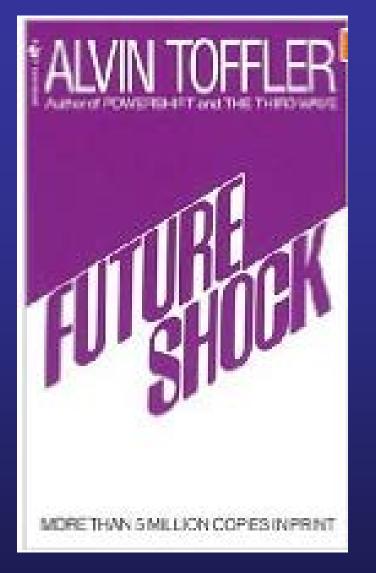
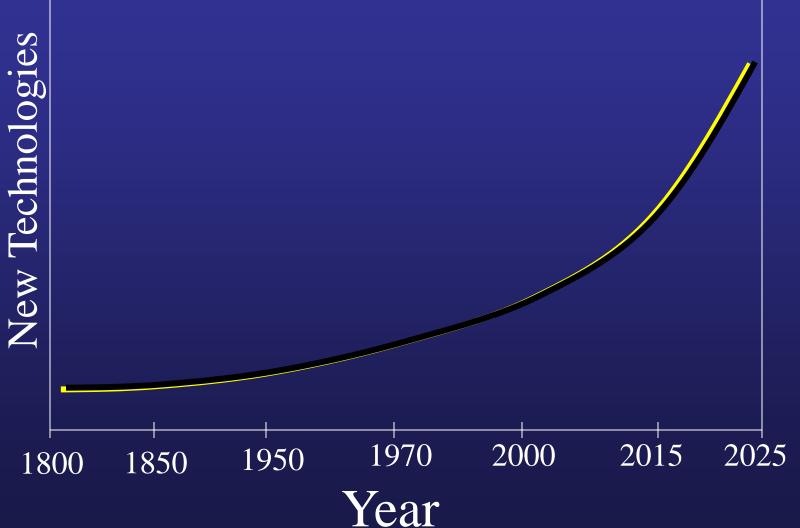
# Nutrition: A Historical Perspective

Arthur Agatston MD



"In the three short decades between now and the twenty-first century, millions of ordinary, psychologically normal people will face an abrupt collision with the future..." January 1, 1970

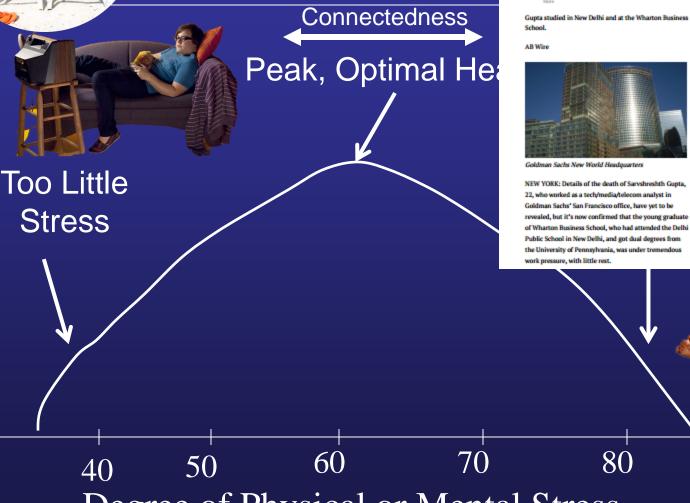
# Rate of Technology Change Rate of Anxiety/Depression



# **Optimal He**

# Degree of Optimal Health

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Degree of Physical or Mental Stress

Did Indian American analyst at Goldman Sachs Sarvshreshth

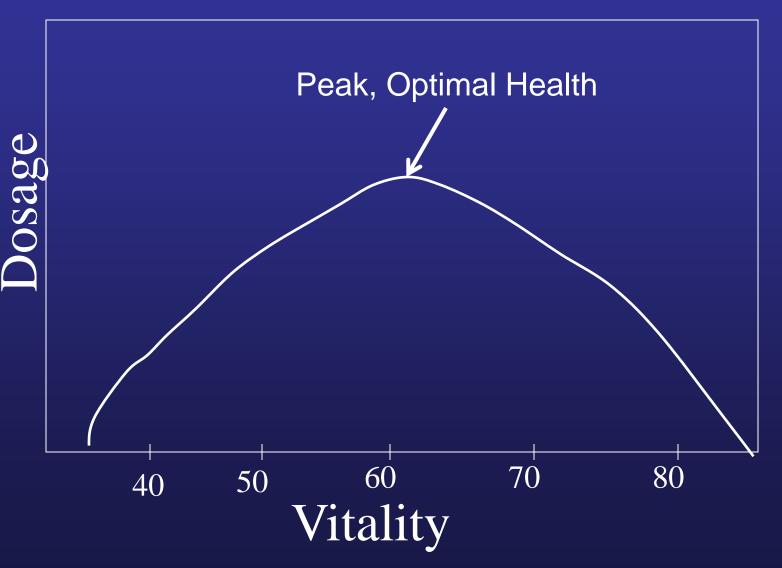
Gupta commit suicide?

une 2, 2015



2

# **Optimal Health**



Home | U.K. | News | Sports | U.S. Showbiz | Australia | Femail Health Science | Money

#### Too much sleep is 'AS bad for your health as smoking and drinking alcohol': More than 9 hours a night means you're '4 TIMES more likely to die early'

- Sleeping more than 9 hours puts you at a higher risk of premature death
- Inactive people who sleep and sit a lot are 4 times as likely to die young
- Researchers said this combination is as deadly as smoking and drinking
- The results come from 45 And Up, Australia's largest health study

Daily **Hail** 

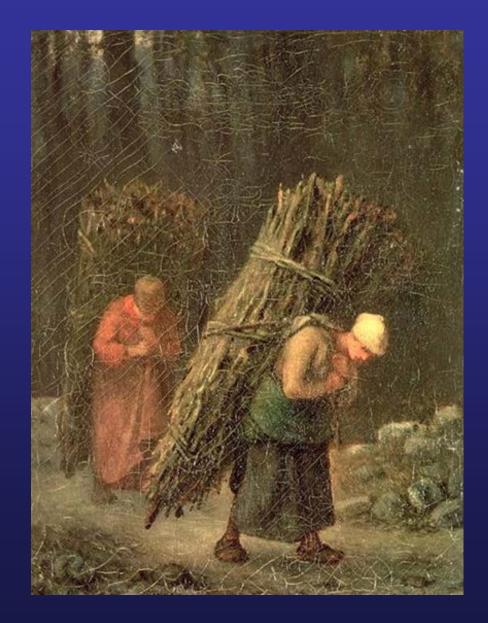
## Hunter Gatherer Abs



## Fields of Grain= More Energy/Acre



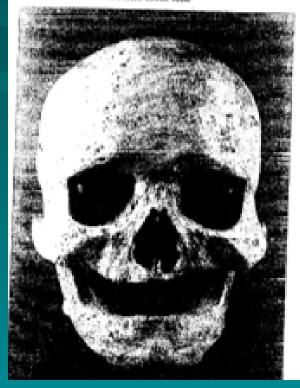
## Dark Age Peasants



#### **Cavities, Osteoporosis, Vitamin** Deficiences Carious losines in mandibular south



Figure 3.2 Extreme case of automocters moth loss



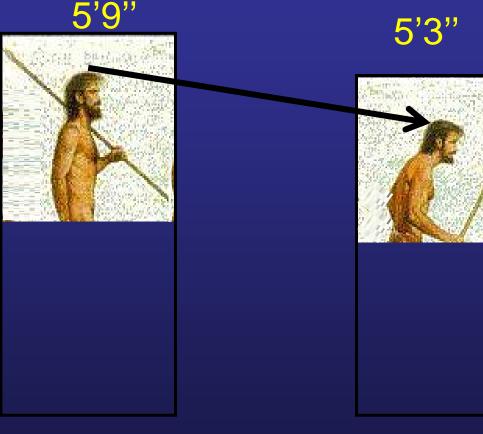
Gribra orbitalia (topi) and pormia legeroratoria (horrani).





#### Cordain L, Am J Clin Nutr 2005;81:341-45

## From Hunter Gatherer to Agriculturist



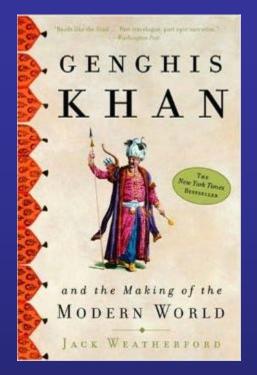
**Pre-Agricultural** 



## Not All Were Small: Genghis Khan, Maasai



## High Meat And Dairy



"The Chinese noted with surprise and disgust the ability of the Mongol warriors to survive on little food and water for long periods; according to one, the entire army could camp without a single puff of smoke since they needed no fires to cook. Compared to the Jurched soldiers, the Mongols were much healthier and stronger. The Mongols consumed a steady diet of meat, milk, yogurt and other dairy products, and they fought men who lived on gruel made from various grains. The grain diet of the peasant warriors stunted their bones, rotted their teeth and left them weak and prone to disease. In contrast, the poorest Mongol soldier ate mostly protein, thereby giving him strong teeth and bones. Unlike the Jurched soldiers, who were dependent on a heavy carbohydrate diet, the Mongols could more easily go a day or two without food."

