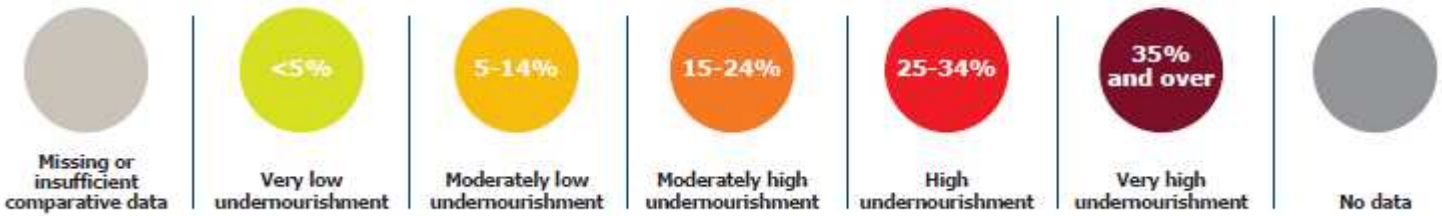
Approx. 10,000 B.C.: The beginning of the "Neolithic" period, or "Agricultural Revolution," i.e., farming and animal husbandry. The transition to agriculture was made necessary by gradually increasing population pressures due to the success of Homo sapiens' prior hunting and gathering way of life.

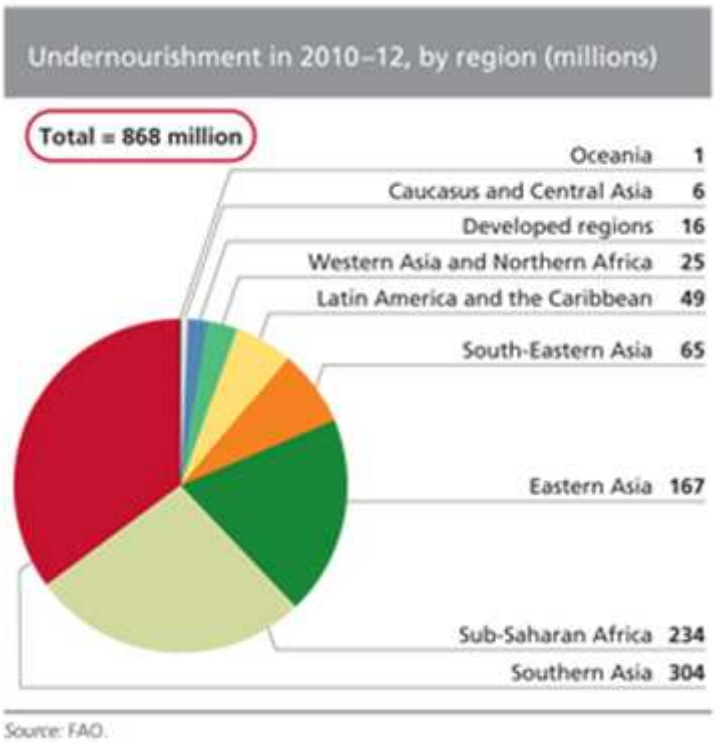
Wild **grasses and cereals** began flourishing, making them **prime candidates for the staple foods** to be domesticated, given our previous familiarity with them. **By 9,000 B.C. sheep and goats were being domesticated in the Near East, and cattle and pigs shortly after, while wheat, barley, and legumes were being cultivated somewhat before 7,000 B.C., as were fruits and nuts, while meat consumption fell enormously**. Since the beginning of the Neolithic, the ratio of plant-to-animal foods in the diet has sharply increased from an average of probably 65%/35% during Paleolithic times to as high as 90%/10% since the advent of agriculture.

