A painting depicting a caveman in a dynamic pose, holding a spear and running towards the right. He is wearing a pelt and a loincloth. In the background, a large mammoth is shown, partially obscured by trees and rocks. Another caveman is visible in the distance, also carrying a spear. The scene is set in a prehistoric landscape with mountains and a clear sky.

Homo carnivorus

Barry Groves, PhD

'You are what you eat'

Dr Magnus Pike

You should eat what you are designed to eat

What Are We Designed to Eat?

Humans are:

- Carnivore
- Omnivore
- Vegetarian
- Vegan
- Fruitarian
- Breatharian

Perhaps we are all of them?

"We are all individuals"

"One size doesn't fit all"

"You have to have a diet designed for you personally"

Body typing

Nature is Simple

- No-one has told a wild animal what, when and how much to eat
- Primitive tribesmen don't use calorie charts and personal trainers
- Two basic types of animal:
 - Herbivores eat plants
 - Carnivores eat herbivores



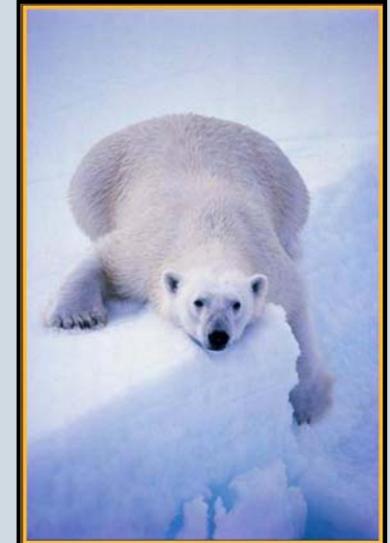
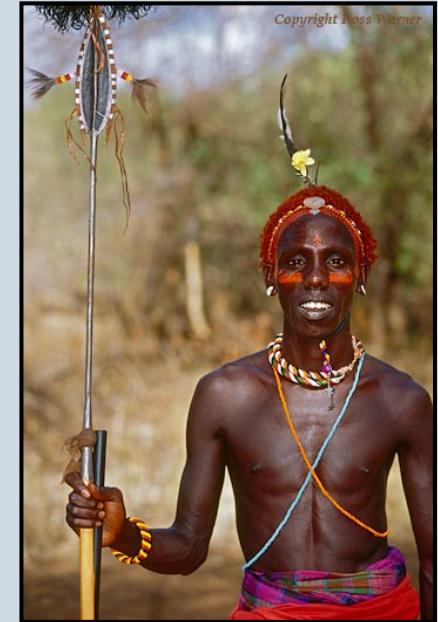
Body Typing is Nonsense

- All members of a species are designed to eat the same foods
 - All rabbits eat grass
 - All lions eat zebras
-
- All humans are *Homo sapiens*
 - All humans are designed to eat the same diet



So, What Should We Eat?

Which Mammals are Designed to Eat a High-fat Diet?



Gorilla's Diet

Macronutrient profile per 1 kg

100 g dry matter

11.8 g protein	47 kcals	58%
7.7 g available carb	30 kcals	37%
0.5 g fat	4.5 kcals	5%

19.0 g

81.5 kcals



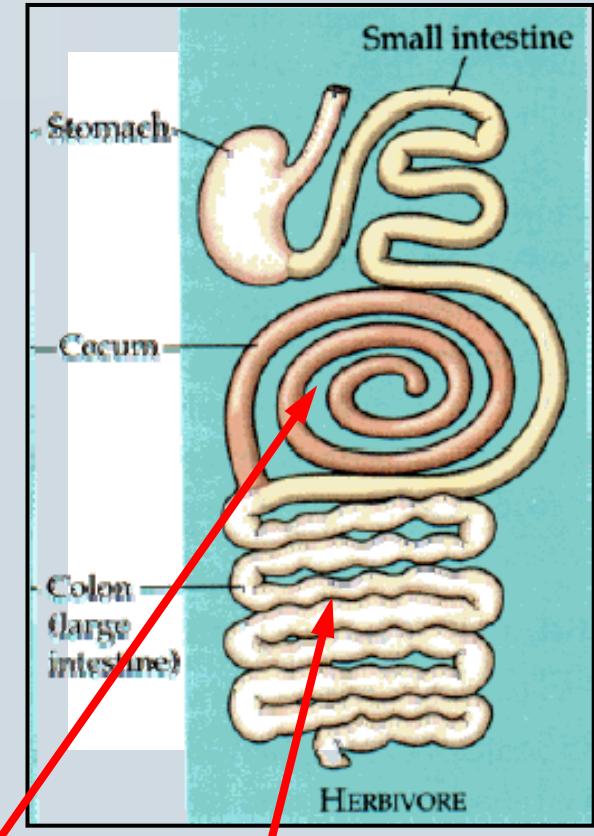
Popovich DG, et al. The Western Lowland Gorilla Diet Has Implications for the Health of Humans and Other Hominoids. *J Nutr* 1997; 127: 2000-2005

Gorilla's Diet



74 g of intake is vegetable fibre

Gorilla is a
“hindgut digester”



Bacterial fermentation in the gorilla's cæcum and colon converts vegetable fibre into short-chain fatty acids (SCFA) @ 2 kcals/g (fibre)

Popovich DG, et al. The Western Lowland Gorilla Diet Has Implications for the Health of Humans and Other Hominoids. *J Nutr* 1997; 127: 2000-2005

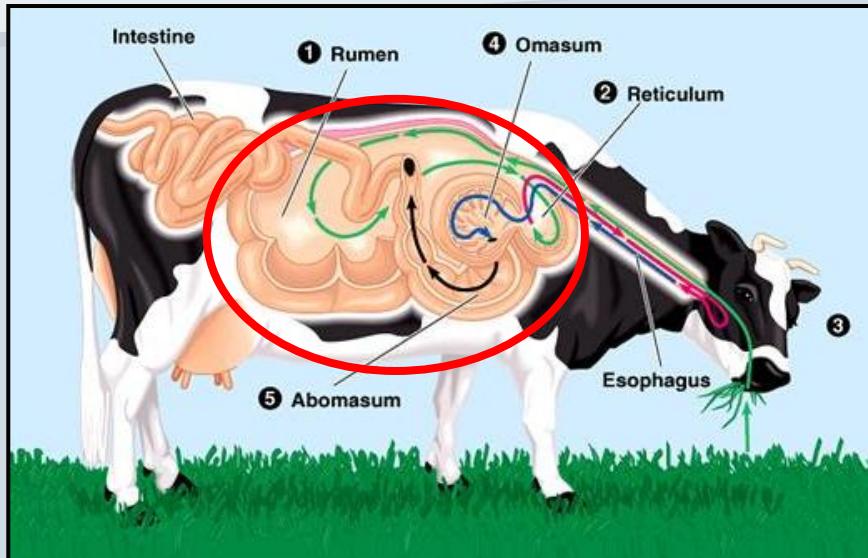
Gorilla's Diet

Overall energy (kcal) per 1 kg

Protein	47 kcals	58%	20.5%	Prot
Available carbs	30 kcals	37%	13.1%	Carb
Fat	4.5 kcals	5%	1.9%	
SCFA from fibre	148.0 kcals	64.5%}	66.4%	Fat
	81.5 kcals			
Total	<u>229.5 kcals</u>			

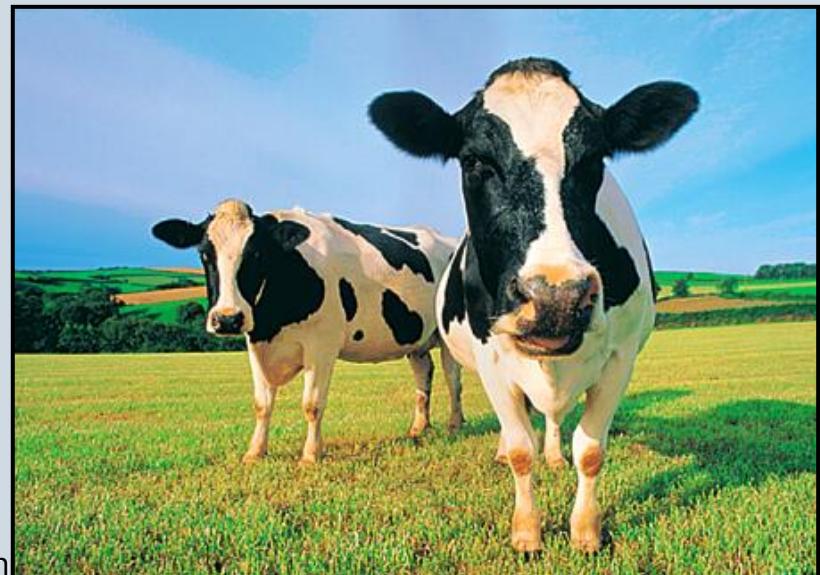
Short chain fatty acids are 100% saturated