## **American Colonial Diet**



## The Milkmaid Milk, Butter, Cheese, Yogurt



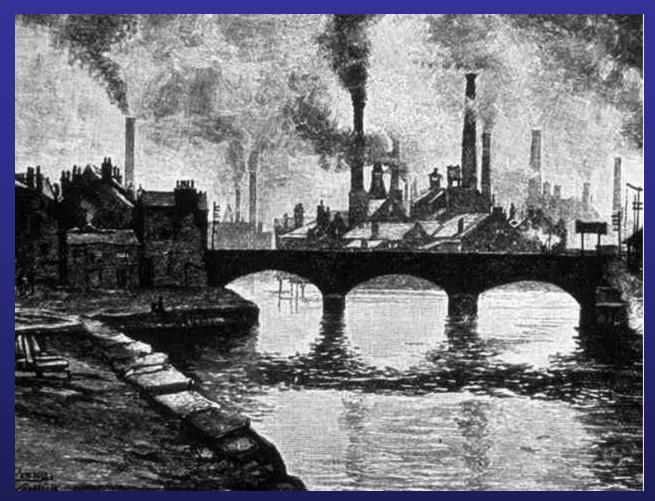


## **Colonial Recipe**



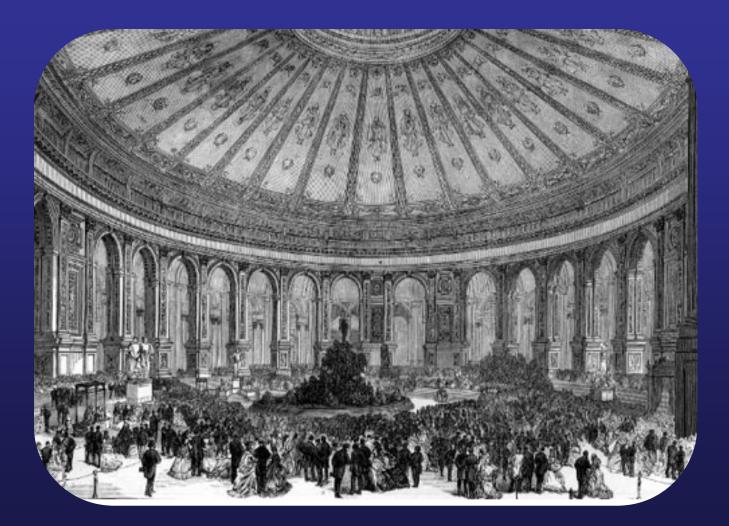
Melt one pound of lard with a stick of butter and flavor this abundant compilation of animal fats by frying in it a few healthy slabs of "country ham" for approximately 45 minutes, until the country ham is brown and leathery, having rendered all of its own fat, salt and flavor into the lard mixture. Was This a Recipe for Heart Disease?

# Industrial Revolution

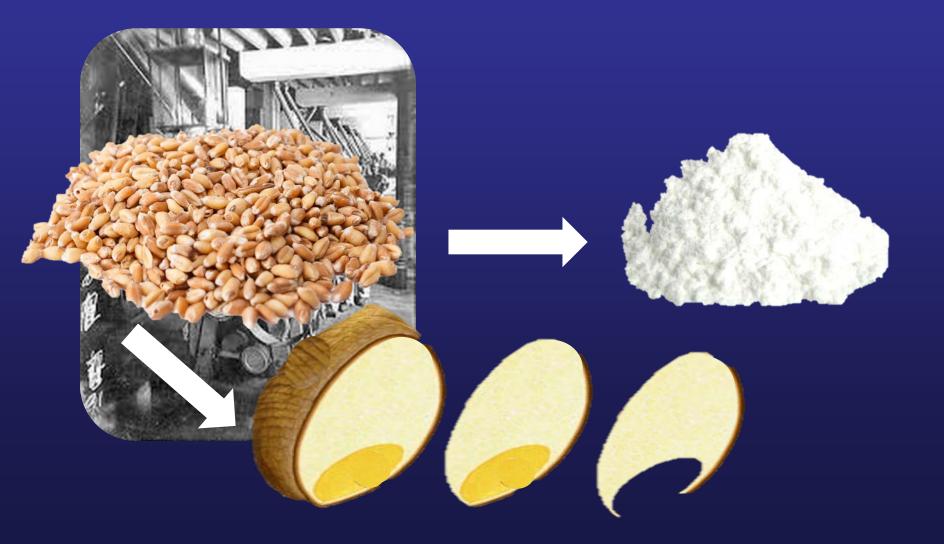


# Manufacturing, Innovation

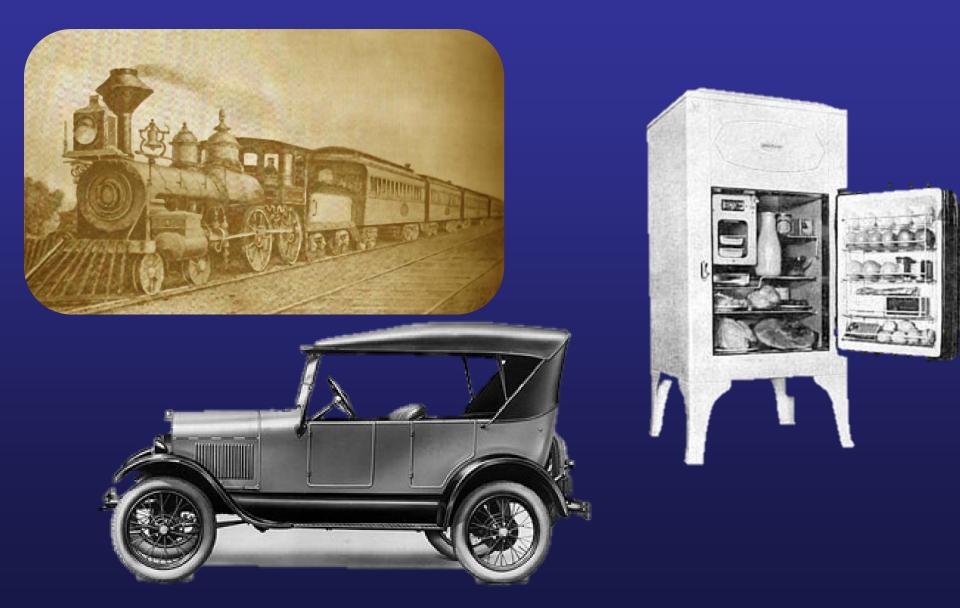
## 1873 Vienna World's Fair



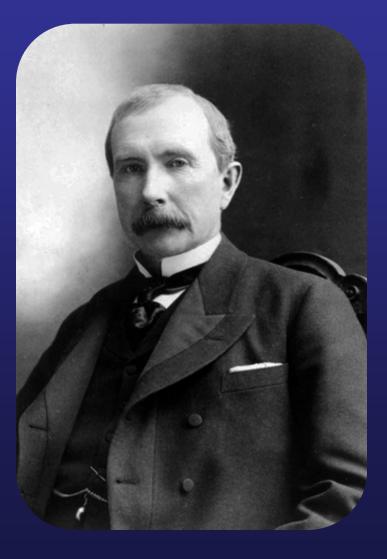
#### The Steel Roller Mill -> White Flour



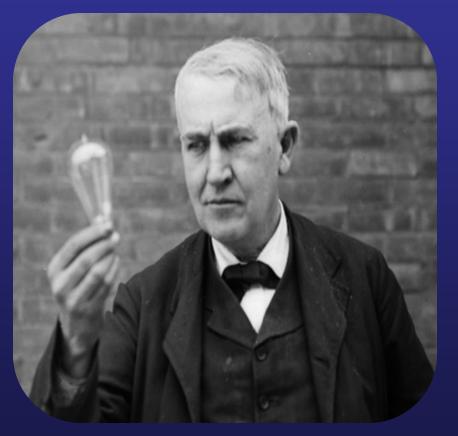
#### **Transportation and Refrigeration**