Come back today…

Geography of hunger

Proportion of total population undernourished, 2010-12



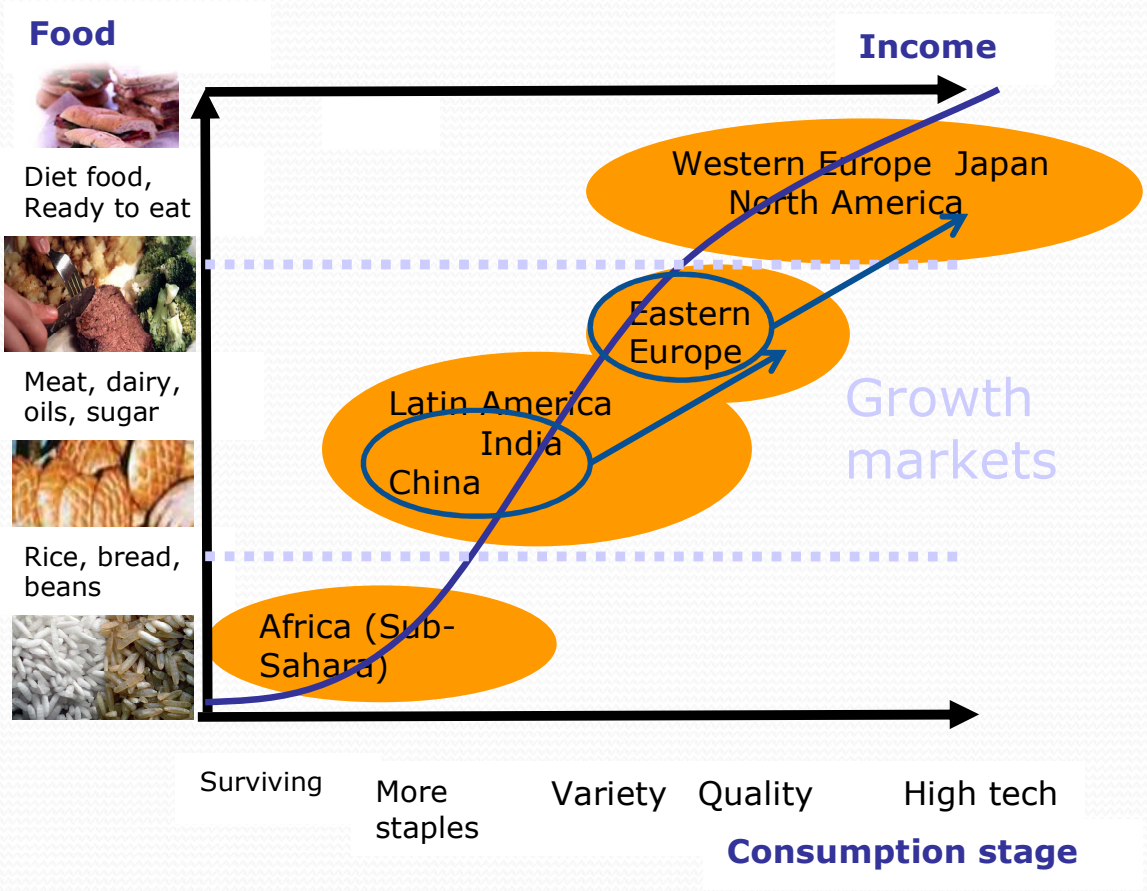


World

Number and percentage of undernourished persons

2010-2012	868	million (12%)
2007-2009	867	million (13%)
2004-2006	898	million (14%)
1991-2001	919	million (15%)
1990-1992	1000	million (19%)

Food demand evolution



Eating some years ago...
Question of portion size?
Do we consume too much?