Nutrient Absorption And Utilisation In Ruminants



'Foregut digesters'

All proteins, carbs and fibre
fermented in the stomach



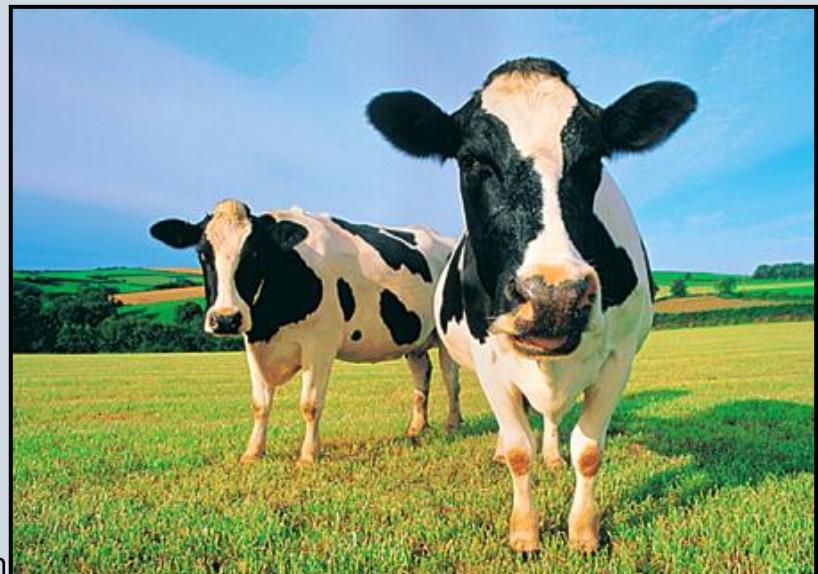
Nutrient Absorption And Utilisation In Ruminants

"[short chain fatty acids] . . . are of paramount importance in that they provide **greater than 70%** of the ruminant's energy supply."



70-80% kcals fat (saturated)
20-30% kcals protein

NO CARBS!



Nutrients for Carnivores



Carnivores prefer fatty parts of animals

70-80% kcals fats
20-30% kcals protein
NO CARBS!



Traditional Human Diets



Traditional human diets

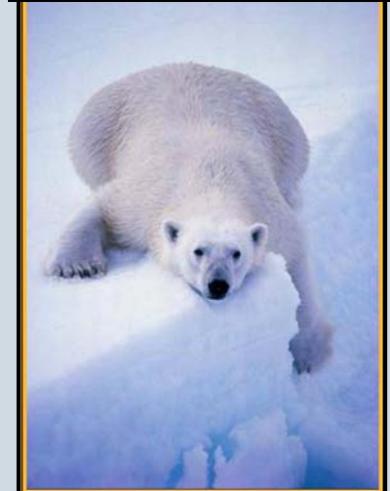
60-80% kcals fat

20-25% kcals protein

0-15% kcals carbs



ALL Mammals are Designed to Eat a High-fat Diet

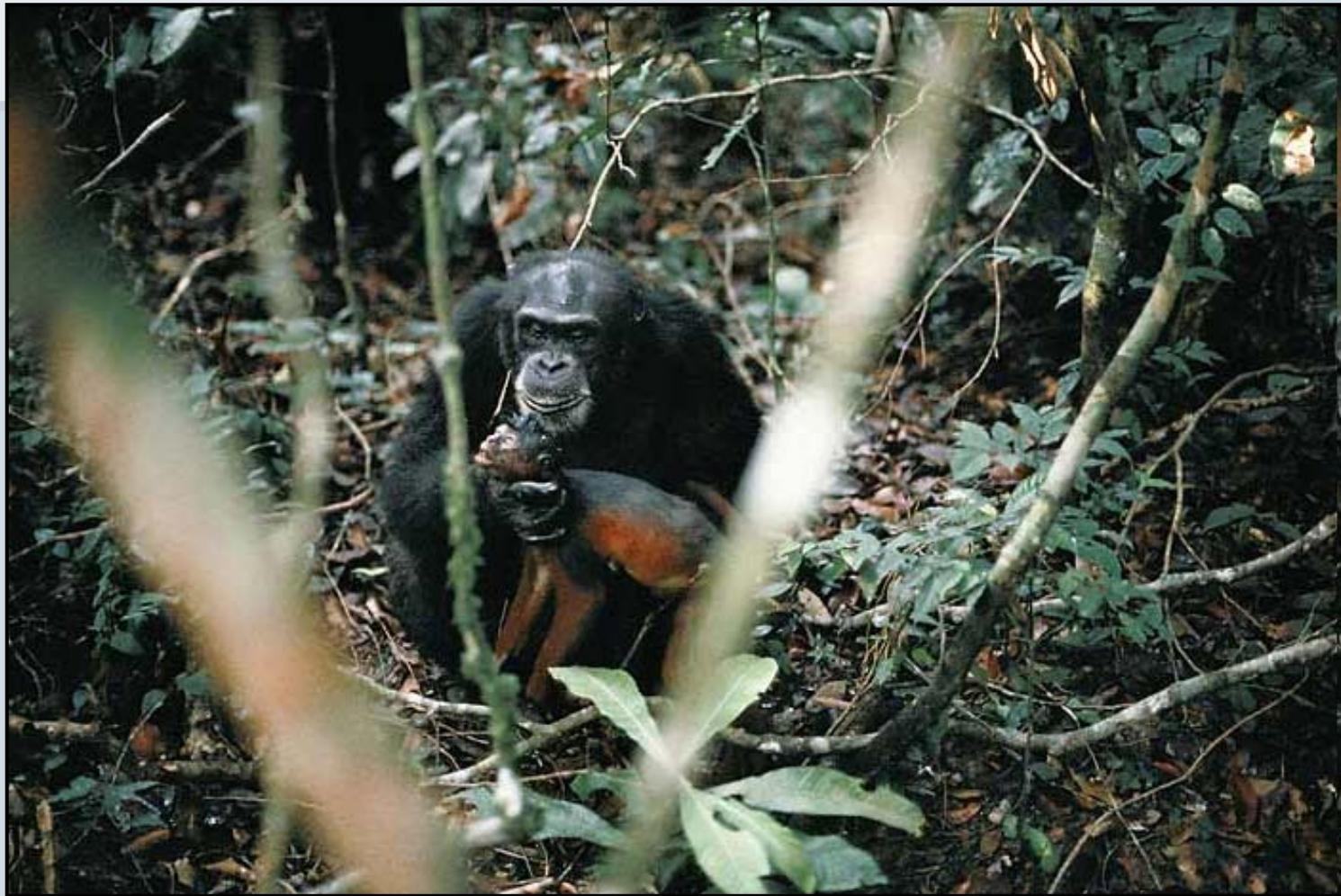


Primates

192 Other Primates



Chimp Eating a Colobus Monkey



Goodall J. Miss Goodall and the Wild Chimpanzees. *National Geographic*, 1966

Dian Fossey. Search For the Great Apes. *National Geographic*, 1975

Perry R. *Life in Forest and Jungle*. New York: Taplinger Publishing Co; 1976, 165-185
www.second-opinions.co.uk