## 1870: Standard Oil; Cheap Kerosene Lights up the Night



## 1893 Chicago World's Fair: And Then There Was Electric Light

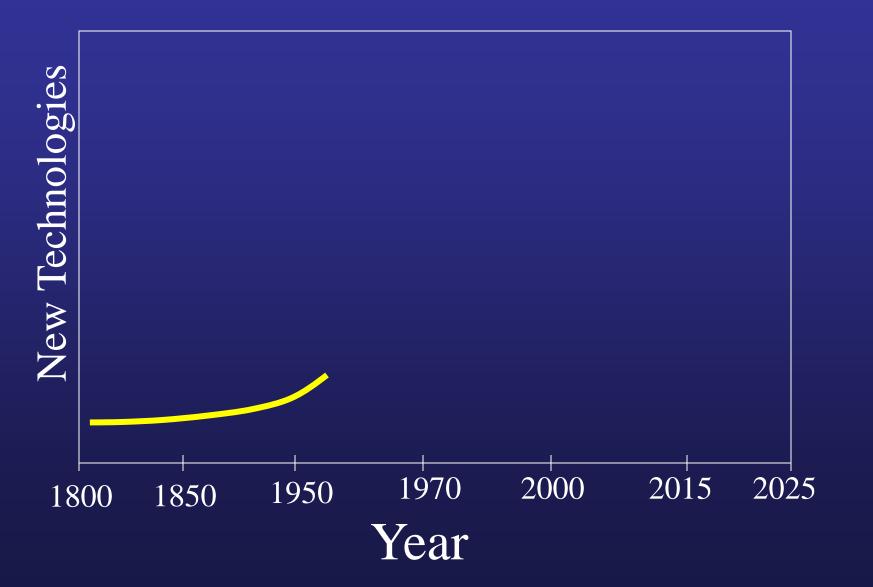




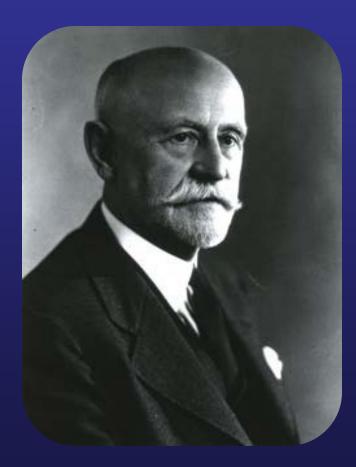
# 1909: Trans-Fats Vegetable Oil Introduced

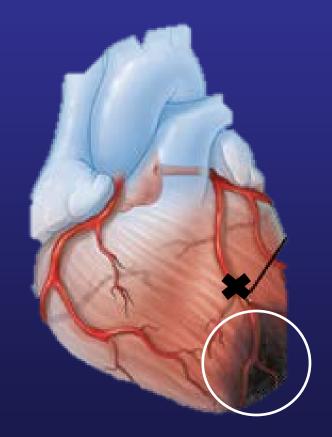


## **Rate of Technology Change**

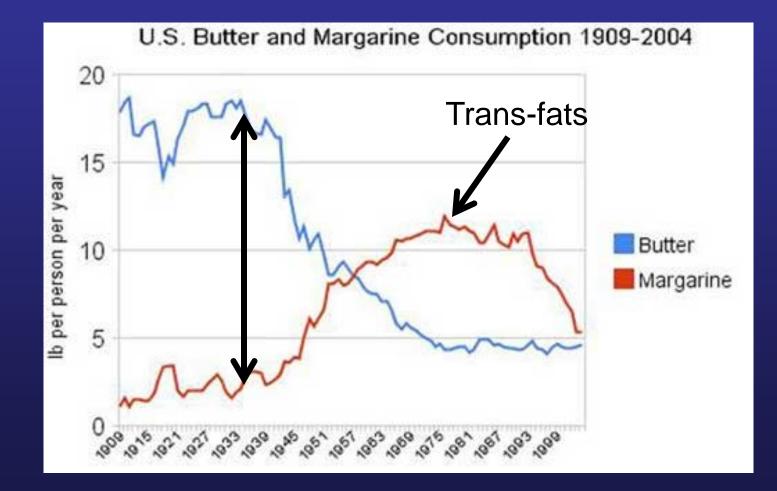


## 1912: Dr. James Herrick Reports First Case of Coronary Thrombosis "Heart Attack"





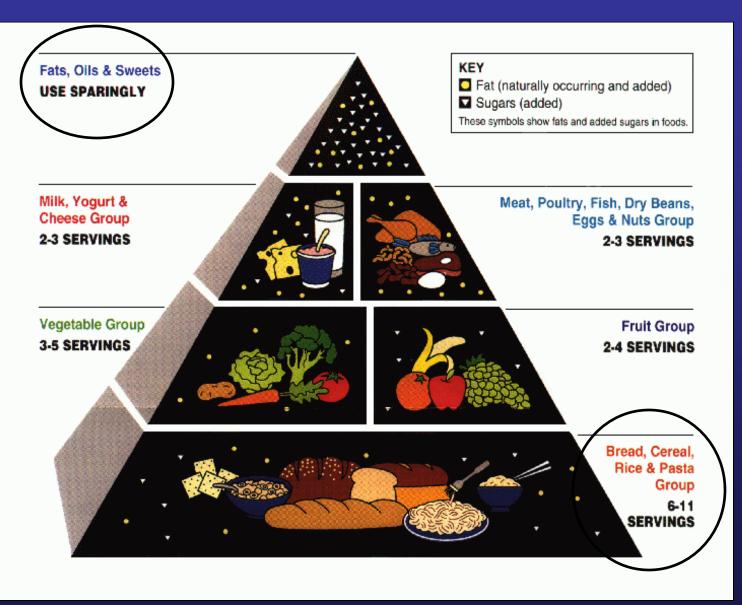
# Butter vs. Margarine



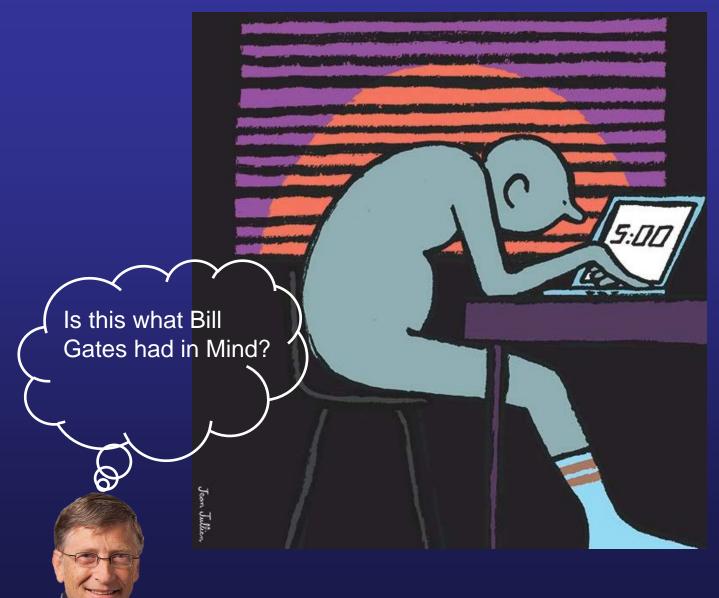
#### Was the Heart Attack Epidemic Due to Over-nutrition and Obesity?



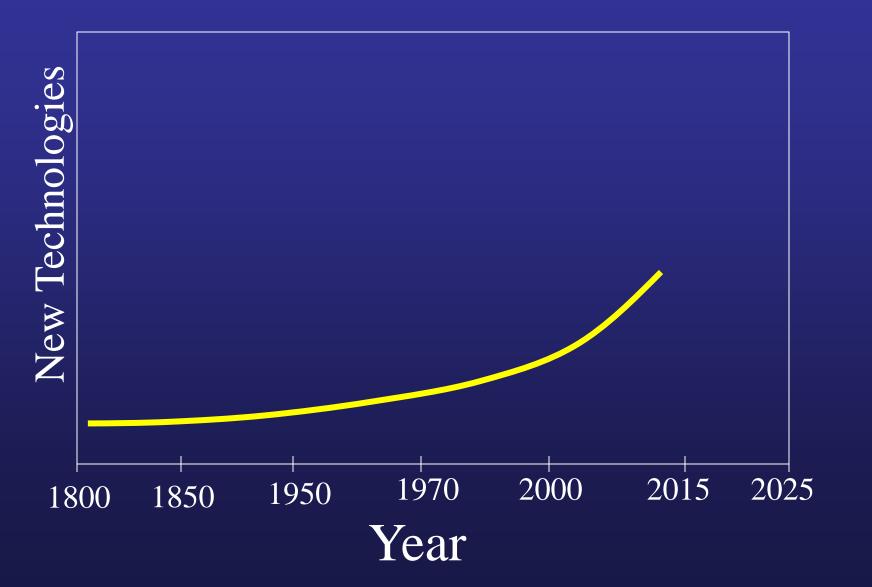
#### 1980s: It All Started with the Food Pyramid