PORTION SIZE

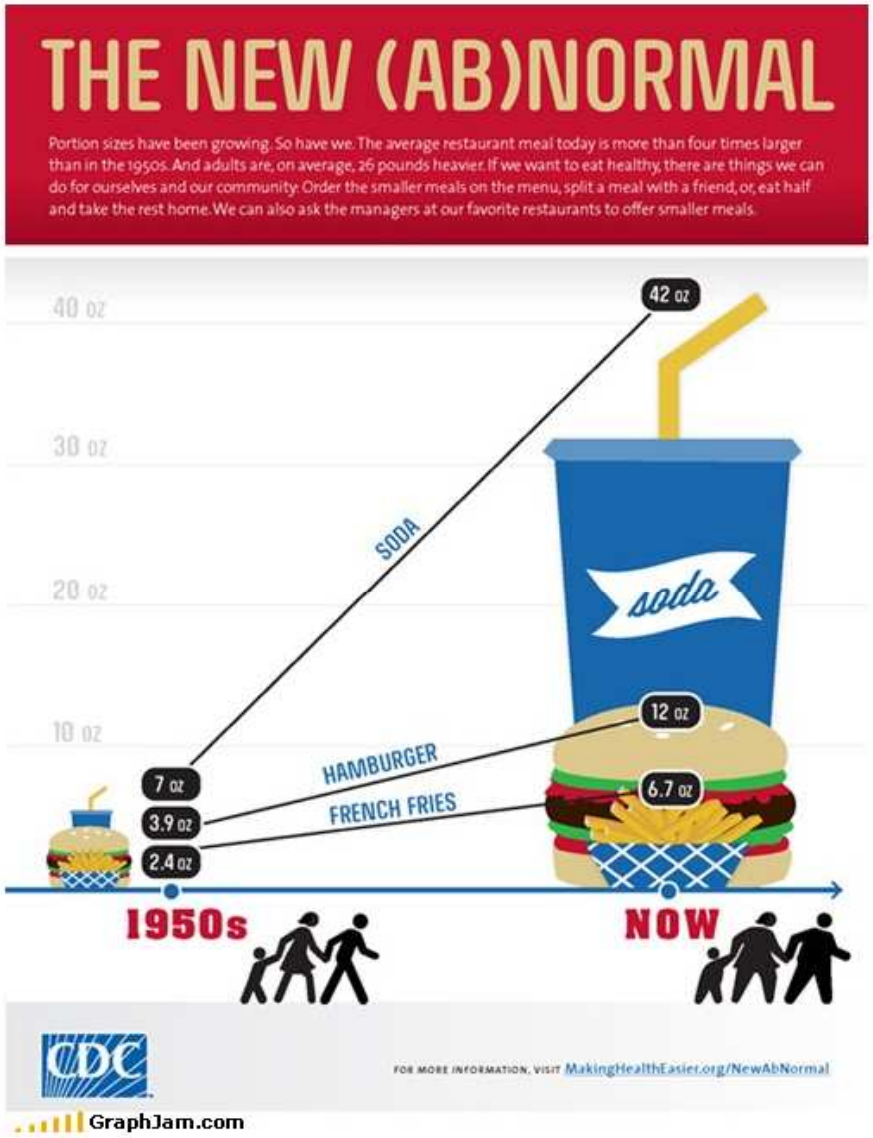
Portion size, one of the major indicators of how healthy and how much we are eating as a population, has grown. **Fifty years ago, portion size was pretty steady and relatively healthy**. But as fast food franchises began to rise in the **1960s and '70s, portion sizes grew quite a bit**. The chains were anxious to offer you larger portions for a better sense of value. It's important to note, also, that **portion size is a key factor in weight gain and obesity** has increased since the 1970s in both adults and children. Another important statistic to keep in mind, 54 percent of Americans will eat until their plate is clean. So as our portion size has gone up, so has our appetite.
Between 1977 and 1996, portion sizes and energy intake increased for mostly all key foods.

Examples:

- The size of salty snacks increased by 93 calories

- French fries by 68 calories

- Mexican dishes by 133 calories



Tags

Graph by: Unknown (via **The Atlantic**)

Coffee

20 Years Ago	Today
Coffee (with whole milk and sugar)	**Mocha Coffee** (with steamed whole milk and mocha syrup)
	
8 ounces, 45 calories	**??? calories**

A standard cup of coffee 20 years ago was 8 ounces and had 45 calories. How many calories do you think are in today's coffee?

○ **100** ◉ **350** ○ **450**

Bagel

20 Years Ago

3-inch diameter
140 calories

Today

??? calories

A bagel 20 years ago was 3 inches in diameter and had 140 calories. How many calories do you think are in today's bagel?