Tarsier

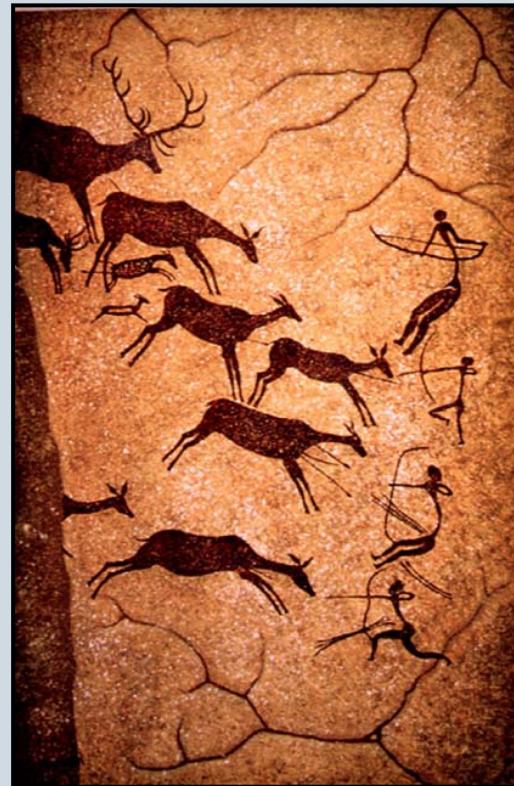


Entirely carnivorous primate

Ancient Evidence



Fossil sites



Cave paintings

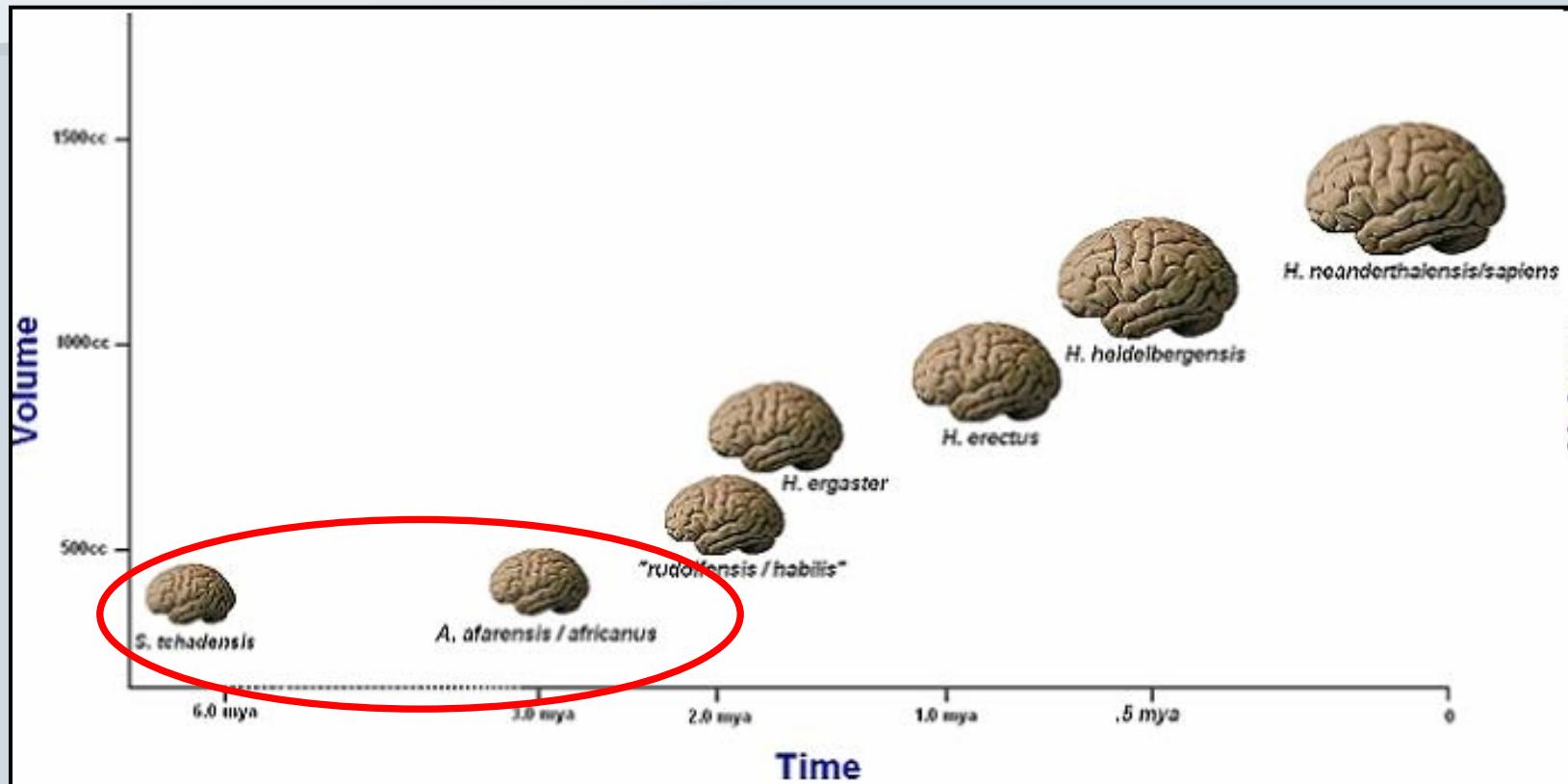


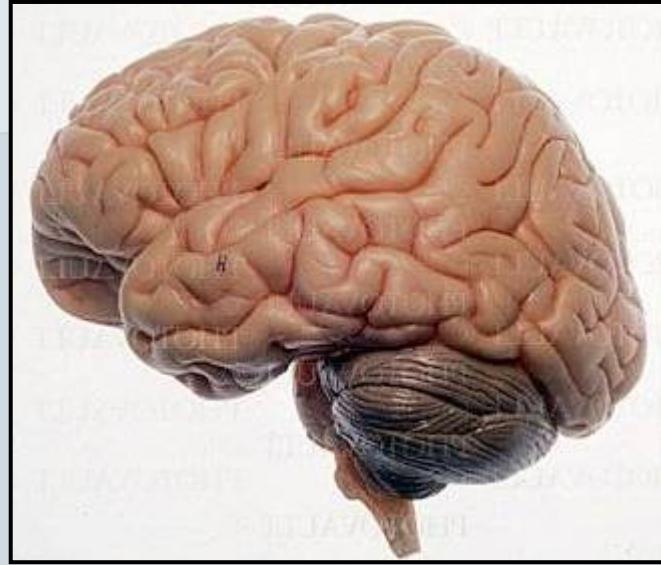
Coprolites



If You Want to Get Ahead,
Get a Brain

If You Want to Get Ahead, Get a Brain





Why Did It Happen?

Climate Change!

- Ice Ages 2.5 million years
- Long cold winters; short cool summers
- Few plants for short periods
- Heavy reliance on animal foods