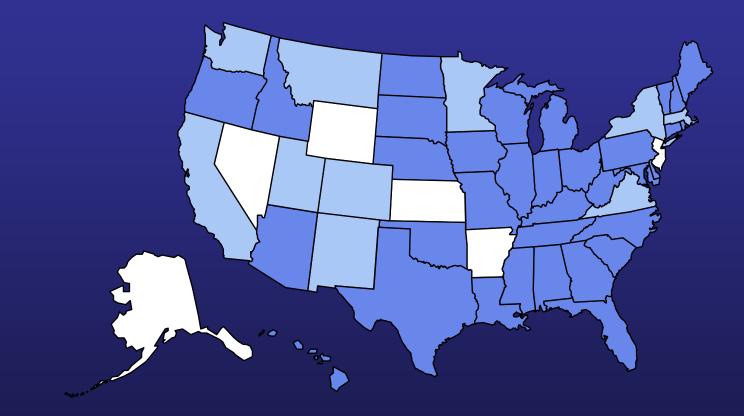
### The Sitting Disease



## **Rate of Technology Change**

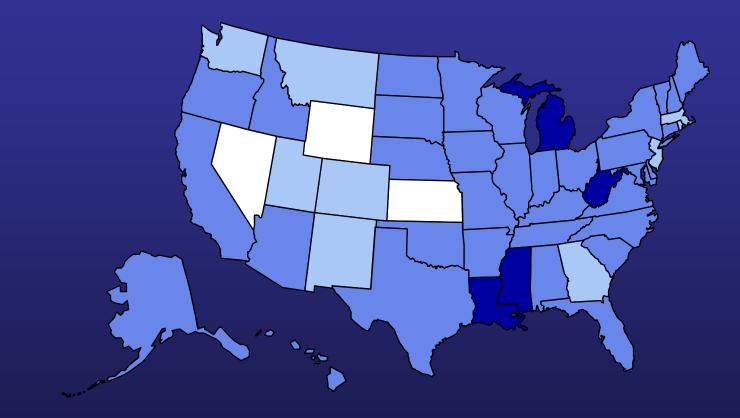


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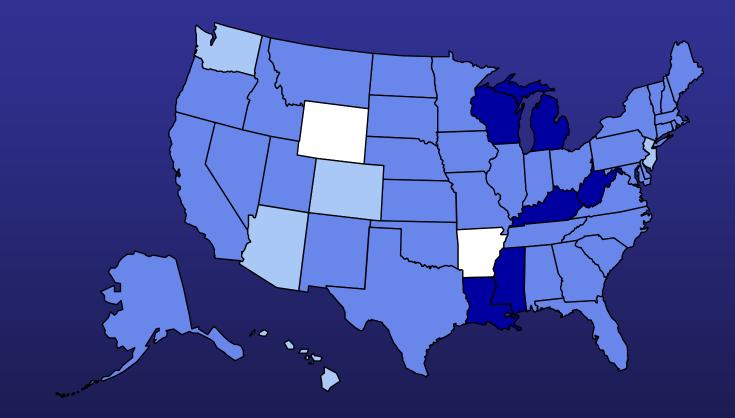