◉ **350** ○ **250** ○ **150**

America now, but Europe is following the trend….

OBESITY

Because portion size has increased and calorie intake has increased in the last 50 years, the obesity rate in the country has more than doubled in the country since the 1980s. Adult obesity has increased from 14.5 percent in 1971 to 30.9 percent in 1999. This is a much faster rate of weight gain than seen in the decades before. So the 1980s marked the start of a period when obesity in the US really became a problem.

Where America Stands: Overweight and Obese
1950's: 33 percent Americans Overweight, 10 percent Americans Obese
Now: 66 percent Americans Overweight, 30 percent Americans Obese

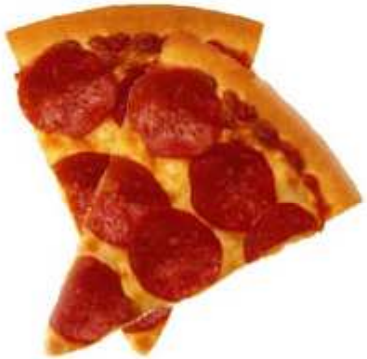
Other factors

- More daily calories, more fat, more sodium, more “foreign foods” (far from “Mediterranean diet”), soft drinks, more sugar

More examples (Europe)

Two Slices of Pizza

Twenty years ago
500 calories



Today
850 calories

Movie Popcorn

Twenty Years Ago
5 cups
270 calories

Today
Tub
630 calories

Cheeseburgers

Twenty years ago
333 calories

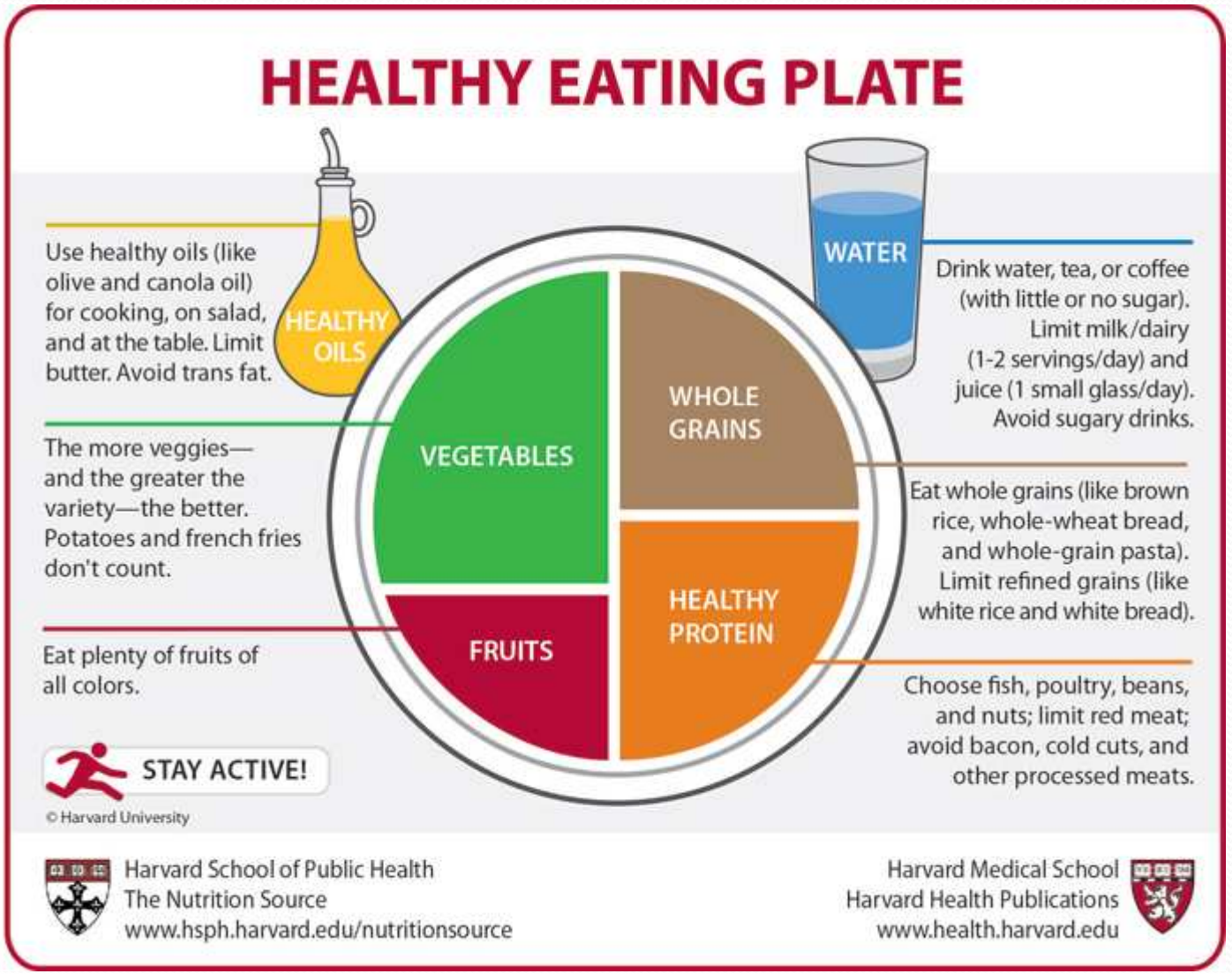
Today's Burger
590 calories

Portion Distortion: Serving Sizes Are Growing

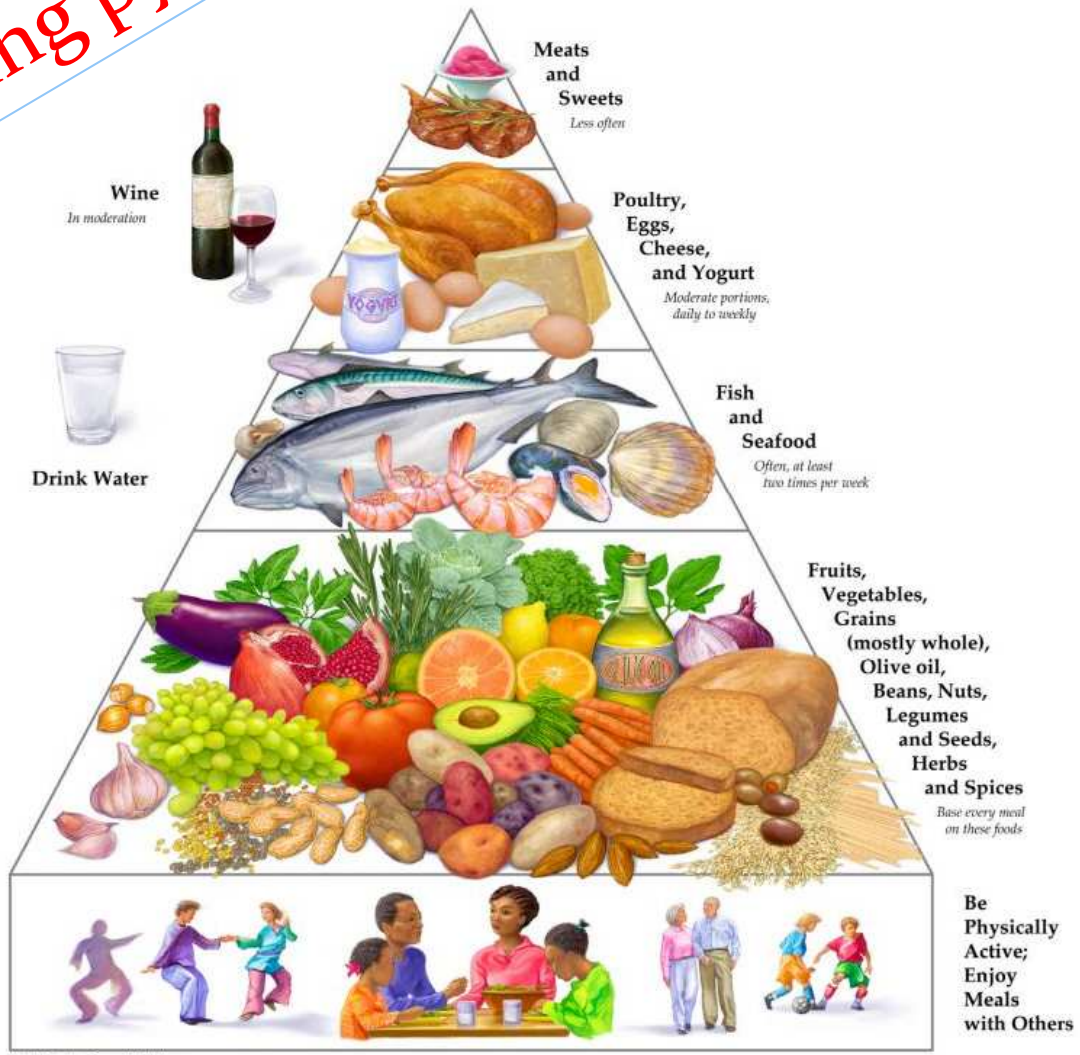
Portions today are far bigger than in the past, which often means we're taking in far more calories than we realize. Larger plates, cup holders, muffin tins and pizza pans are becoming the norm. Fast food restaurants feature super sized meals for just a few cents more. Portion sizes of virtually all foods and beverages have increased and now appear typical.