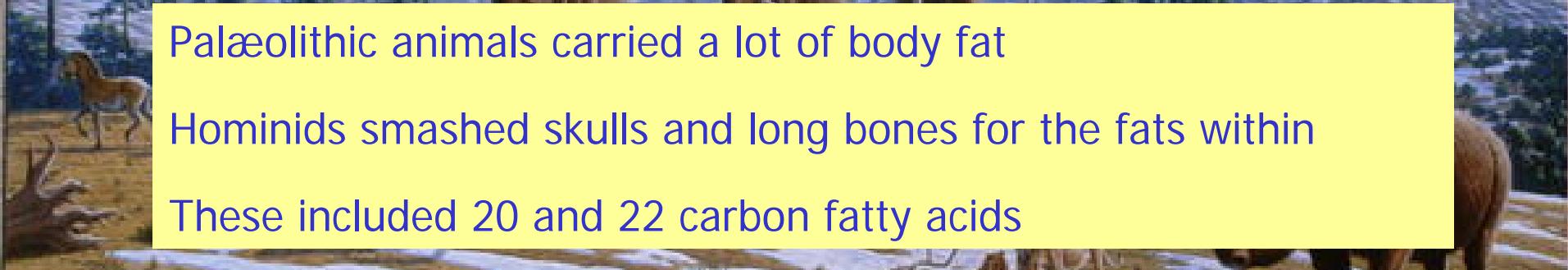
Ice Age Food Animals



Palaeolithic animals carried a lot of body fat

Hominids smashed skulls and long bones for the fats within

These included 20 and 22 carbon fatty acids



Vegetable Fats Are Not Suitable

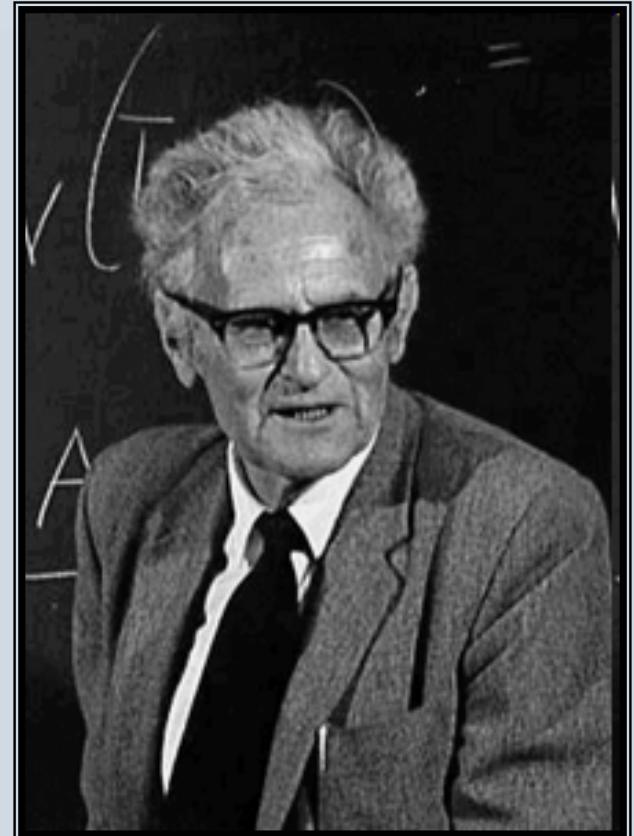
- **20 and 22** carbon fatty acids (AA, DTA, EPA, DHA) are essential for brain development
- But linoleic acid (ω -6) and α -linolenic acid (ω -3) are **18** carbon fatty acids
- “humans maintain an inefficient ability to chain elongate and desaturate 18 carbon fatty acids to their product 20 and 22 carbon fatty acids”
- “. . . preformed dietary 20 and 22 carbon fatty acids were increasingly incorporated in lieu of endogenously synthesized fats derived from 18 carbon plant fatty acids.”
- **Our brain growth could never have happened without these fats**

Emken, R.A., Adlof, R.O., Rohwedder, W.K., and Gulley, R.M., Comparison of linolenic and linoleic acid metabolism in man: Influence of dietary linoleic acid. In: Sinclair, A., and Gibson, R. (Eds.), *Essential Fatty Acids and Eicosanoids*. Invited Papers from the Third International Conference. AOCS Press, Champaign IL; 1992, pp. 23–25.

Max Kleiber, Sc.D

- For the vast majority of animals, an animal's metabolic rate is related to its mass.

Metabolic rate ~ Mass^{0.75}



(1893–1976)

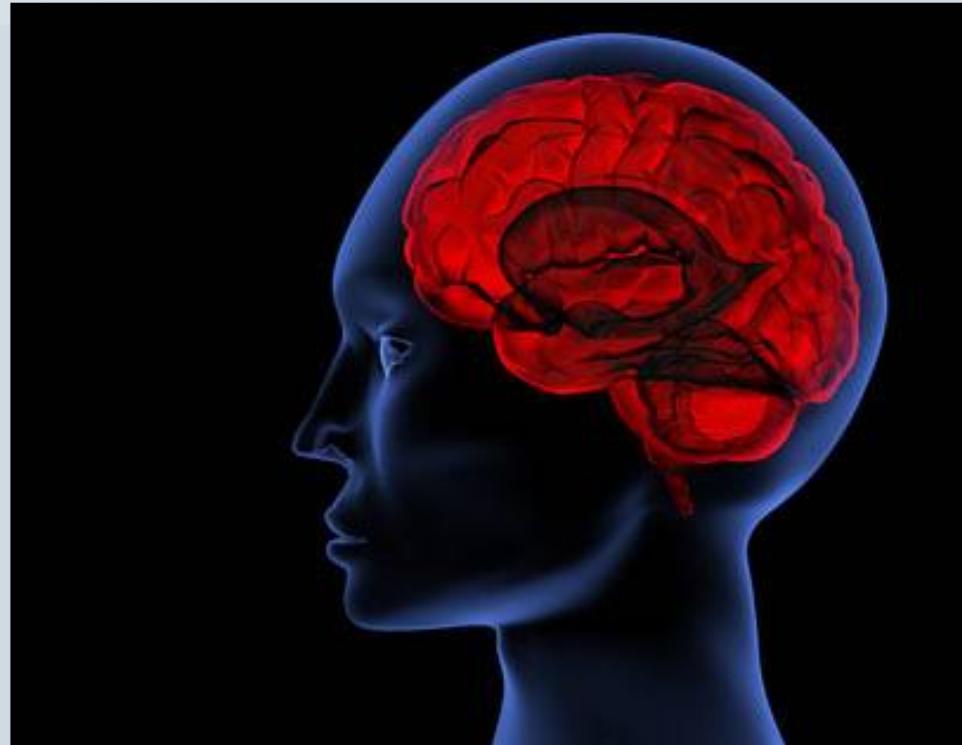
Kleiber M. Body size and metabolic rate. *Physiological Reviews* 1947; 27: 511–541.

Kleiber's Law

- The size of an organ concerned with metabolic turnover should comply with Kleiber's law
- If it is in accordance with Kleiber's law, each part's quotient is **1.00**
- A quotient **> 1.00** means the organ is **larger** than expected
- A quotient **< 1.00** indicates a size **smaller** than expected.

Where Humans Differ – Brain

- Encephalization Quotient
- Size = 7.44
- Energy usage = 28.8



Herculano-Houzel S. The Human Brain in Numbers - A Linearly Scaled-Up Primate Brain. *Front Human Neurosci* 2009; 2: 1-11
Stephan H. Evolution of primate brains: a comparative anatomical investigation. In: *The Functional and Evolutionary Biology of Primates*, ed. Tuttle R; Aldine Atherton, Chicago, 1972; pp. 155-174.

Where Does Energy For Brain Come From?

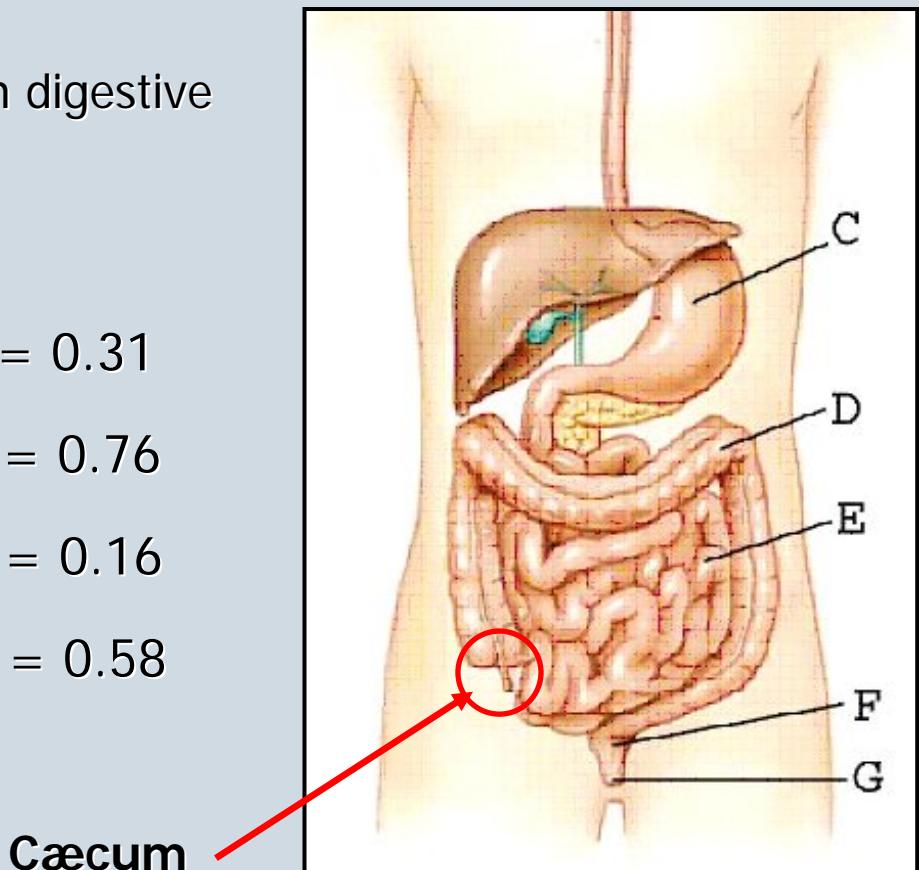
■ Need:

- Either larger gut; larger absorptive surface
- Or a very energy-dense diet

Where Humans Differ – Gut

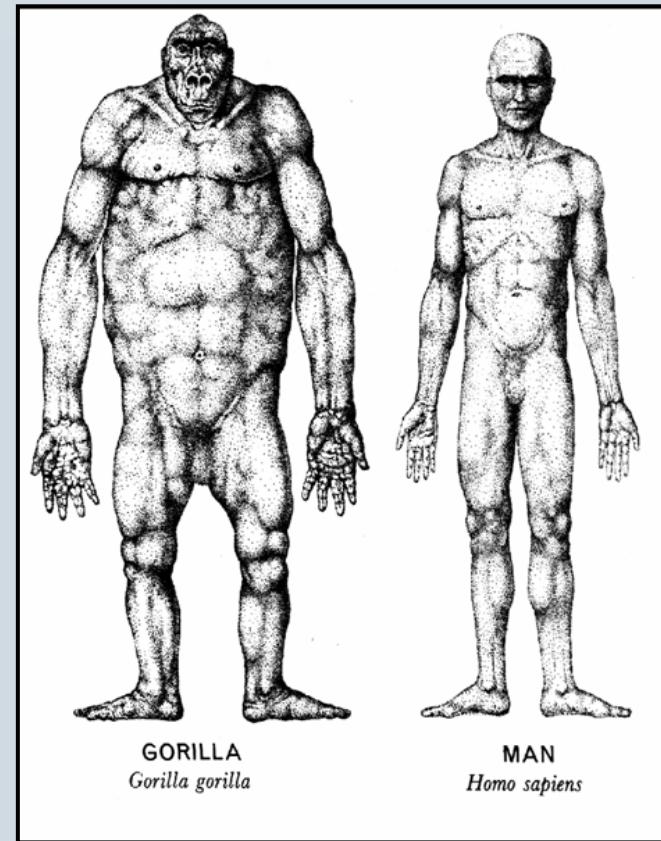
- A test of major areas of the human digestive tract gave the following results:

- Stomach quotient = 0.31
- Small intestine quotient = 0.76
- Cæcum quotient = 0.16
- Colon quotient = 0.58



Gorilla vs Human

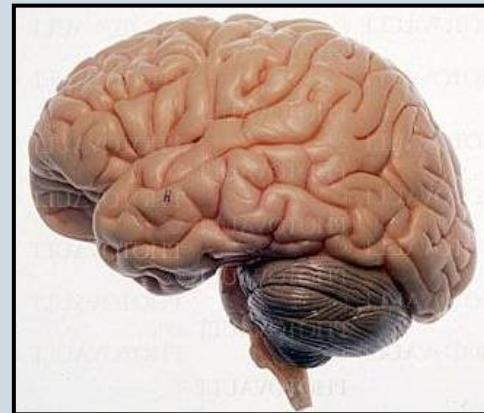
“The human colon may contribute as little as 2-9% to total energy.”



Livesey, G. & Elia, M. Short-chain fatty acids as an energy source in the colon: metabolism and clinical implications. In: Cummings JH, Rombeau JL, Sakata T, (eds). Physiological and Clinical Aspects of Short-Chain Fatty Acids. Cambridge University Press, Cambridge, UK. 1995; pp. 427-483.

Where Does Energy For Brain Come From?

- Brain is ~2% of total body weight
 - Brain uses ~20-25% of total resting energy
 - Small gut
-
- Very nutrient and energy dense diet needed
 - Fat is the only macronutrient
 - Animals the only practical source



Our Love Affair With Fat

The Bible

'And Abel was a keeper of sheep, but Cain was a tiller of the ground.

'And in process of time it came to pass, that Cain brought of the **fruit of the ground** an offering unto the Lord.

'And Abel, he also brought of the **firstlings of his flock** and of the **fat** thereof. And the Lord had respect unto Abel and to his offering.

'But unto Cain and to his offering he had not respect.'



Fat-tailed sheep

The Bible

- 'And Pharaoh said unto Joseph . . . "come unto me; and I will give you the good of the land of Egypt, and ye shall eat the **fat** of the land".' (Genesis 45:17-18)
- 'And in this mountain shall the Lord of hosts make unto all people a feast of **fat** things . . . of **fat** things full of **marrow**.' (Isaiah 25:6)

The Bible

New Testament

- When the prodigal son returned home, his father 'slew a **fatted** calf'.





The Greeks

"Patroklos . . . cast down a great fleshing block in the firelight, and laid thereon a sheep's back, and a **fat** goat's, and a great hog's chine rich with **fat**."

Homer, *The Iliad*, Book IX

Scandinavian Eddas and Sagas

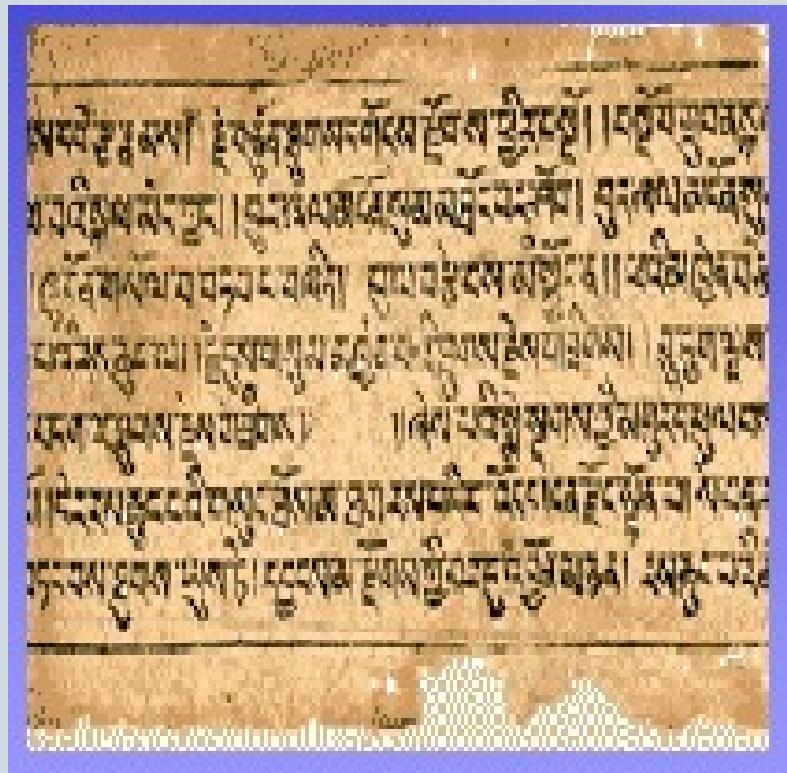


"There [in paradise] the feast will be set with clear wine, **fat** and **marrow**."



Vedas Upanishads (2,000 BC)

- Fat meat, wild and domestic, highly prized
- Clashes between tribes protecting the forest where wild game was available
- Royalty of the period, with abundant access to fruit, had famous toothaches.



Australian Aborigines



Aborigines liked fat meat

Never ate vegetables

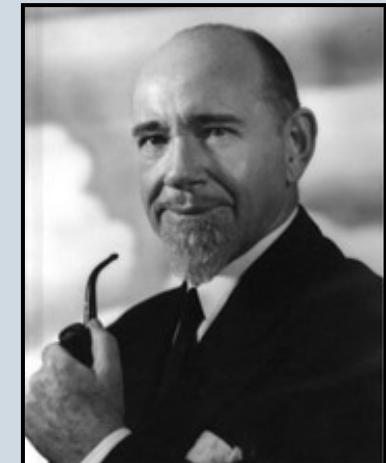
Dr Carl Lumholtz (1851-1922)



Cannibals

Left thin corpses

Dug up fat ones



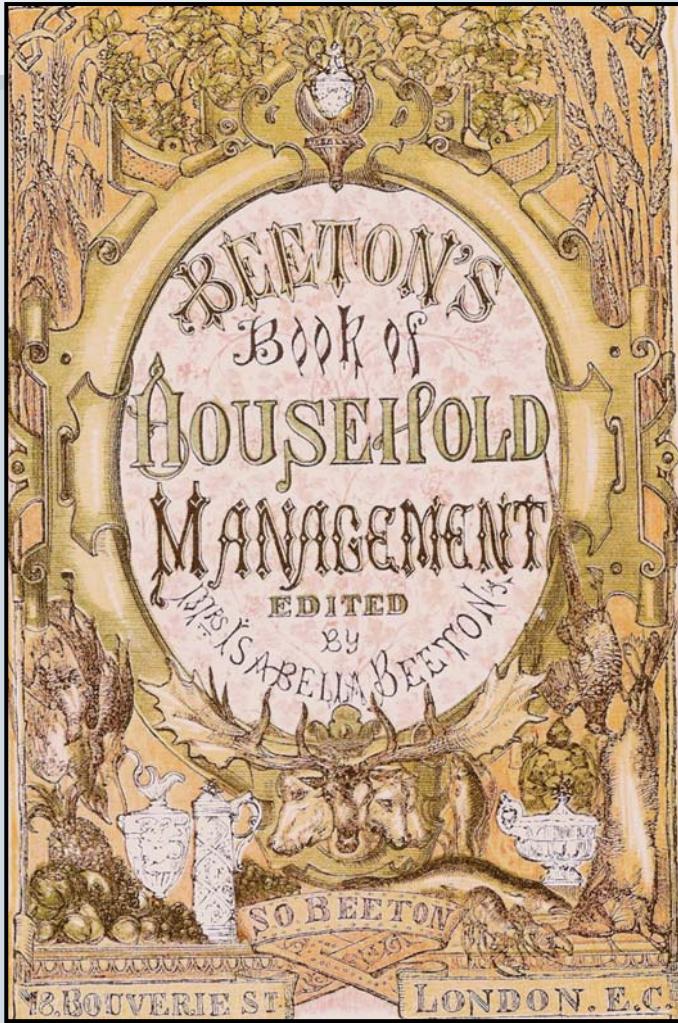
Sir George Hubert Wilkins (1888-1958)