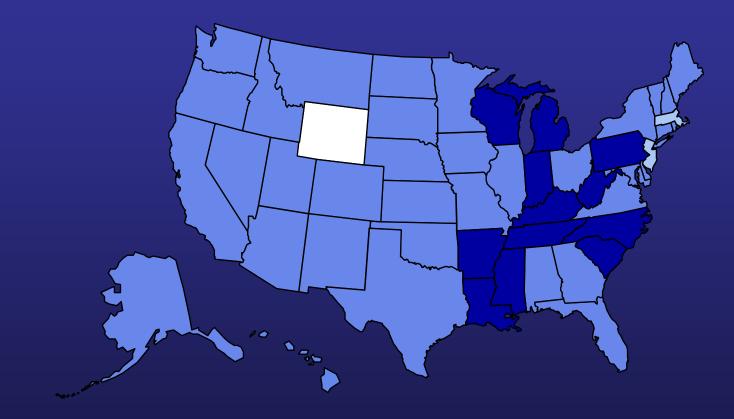




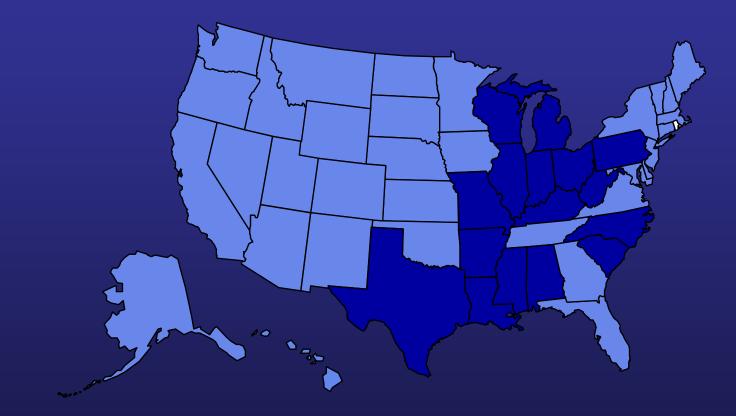




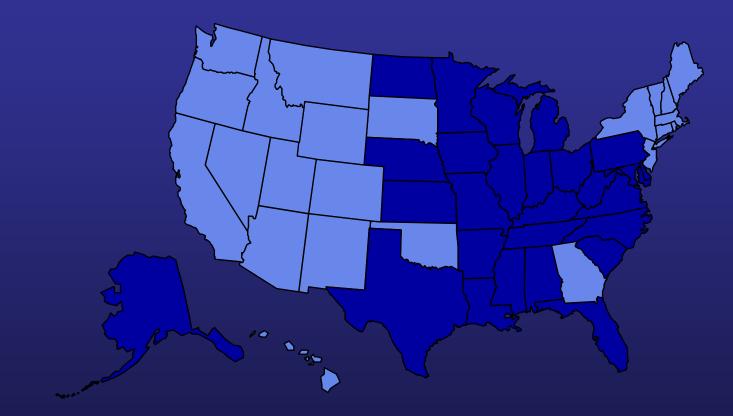




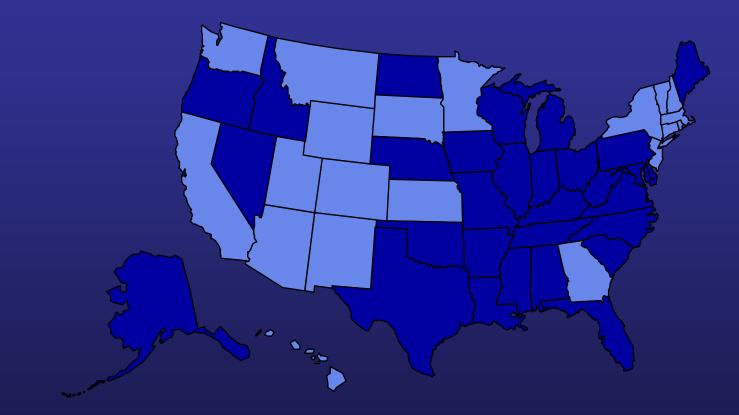




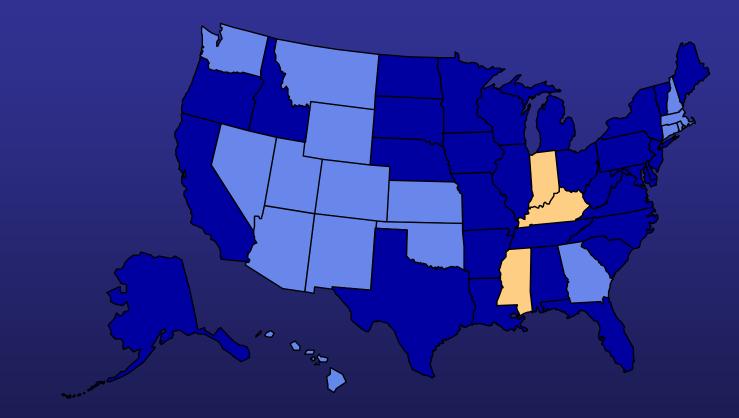




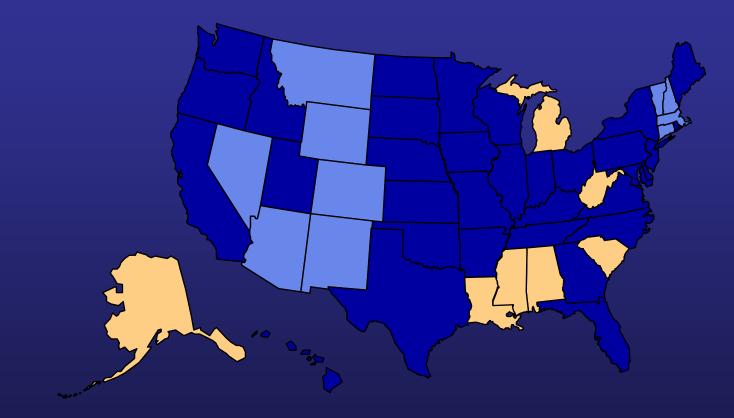




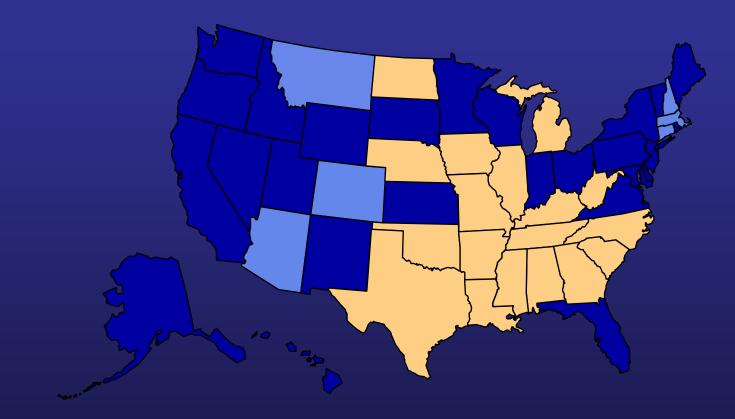




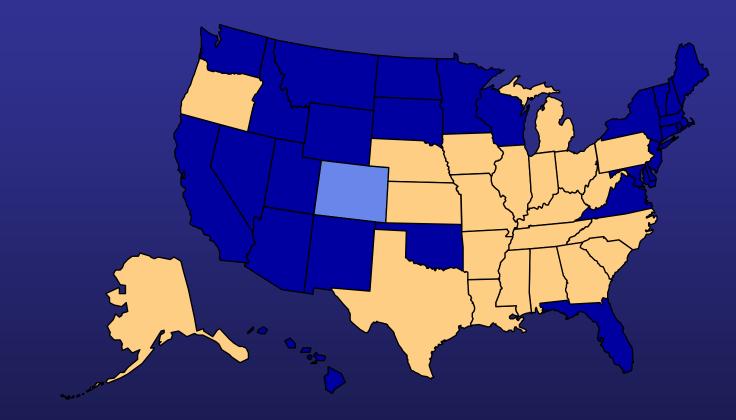




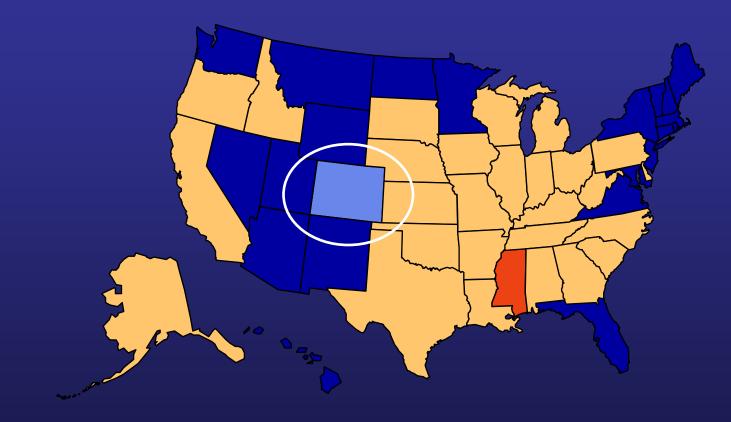




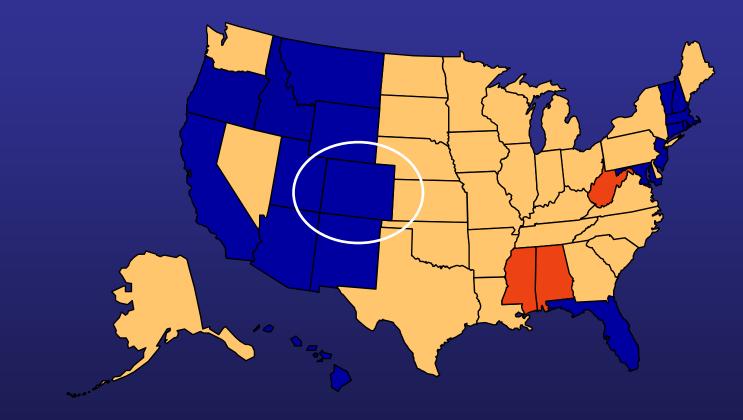




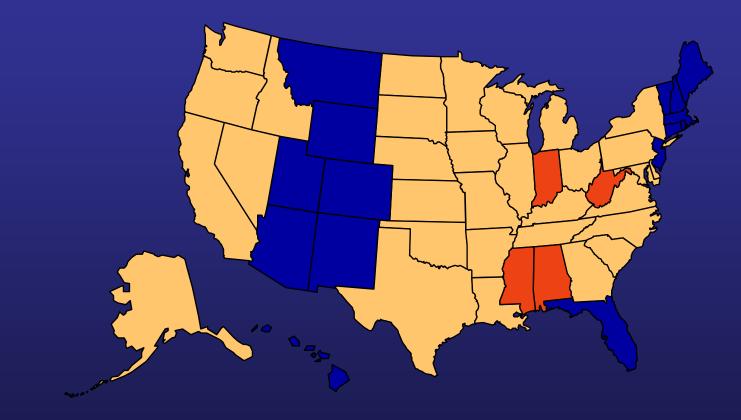




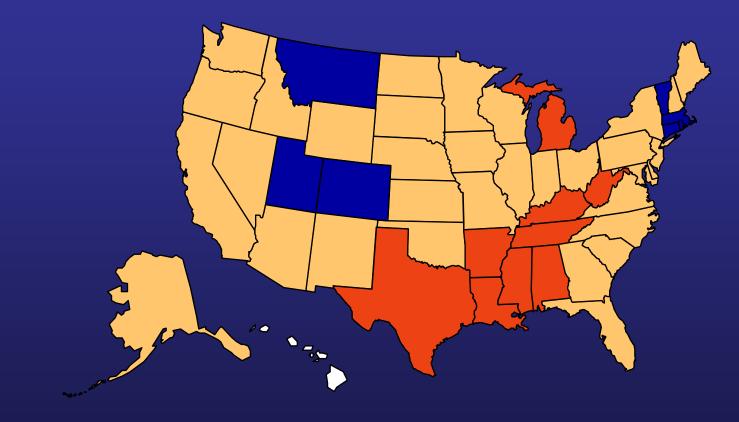






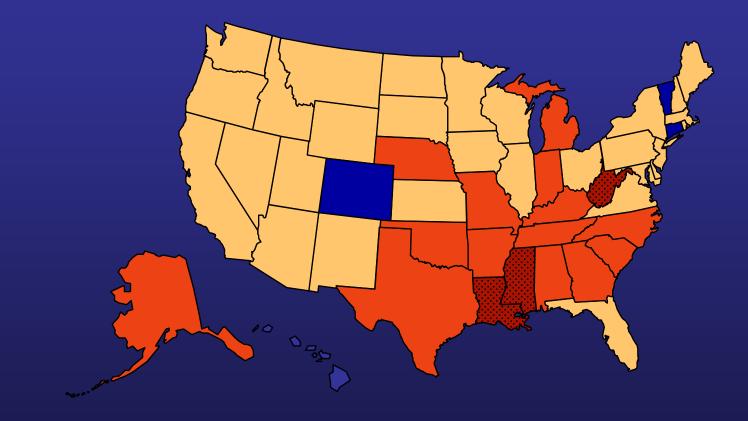






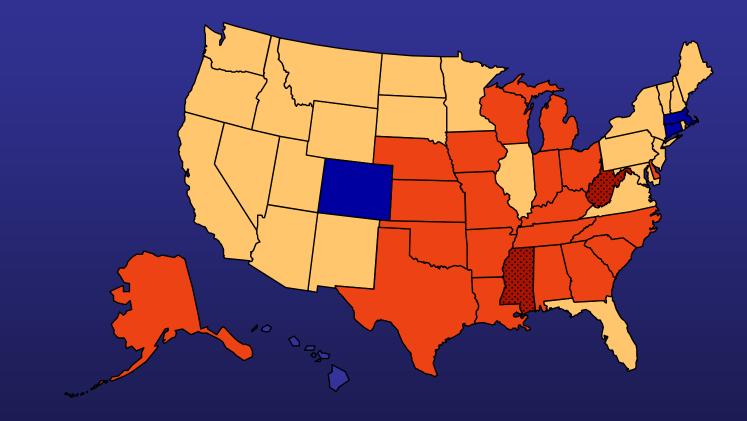


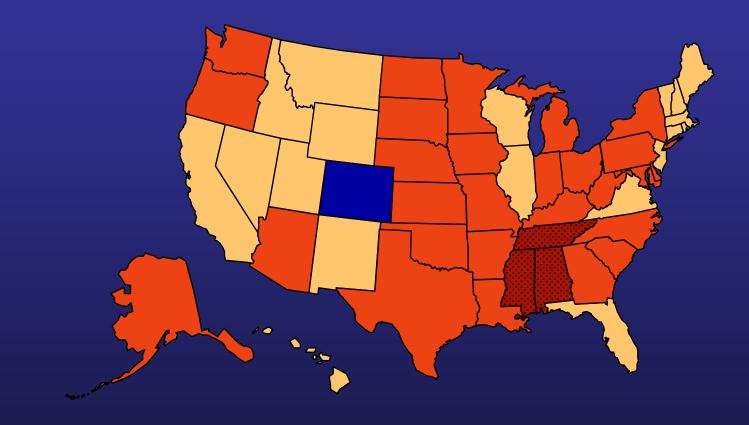
(\*BMI  $\geq$  30, or ~ 30 lbs. overweight for 5' 4" person)



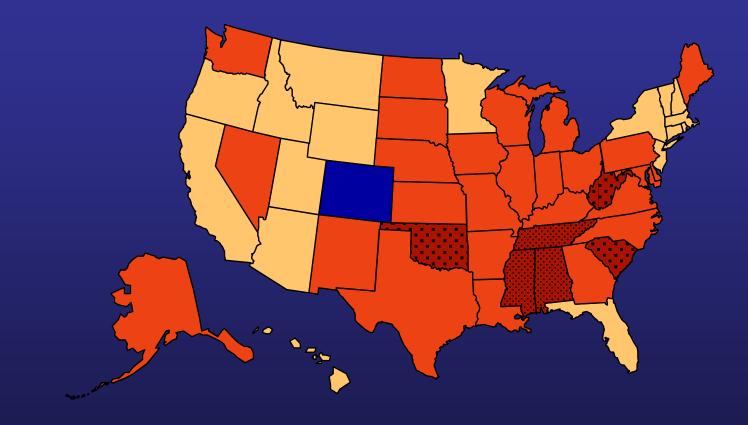
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(\*BMI  $\geq$  30, or ~ 30 lbs. overweight for 5' 4" person)