And self-services….


HILFIGER


HEALTHY EATING PLATE
Use healthy oils (like olive and canola oil) for cooking, on salad, and at the table. Limit butter. Avoid trans fat.
HEALTHY OILS
The more veggies—and the greater the variety—the better. Potatoes and french fries don't count.
VEGETABLES
Eat plenty of fruits of all colors.
FRUITS
WHOLE GRAINS
HEALTHY PROTEIN
WATER
Drink water, tea, or coffee (with little or no sugar). Limit milk/dairy (1-2 servings/day) and juice (1 small glass/day). Avoid sugary drinks.
Eat whole grains (like brown rice, whole-wheat bread, and whole-grain pasta). Limit refined grains (like white rice and white bread).
Choose fish, poultry, beans, and nuts; limit red meat; avoid bacon, cold cuts, and other processed meats.
STAY ACTIVE!
© Harvard University
Harvard School of Public Health
The Nutrition Source
www.hsph.harvard.edu/nutritionsource
Harvard Medical School
Harvard Health Publications
www.health.harvard.edu

Healthy eating pyramid




THE MEDITERRANEAN DIET
BY APAGE
OLIVE OIL
(To replace butter)
HEALTH BENEFITS:
•REDUCED RISK OF:
DEPRESSION
CARDIOVASCULAR DISEASE
CANCER
PARKINSON'S DISEASE
&
ALZHEIMER'S
MENU
FISH & LEAN MEAT
(2x a week, limiting red meat to once a month)
HERBS & SPICES
(For flavor instead of salt)
WHOLE GRAINS
SWEETS
(In limited doses)
Every meal sould consist primarily of these
RED WINE
(With meals)
FRUITS & VEGGIES
NUTS
HealthCentral
SOURCES: http://www.oldwayspt.org/sites/all/files/Med_Diet_Pyramid_Notes_08.pdf
images: istock

Is there a threat to traditional food? Are we in the macaroni & pizza era? Or is the Asian food era starting right now…?

Look around you, smell around you, food has considerably changed… where is the typical Spanish smell of olive oil, cauliflower and fish…?

Look how many Asian “wok”, pizzeria, Japanese… restaurants have opened in your country in the last 20 years… people is eating more and more outside home… what will be the consequences of these new behaviors in our health?

Curious case:

African immigrants arriving in Belgium with healthy teeth, after several years have many cavities due to the consumption of sugar, pasta, bread… that become sugar…

Natural food – What it means?

We evolved to eat everything that moved, but possibly mostly small animals

As a result, 'meat' for our distant ancestors, was anything that moved - birds, rodents, lizards, turtles, grubs, animals of all kinds. Africa has one of the largest and most diverse number of species of birds of any continent.