Other Peoples

- Lapps and Saami – reindeer
- Siberians – reindeer
- Inuit of Greenland and Canada – seals, fish
- North American Plains Indians – buffalo
- Marsh Arabs – camels
- Berbers – camels
- Nagas – pigs
- Maasai – cattle
- Samburu – cattle
- Gauchos – cattle
- And more



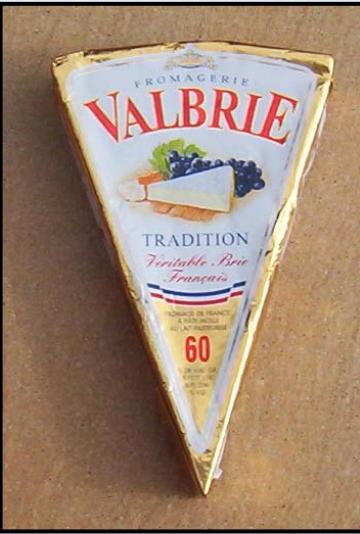
The British Too



“Beef of the best quality is of a deep red colour; and when the animal has approached maturity, and has been well fed, the lean is intermixed with fat, giving it the mottled appearance which is so much esteemed.”

If meat didn't have much fat, that was a sign of poor quality.





Mediterranean Diet



Butter

Pork fat

>50% fat pâté

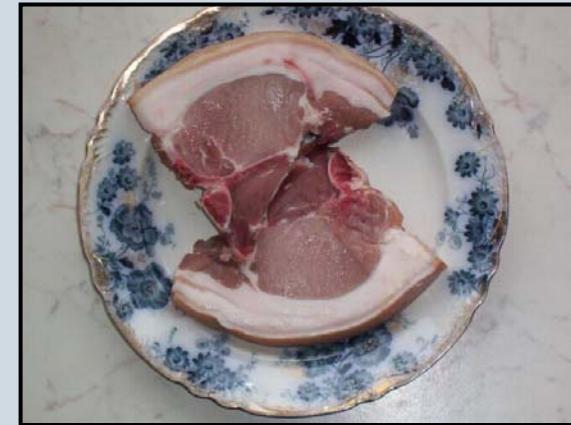
>50% fat sausage,
salami, chorizo, etc

60-80% fat cheeses

35.1% fat cream

Fat meat

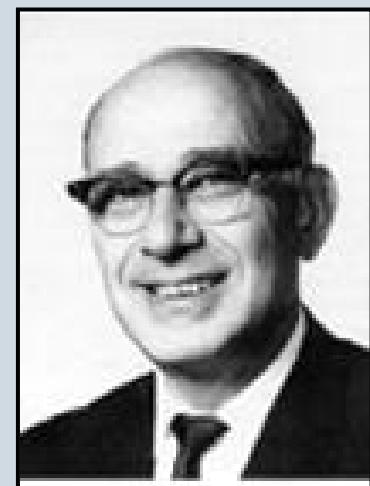
Fat bacon



Summary

“Fat is the most valuable food known to man.”

Professor John Yudkin



1910-1995

The Neolithic Revolution

- Agriculture began at end of last Ice Age
- Transition from hunting and gathering bands, to agriculture and settlement
- Dramatic change in human lifestyles



Ruff CB, et al. Body mass and encephalization in Pleistocene Homo. *Nature* 1997; 387: 173-176.

The Neolithic Revolution

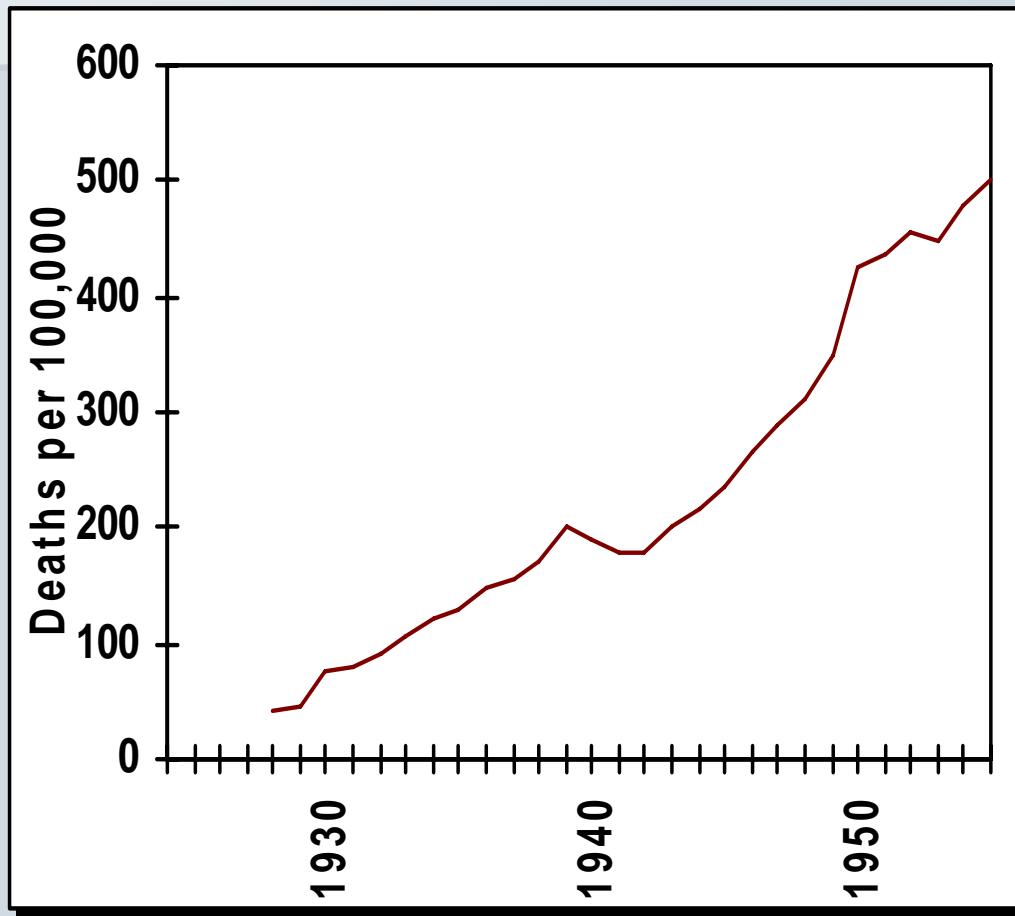
Food group	Totals (million tonnes) (estimated edible dry matter)
Cereals	1,545
Tubers (potatoes, etc)	136
Pulses (beans, lentils)	127
Meats, milk and eggs	119
Sugar	101
Fruits	34