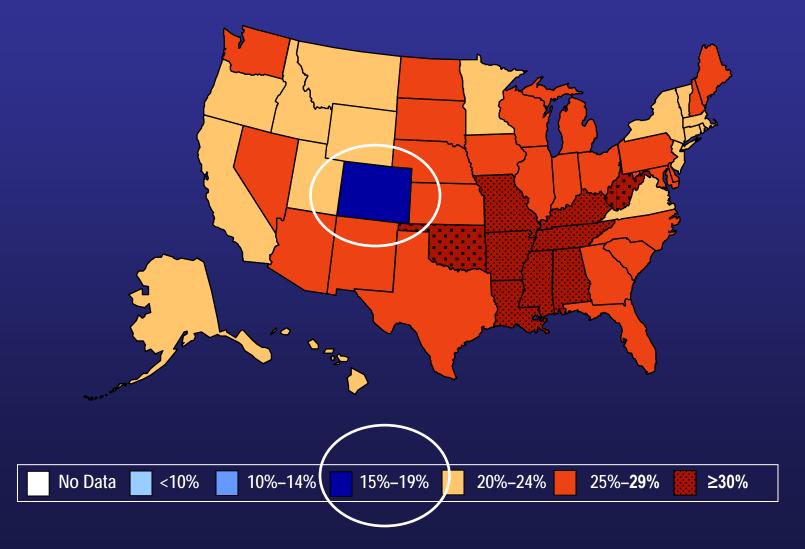


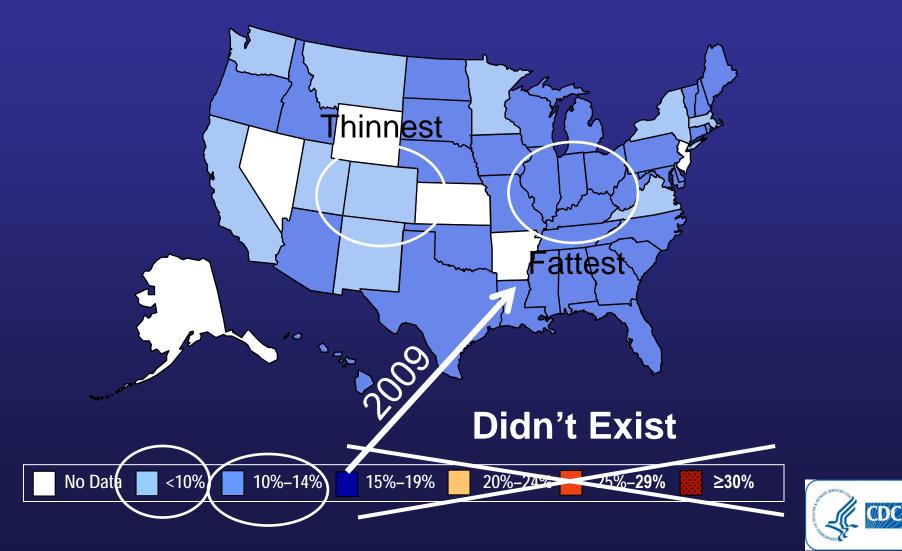




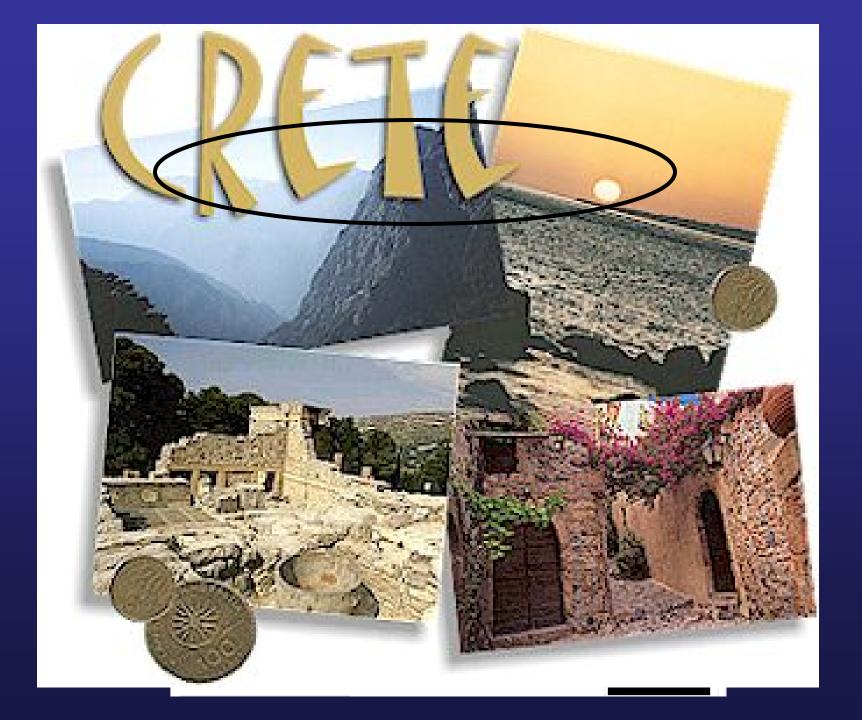








# It's Not Just in America



# Why?

# LOW FAT

SnackWells Devil's Food...devilishly decadent! Moist, rich chocolatey cake wrapped in luscious marshmallow and covered with irresistible chocolate icing. So delicious, you won't believe they're fat free and 50 calories per serving.



SnackWell's offers over 25 varieties of delicious fat free & reduced fat products.

TRY Creme Sandwich Cookies!

#### Nutrition Facts Serving Size 1 Cookie (16g) Servings Per Container 12

**Amount Per Serving** Calories 50 Calories from Fat 0 % Daily Value\* Total Fat Og 0% Saturated Fat Og 0% **Cholesterol** 0mg 0% Sodium 30mg 1% 4% Total Carbohydrate 12g **Dietary Fiber 0g** 0% Sugars 9g Protein 1q Vitamin A 0% . Vitamin C 0% Calcium 0% Iron 2%

 Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs: Calories: 2,000 2,500 Total Fat Less than 65g 80g

Sat Fat Less than 20a 25g Cholesterol Less than 300mg 300mg Less than Sodium 2400ma 2400ma Total Carbohydrate 300a 375g **Dietary Fiber** 25g 30g

INGREDIENTS: SUGAR, ENRICHED WHEAT FLOUR (CONTAINS NIACIN, REDUCED IRON, THIAMINE MONONITRATE[VITAMIN B1], RIBOFLAVIN [VITAMIN B2], FOLIC ACID), HIGH FRUCTOSE CORN SYRUP, CORN SYRUP, WATER, COCOA\* (PROCESSED WITH ALKALI), SKIM MILK, GELATIN, BAKING SODA, CORN-STARCH, MODIFIED FOOD STARCH, CHOCOLATE\*, SOY LECITHIN\* (EMULSIFIER), SALT, POTASSIUM SORBATE (TO PRESERVE FRESHNESS), ARTIFICIAL FLAVOR.



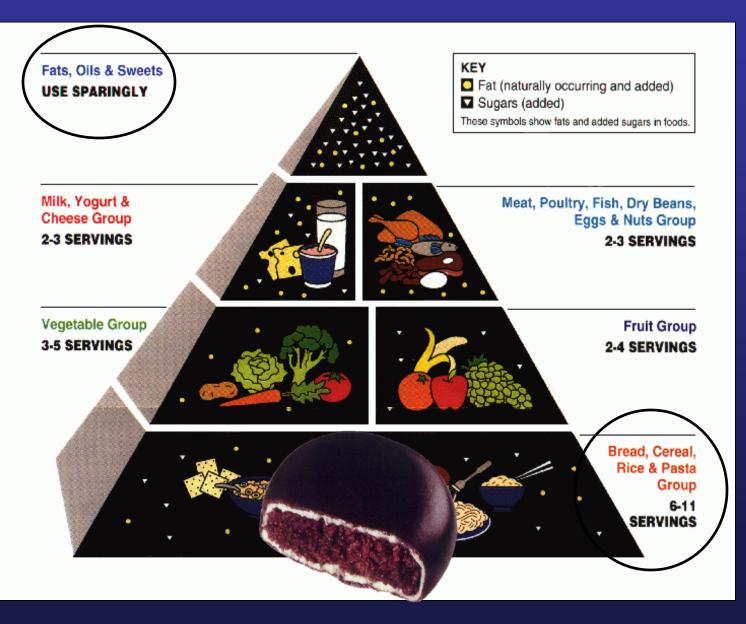
DISTRIBUTED BY:



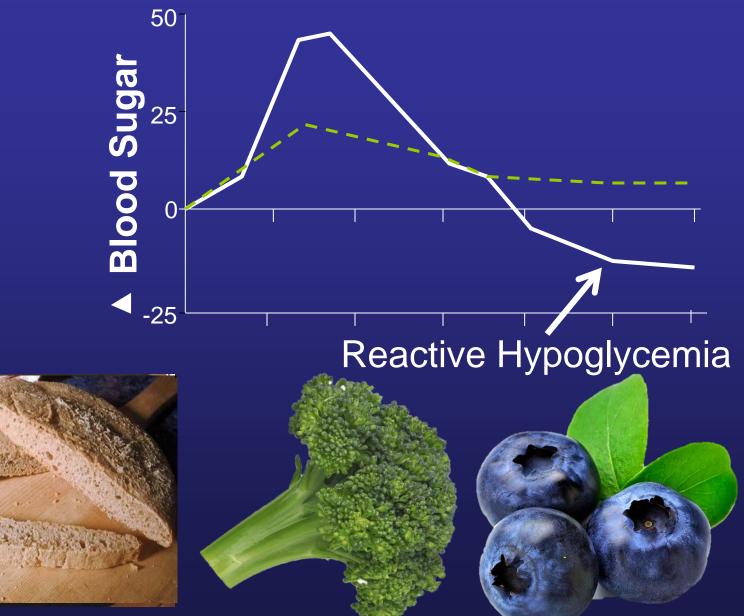
EAST HANOVER, NJ 07936 MADE IN U.S.A. • © NABISCO, INC. WHEN WRITING TO US, PLEASE ENCLOSE THE END FLAP WITH PRINTED CODE, OR CALL 1-800-NABISCO (622-4726) WEEKDAYS, 9:00 AM-7:30 PM, EST.



