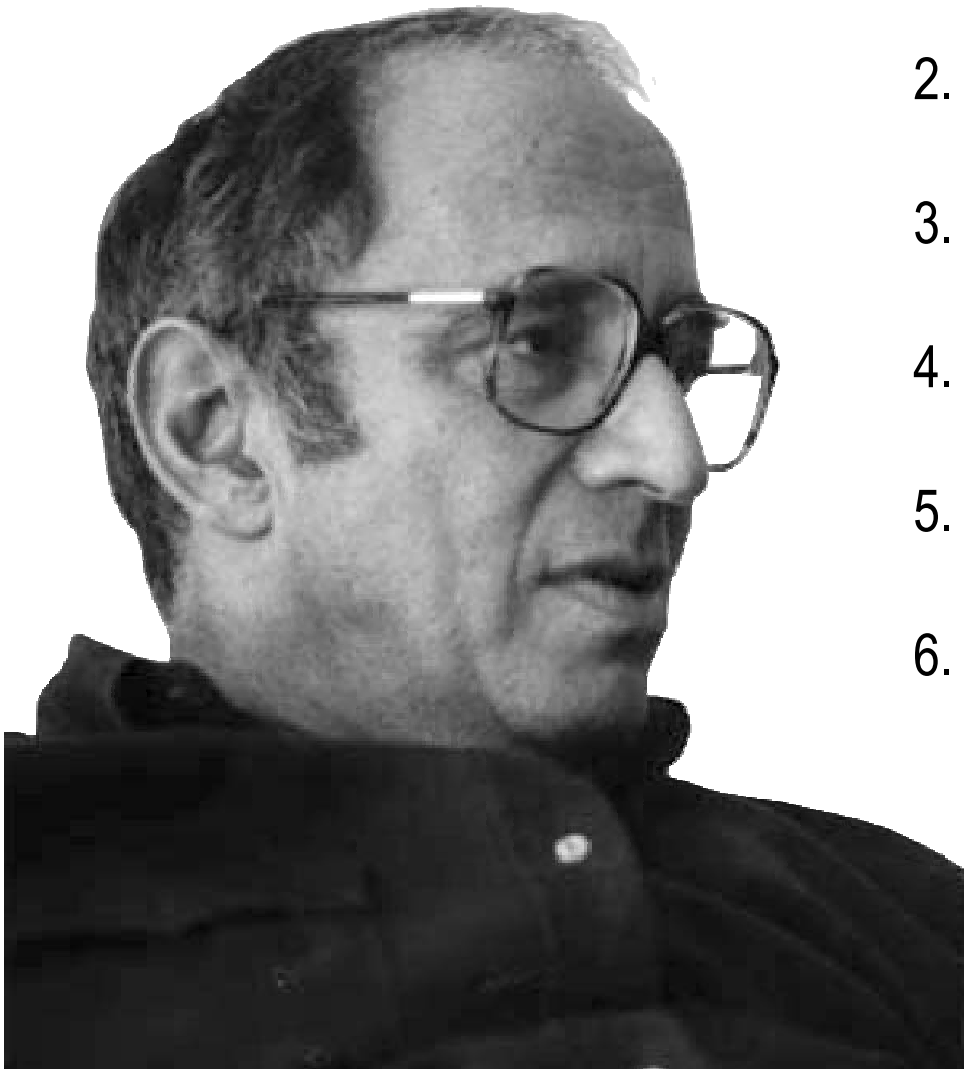


# PARADIGM SHIFT

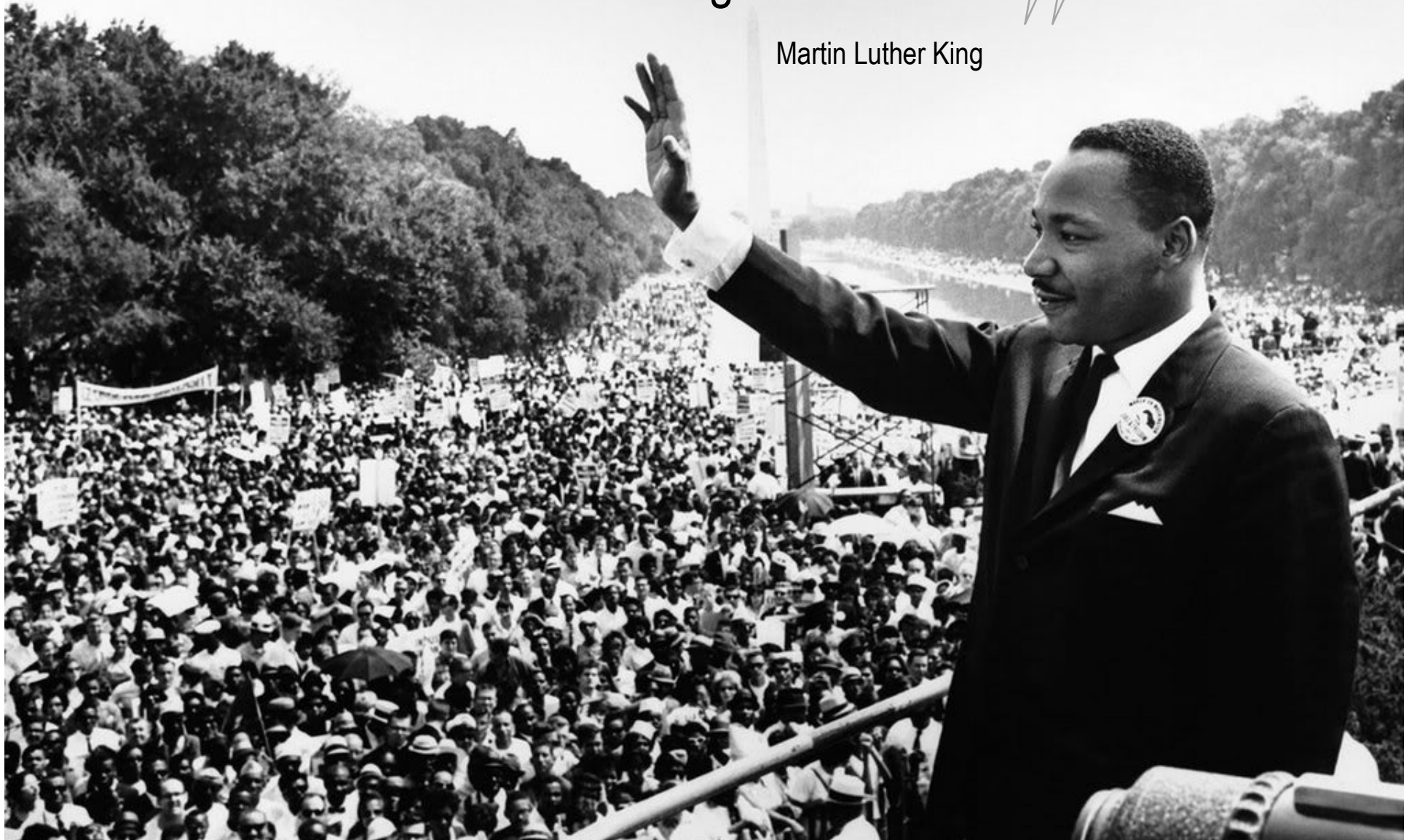
1. The existing paradigm encounters an anomaly (an inexplicable observation).
2. Initially the anomaly is ignored or rejected.
3. People try to explain the anomaly within the existing paradigm.
4. A new paradigm is proposed in which the anomaly is resolved.
5. The establishment rejects the new model, often ridicules its proponents.
6. The new paradigm finally gains acceptance as it accounts for new observations.

**THOMAS KUHN**



“ Our lives begin to end the day we become  
silent about things that matter. ”

Martin Luther King







**A third danger is timidity. For every ten men who are willing to face the guns of an enemy there is only one willing to brave the disapproval of his fellow, the censure of his colleagues, the wrath of his society. Moral courage is a rarer commodity than bravery in battle, or great intelligence. Yet it is the one essential, vital quality for those who seek to change a world that yields most painfully to change.**

The late Robert Kennedy speaking at the University of Cape Town. June 1967.



**Coronary risk factors should be  
grouped according to:**

***Abnormalities in carbohydrate  
metabolism***

***Abnormalities in lipoprotein  
metabolism***

***Abnormalities in inflammation***

***Others***



# A HIGH FAT DIET REVERSES ALL CORONARY RISK FACTORS MORE EFFECTIVELY THAN A LOW FAT DIET

Meta-analysis ... on data obtained in 1,141 obese patients, showed the low carbohydrate diet to be associated with significant decreases in body weight, body mass index, abdominal circumference, systolic blood pressure, diastolic blood pressure, plasma triglycerides, fasting plasma glucose, glycated hemoglobin, plasma insulin and plasma C-reactive protein, as well as an increase in high-density lipoprotein cholesterol. Low-density lipoprotein cholesterol and creatinine **did not change significantly**, whereas limited data exist concerning plasma uric acid.