Brain size reduced by 8%



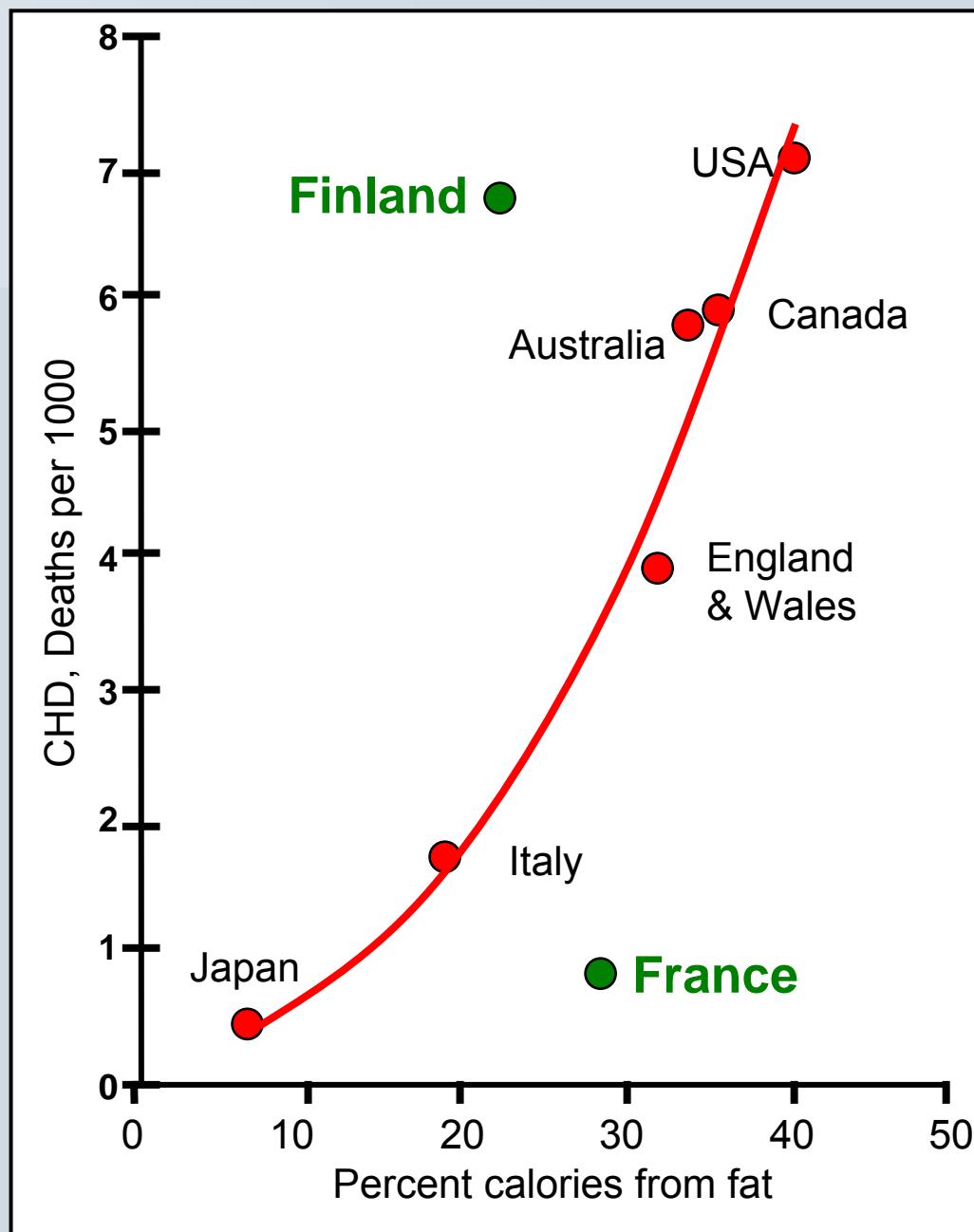
Eaton SB, et al. *Evolution, diet and health*. Presented in association with the scientific session, Origins and Evolution of Human Diet. 14th International Congress of Anthropological and Ethnological Sciences, Williamsburg, Virginia; 1998.

Coronary Heart Disease (CHD) – A New Disease



CHD mortality data – England & Wales

Ancel Keys Implicates Dietary Fat



A Keys. Atherosclerosis: a problem in newer public health. *J Mt Sinai Hosp.* 1953; 20: 118.

Diet / heart – It Doesn't Make Sense!

Too much animal fat?

'For a modern disease to be related to an old-fashioned food is one of the most ludicrous things I ever heard in my life'.

Surgeon General Dr T L Cleave

Lack of 'omega' polyunsaturates?

How can this present epidemic be caused by a lack of something we have never eaten?

“Healthy Eating”

Carbohydrate based

Low-fat

Consequence:

Dramatic rise in diseases

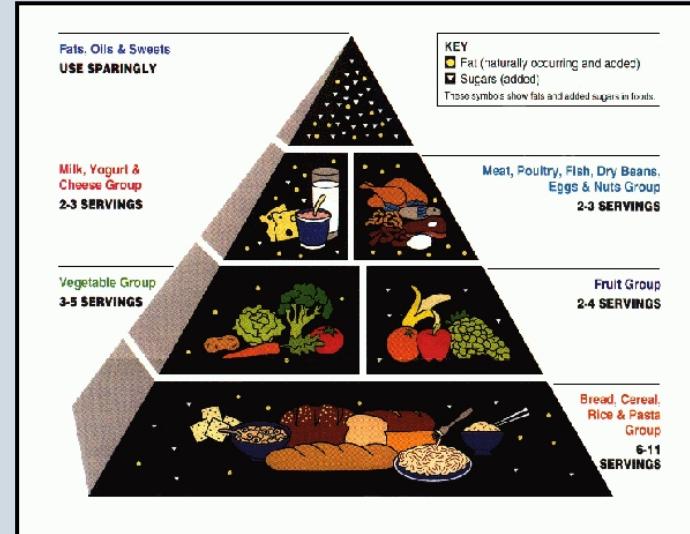
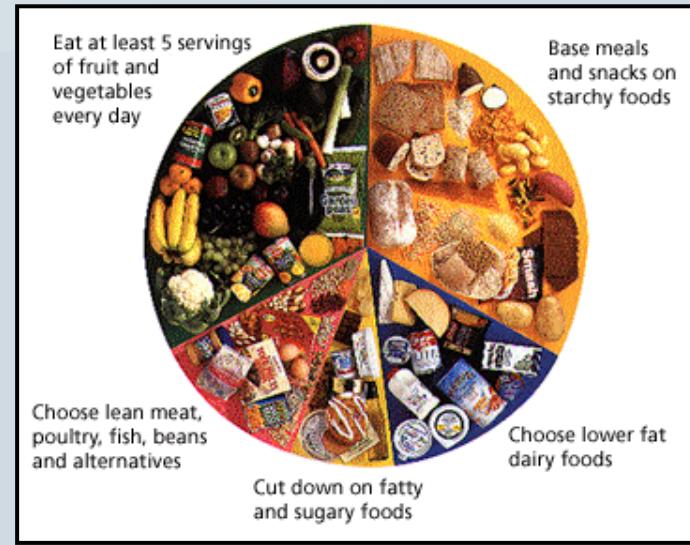
Obesity

Diabetes

3 times as many cancers

Heart disease

And many more . . .



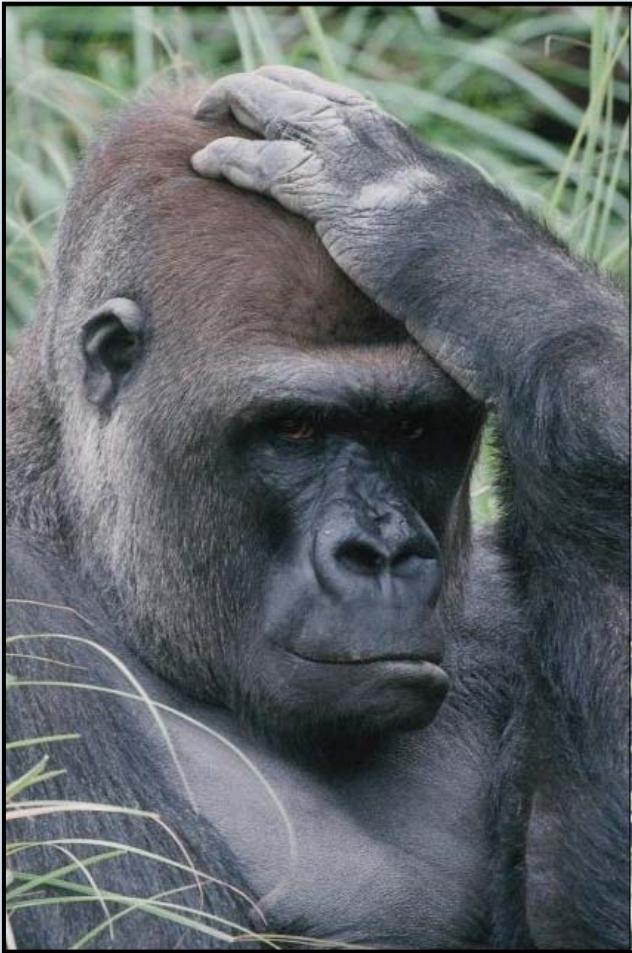
Our Brains are Now Shrinking – Faster!