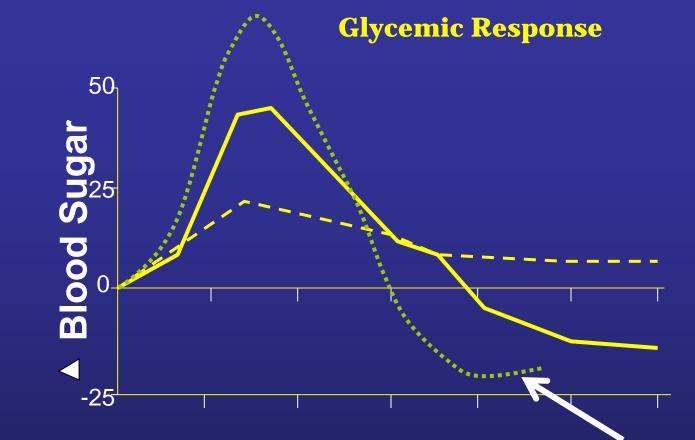
## 1980s: It All Started with the Food Pyramid



## **Glycemic Response**



Shepherd PR. NEJM 1999;341:246-257





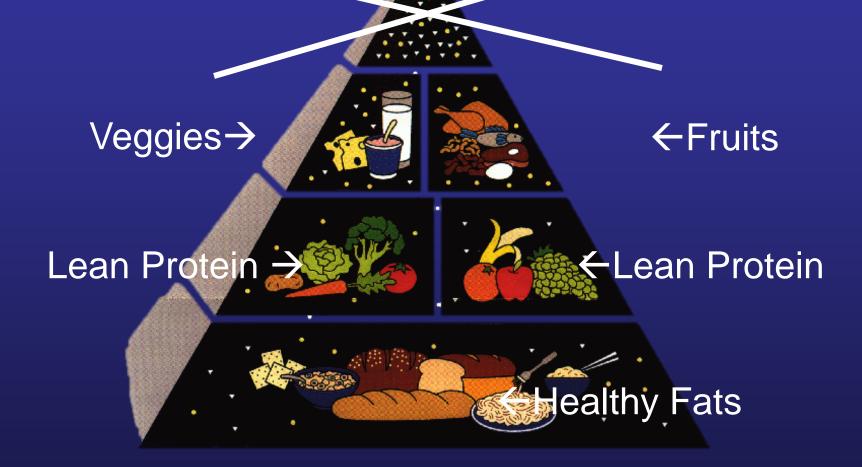
## **Fuel Reserve**

Shepherd PR. NEJM 1999;341:246-257



## Who has the thrifty gene? Rimà Indians

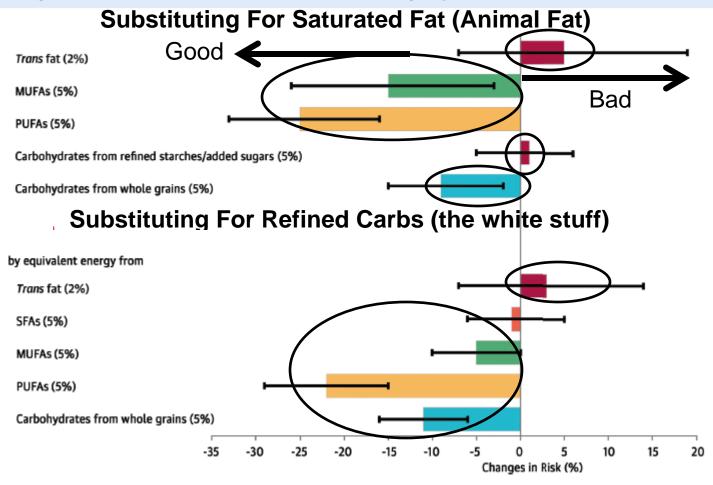




# Fats and Carbs

# Fats and Carbs

**CENTRAL ILLUSTRATION** Fat, Carbohydrates, and Heart Disease: Estimated Percentage of Changes in the Risk of Coronary Heart Disease Associated With Isocaloric Substitutions of 1 Dietary Component for Another



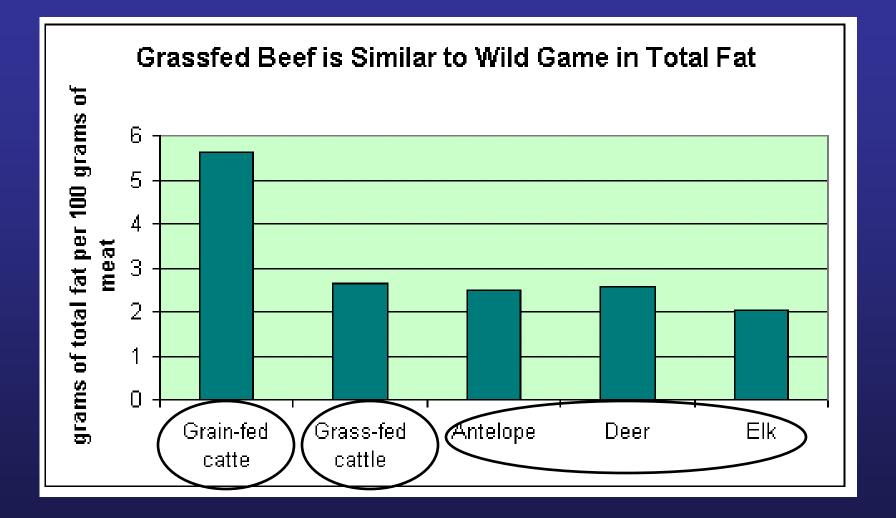
Li, Y. et al. J Am Coll Cardiol. 2015; 66(14):1538-48.

Hu FB J Am Coll Cardiol 2015;66:1538-48

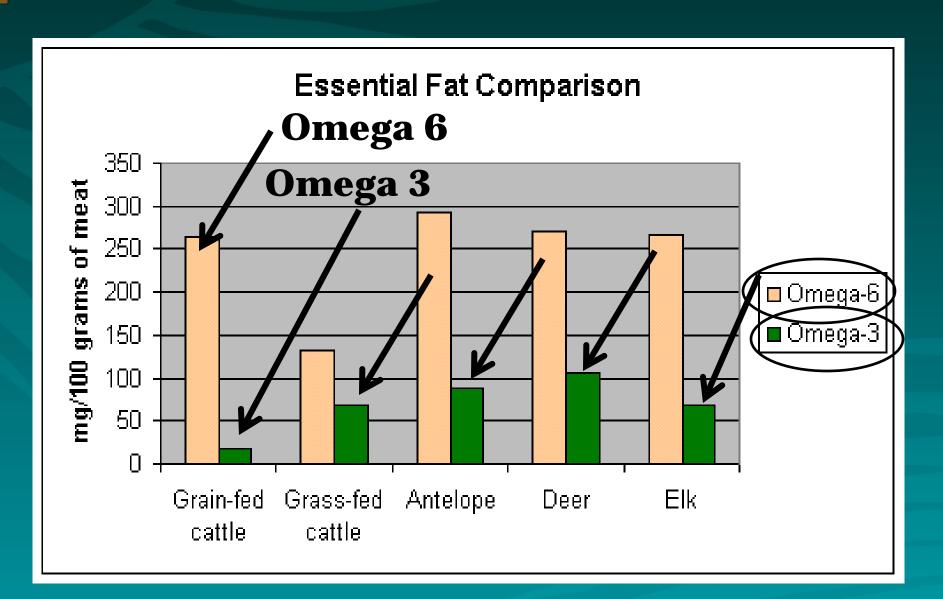
# Grain vs. Grass Fed Meat



Grain vs. Grass Fed Meat

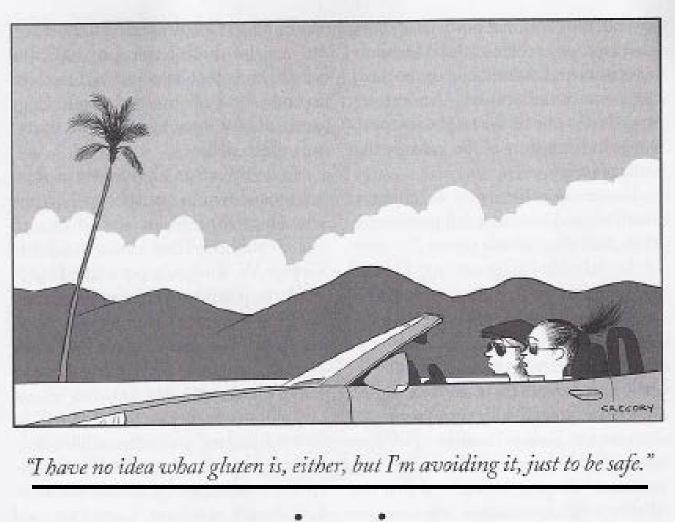


Miller, GJ: Lipids in Wild Ruminant Animals and Steers. J. Food Quality, 9:331-43, 1986.