Santos FL et al. Systematic review and meta-analysis of clinical trials of the effects of low carbohydrate diets on cardiovascular risk factors. *Obes Rev* 2012; 13: 1048-1066.

Volek JS, Fernandez ML, Feinman RD, Phinney SD. Dietary carbohydrate restriction induces a unique metabolic state positively affecting atherogenic dyslipidemia, fatty acid partitioning, and metabolic syndrome. *Prog Lipid Res* 2008; 47: 307-318.

MY RUNNING'S SO-SO, BUT I'M ONE  
OF THE NATION'S TOP FIVE  
CARBO-LOADERS





"...book, destined to change the way we think about food."  
MICHAEL POLLAN, AUTHOR OF *IN DEFENSE OF FOOD*  
"...a brave and bold science journalist who does not  
...ventional wisdom." —THE NEW YORK TIMES

GOOD



# Current model in allopathic medicine

One condition  $\Rightarrow$  one cause  $\Rightarrow$  one treatment

Heart disease  $\Rightarrow$  high cholesterol  $\Rightarrow$  statins

FATS, CARBS, AND  
SCIENCE OF DIET AND HEALTH  
GARY TAUBES

...scientific deception of this century, perhaps of  
any century."  
George V. Mann, M.D.

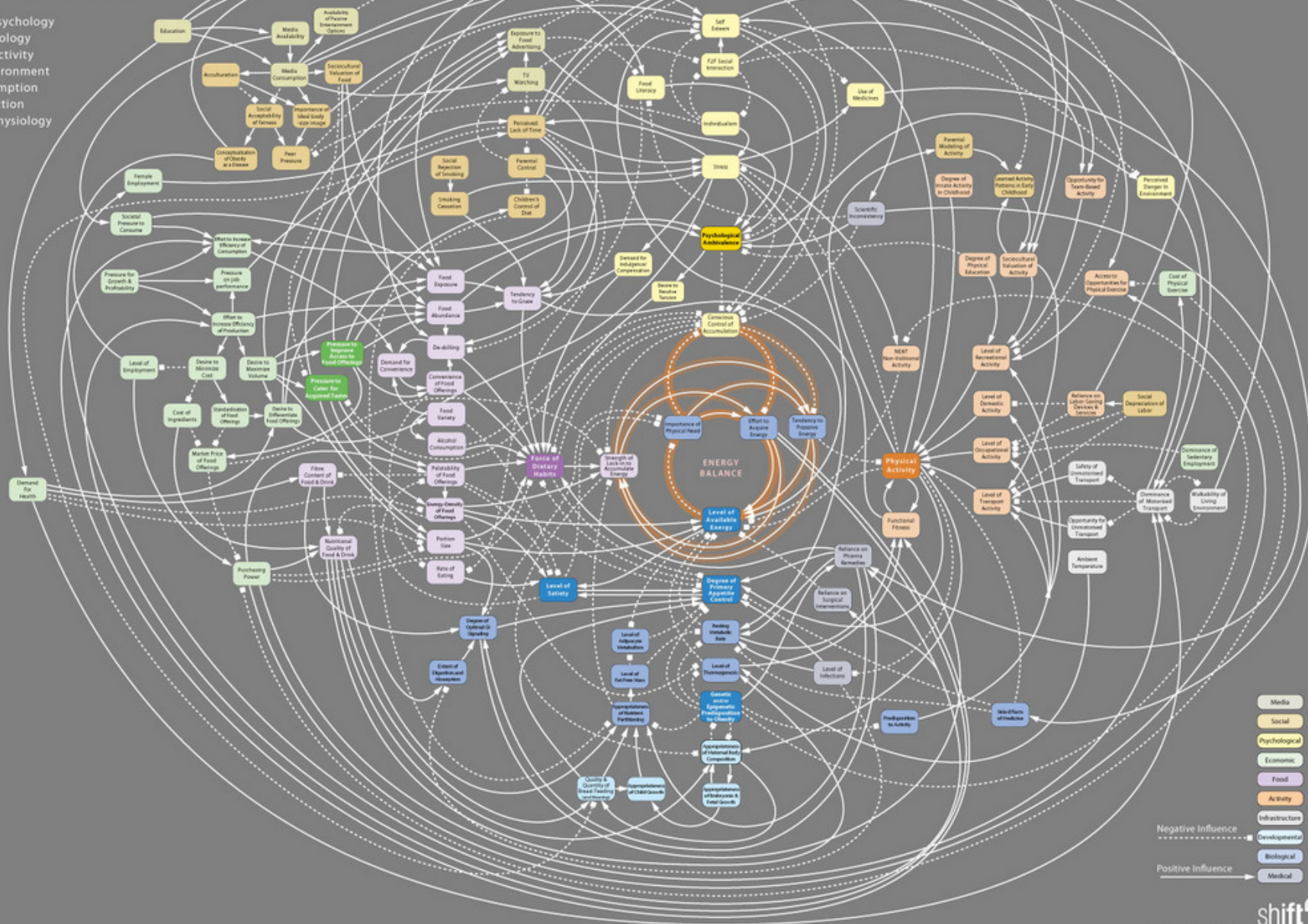


# shift<sup>®</sup> Obesity System Influence Diagram

## Full Map

Clusters  
Core Loop  
Individual Psychology  
Social Psychology  
Individual Activity  
Activity Environment  
Food Consumption  
Food Production  
Individual Physiology  
Physiology

Click-drag to scroll  
Double-click to zoom in/out





shift<sup>®</sup> Obesity System Influence Diagram

[Full Map](#)