- Tests and brain scans on volunteers aged 61 to 87 years.
- Retested five years later
- Saw significant levels of brain shrinkage
- Meat-free diet six times more likely to suffer brain shrinkage
- Vegans have most shrinkage
 - >5% over 5 years
- **AT START OF TRIAL**
- **Smallest** 'normal diet' brain – **1456 ml**
- **Biggest** vegan brain – **1455 ml**



Vogiatzoglou A, et al. Vitamin B12 status and rate of brain volume loss in community-dwelling elderly. *Neurology* 2008; 71(11): 826-32

Incidentally . . .



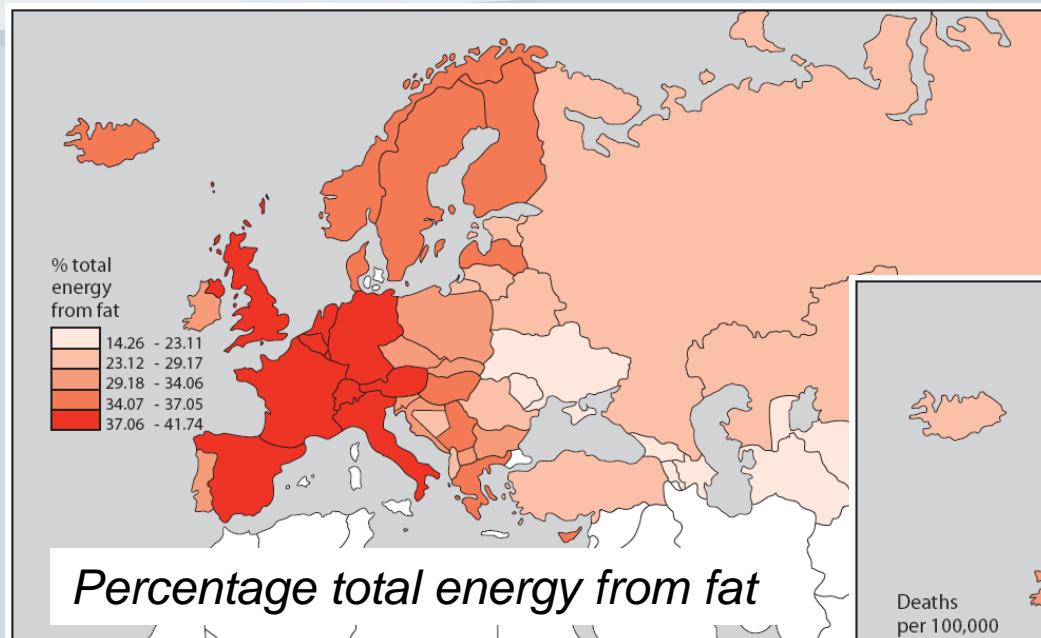
When captive gorillas are fed on **fruit and high-carb, low fibre (low-fat) diets**, they suffer premature cardiovascular disease.

McGuire JT, et al. Plasma alpha-tocopherol, retinol, cholesterol, and mineral concentrations in captive gorillas. *J. Med. Primatol.* 1989; 18:155-161

Less Saturated Fat Eaten = Higher CHD Death Rate

World Health Organization

European cardiovascular
disease statistics, 2005 edition



Carnivores Fed 'Healthy' Rice and Vegetables!

Obesity
Diabetes
Cancer
Heart disease
Arthritis
Etc . . .



Civilised Man is The Planet's Only Chronically Sick Animal

- **Fact:** No wild animal or human culture living on its natural diet suffers the chronic diseases we do
- **Fact:** Our pets suffer the same diseases we do – and for the same reasons
- **Fact:** Wherever we travel in the world, we export our dietary dogma
- **Fact:** Previously healthy populations are made ill by contact with us.



Courtesy of the Polynesian Cultural Center

The Problem

- The food we (are told to) eat today has little similarity to what we are adapted to eat
- Our ‘healthy diet’ is the cause of the dramatic increases in previously rare or unknown chronic degenerative diseases:

Cancer, heart disease, Alzheimer’s, Parkinson’s, obesity, diabetes, osteoporosis, multiple sclerosis, IBS, macular degeneration, and over 60 more . . .

The Answer

■ Our traditional diet

- Based on fat meat
- Small amounts of non-starchy vegetables and nuts
- Smaller amounts of fruit
- **EAT REAL FOOD!**



TRICK AND TREAT



Special offer

~~£12.99~~

~~£14.99~~

£10.00 each

Signed by the author

“A great book that shatters so many of the nutritional fantasies and fads of the last twenty years.

“Read it and prolong your life.”

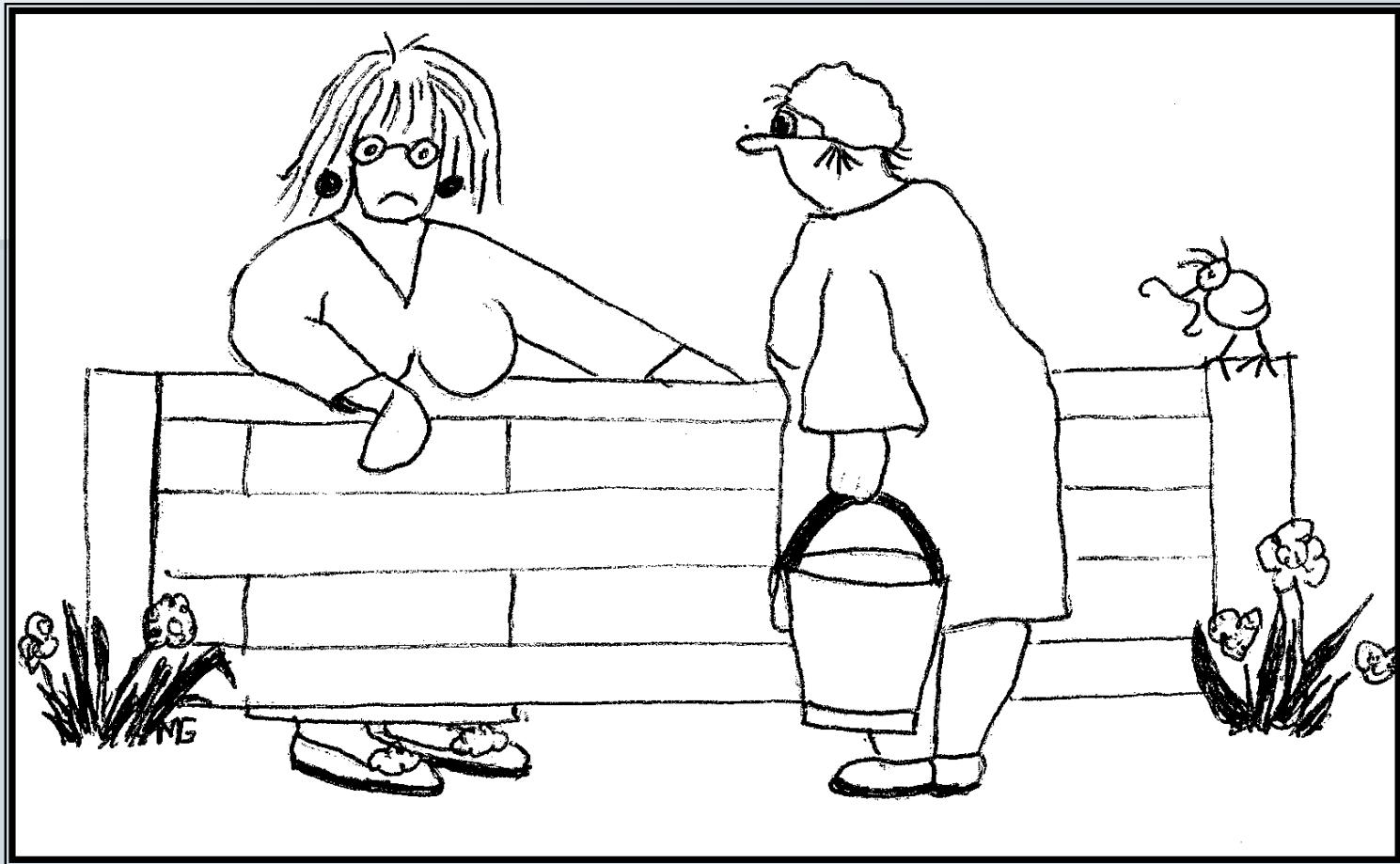
Clarissa Dickson Wright

Natural Health & Weight Loss
Barry Groves



“Natural Health & Weight Loss may be the best non-technical book on diet ever written.”

Professor Joel M Kauffman,
University of the Sciences, Philadelphia.



“The trouble with making all these changes so that you live longer is that all the extra years come at the end – when you’re old!”