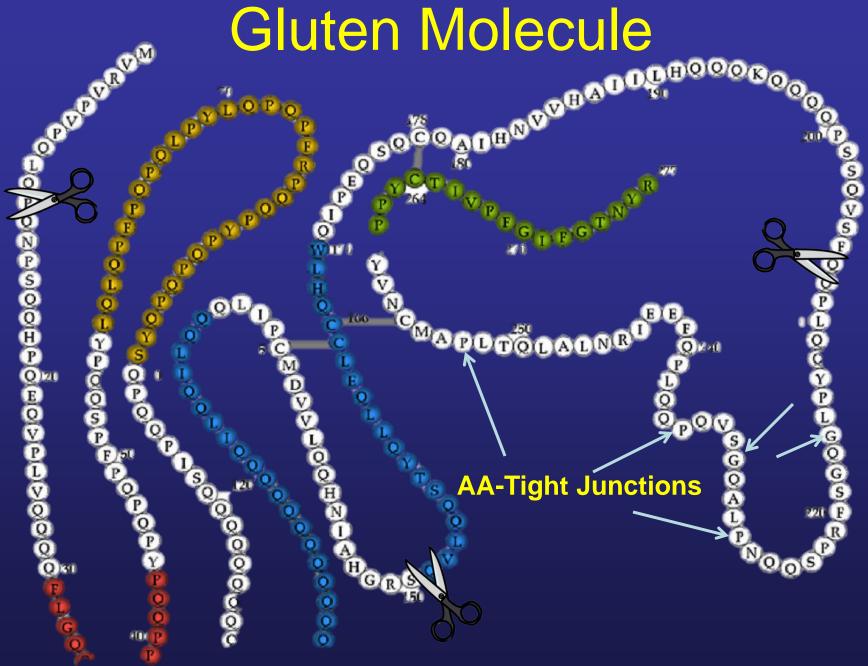


Miller, GJ: Lipids in Wild Ruminant Animals and Steers. J. Food Quality, 9:331-43, 1986.

# Should you be Gluten Free?

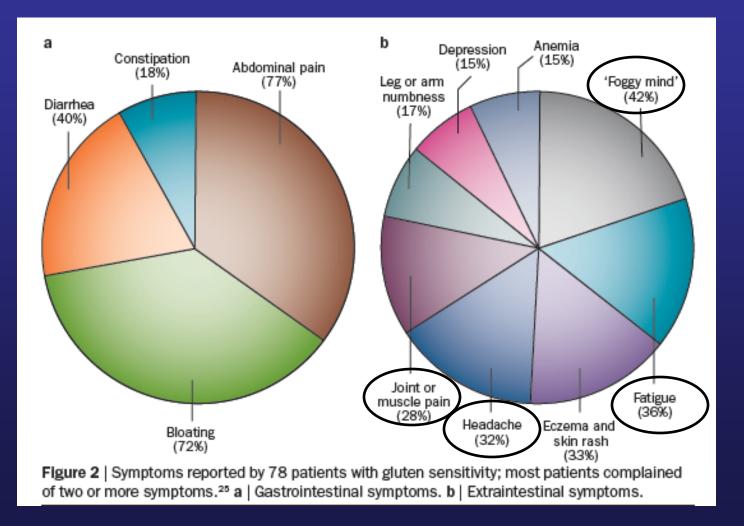


# Gluten vs. Other Proteins



BMC Medicine 2012, **10**:13

# Symptoms of Gluten Sensitivity



Volta, U. & De Giorgio, R. Nat. Rev. Gastroenterol. Hepatol. 9, 295–299 (2012)

# More Recent Unintended Experiments

# NSAIDS

# ? Antibiotics and Obesity



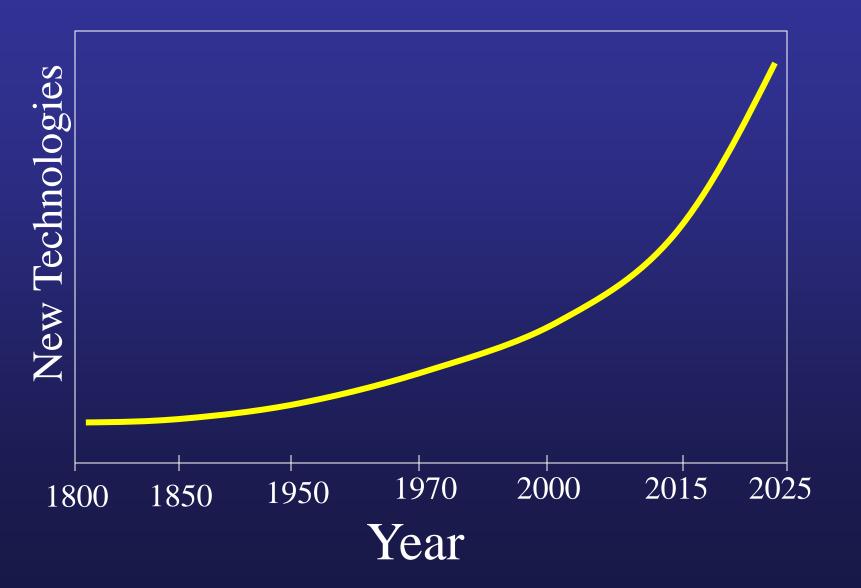


# Traditional v. Industrial Bread Making

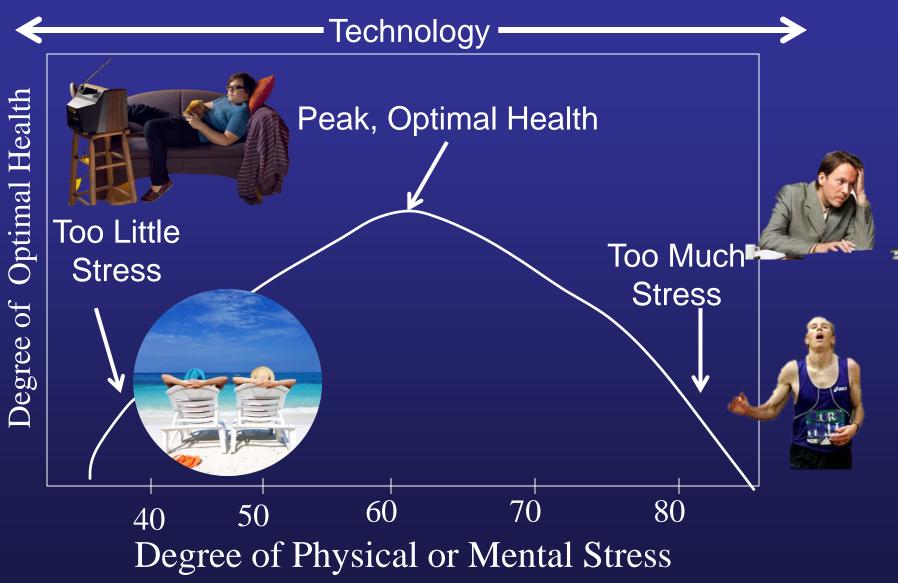




# **Rate of Technology Change**



# **Optimal Stress**

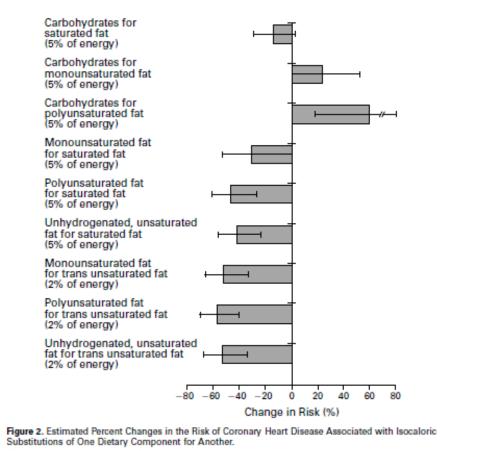




## DIETARY FAT INTAKE AND THE RISK OF CORONARY HEART DISEASE

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DIETARY FAT INTAKE AND THE RISK OF CORONARY HEART DISEASE IN WOMEN



The I bars represent 95 percent confidence intervals.

Hu HB, N Engl J Med 1997;337:1491-9

# **The French Paradox**

Point l"Eveque Smelly Cheese

lou Mistrau

100

# Sweet, Fatty, Salty

## **Deselection**