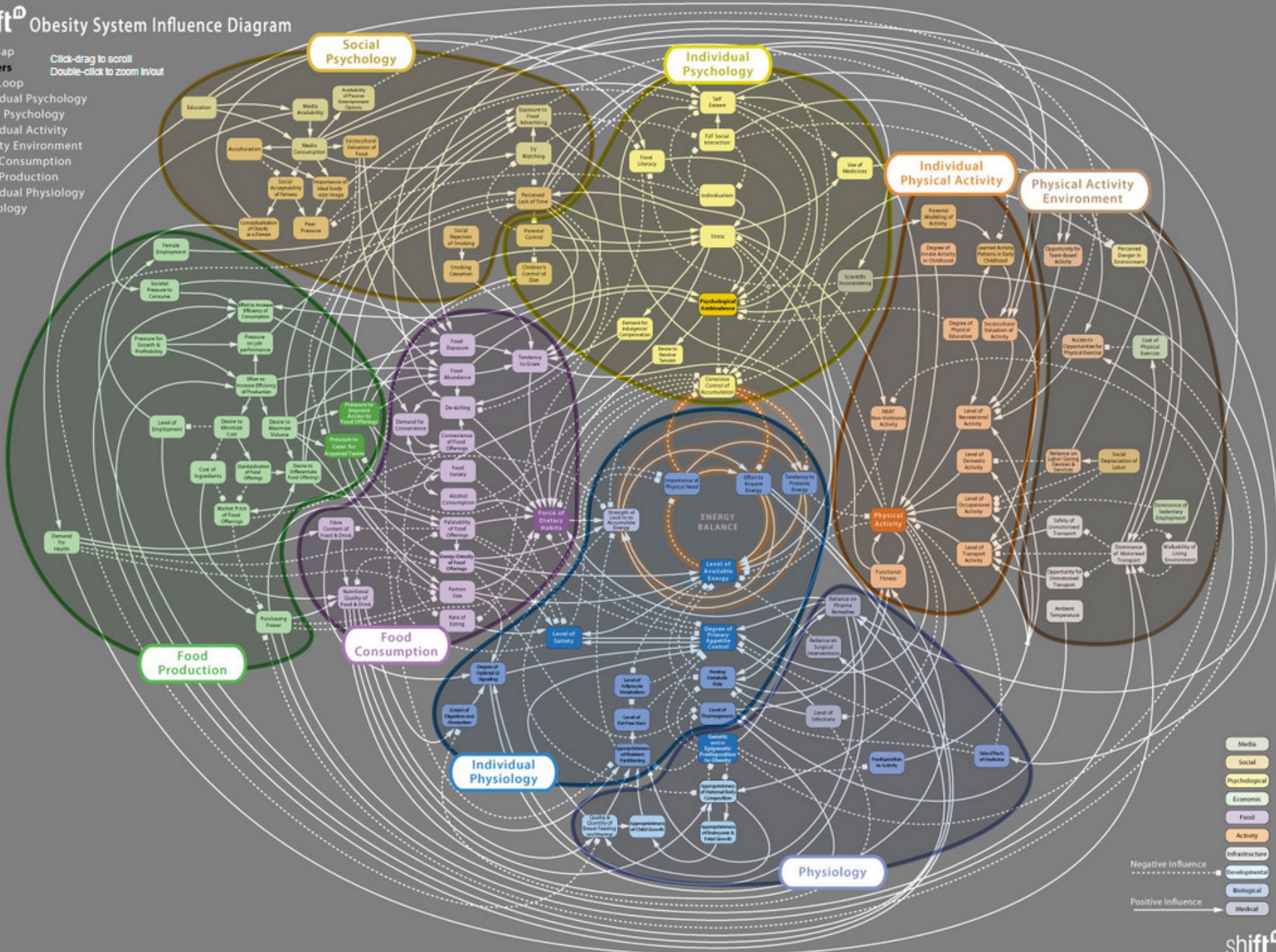
## Clusters

Click-drag to scroll

Double-click to zoom in/out

### Food Production

### Individual Physiology



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shift®  
clarity in complexity

## Inconvenient truth or public health threat?

For Tim Noakes, the University of Cape Town's 'great centenary debate' on what constitutes a healthy diet was a 'kangaroo court', deliberately set up to discredit 'inconvenient and threatening' data behind his relatively recent 'low-carb, high-fat, no sugar, no alcohol' eating regimen.

For his scientific peers at the University of Cape Town, however (and possibly most of those that gathered at UCT's Lecture Theatre, the 6 December lecture streamed live on the internet nearby Sports Science Centre), the lay public's health and 'cholesterol denialist'. The scene was an epic academic debate between Noakes and fellow UCT graduate, A-rated scientist, Jacques Visser, a Washington-based epidemiologist, disease prevention and former local Medical Research Council Nutrition Diseases.

Ultimately, however, somewhat disappointed, Visser, a highly educational, 'winner', Noakes dramatically a 10-minute rebuttal of his ranging presentation. A pre-eminent sports scientist, Noakes, after the *Izindaba* afterwards, 'it was a court ... that's why I was there ... they had the big guns ... I was in the fire so I limited myself to a 10-minute rebuttal. I have an internal debate. I have an internal debate to protect. The debate was a bandwagon of free interpretation, part of UCT's centenary celebration. It was actually a kangaroo court. It had one goal – to expose me. There had been that denigration of my professional letter to the Cape Times from my colleagues at Groote Schuur [Hospital], so I knew there was a body of opinion out there looking for my blood.' He said he was 'astonished' by what he regarded as 'probably the rudest audience I've addressed in 40 years,' adding, 'whenever I was criticised, they clapped. That's when I said, OK, I'm cutting my losses and not saying anything more. I can read an audience. The moment I said something, it didn't matter whether I was right or wrong. I could see the hostility was rising. I decided the audience was not mature enough, so I'm out of here.'