We eat only four animals now, and no small ones, although our genes are unchanged

Today, 'meat' for us means virtually four animals : the cattle; the sheep; the pig; and the chicken.

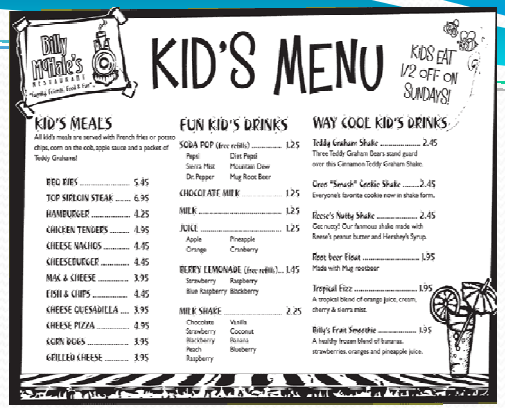
Now, the word 'meat' has come to mean muscles, not internal organs. (Fortunately some countries (like Mediterranean) use to eat some fish in minor proportion of meat)

The sources of fat and the kinds of fat we have today are completely different to those of our evolutionary history

First, we eat too much. We regularly overeat. Whether fat *or carbohydrate, calories in excess of those* needed to burn for energy are stored as fat. Carbohydrates (pasta, bread, potatoes - any carbohydrate, natural or not) *in excess of our needs for energy are converted to fat. Worth repeating. Excess carbohydrates are stored as fat*.

We sedentary Westerners need to reduce fat and carbohydrate intake, eat whole foods, and avoid processed foods

We need to eat more omega 3 containing foods (such as fish) or take omega 3 supplements. This in itself will tend toward restoring a more evolutionarily natural balance. The easiest 'way' overall is to eat natural foods - including animals of all kinds – in amounts that leave very little room for highly processed foods.



Hopefully in some countries like Spain many people are eating what is called “Mediterranean Diet” based on fruit, vegetables, fish and cereals.

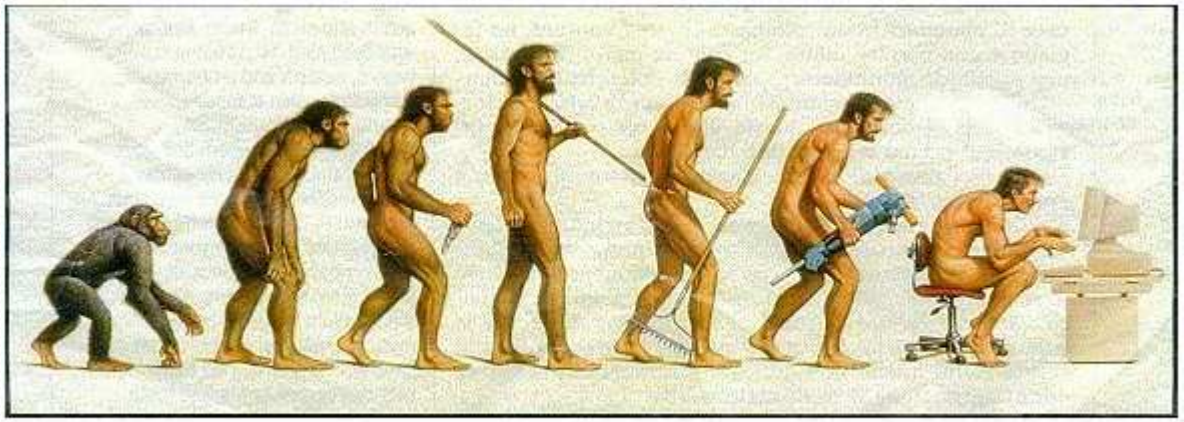
But price of food is making pressure to the consumers to adopt the “Macaroni fashion”.

Specially the kids.

Have you seen the “Kids menu” in the restaurants? ….

Many thanks !

Your opinions and questions are welcome



Somewhere, something went terribly wrong