### Obesity a marker of high carbo diet – Noakes

This is how Noakes summed up his position to *Izindaba* just minutes before delivering his UCT presentation, 'Not everyone is able to metabolise carbohydrates safely and there is a (large) population out there that has carbohydrate resistance. I believe it's genetic and gets worse with age. It's not just getting

the Hippocratic oath,' he warns. Noakes maintains that diabetics do not have higher cholesterol levels than other people, that half of all heart attacks occur in people with normal cholesterol, that glucose is the single most important predictor of risk and that a high-fat diet reverses (almost) all coronary risk factors. He says his diet outperforms

animal origin, is dangerous as it increases the blood cholesterol concentration which then 'clogs' major arteries causing especially heart disease and stroke. Noakes believes this to be the greatest single error in modern medicine.

Linus highlighted his lack of appreciation of the complexities of fat metabolism. You'd expect better of Tim. He has a good reputation, so this is extremely dangerous. He's been afforded the (public) space to propound these ideas without scientific validity,' she added.

work better. I have no problem with that but when you generalise and say everyone should be on the diet permanently, especially when there are no long-term data on that, while there are data on the conventional diet. Why mess with success? I think five years from now we'll be able to look back and say where we are ... and the will have stopped paying attention. This is as a temporary aberration. It's not for wider health promotion and the test of time.' Collaboration at the Medical Council is due to release a formal report of existing data on the subject of February 2013. Even that may end a debate that has 'long been all over it.'

was run according to the Medical Procedure, and had proposed that cholesterol is a variant risk factor for heart disease and that current dietary recommendations do more harm than good. He used his data to argue that cholesterol is an important risk factor for heart disease and that current recommendations do more good

112:69-71.  
11663

of Endocrinology and UCT and Director of the Division in Africa.

is something he totally doesn't see that's scary is that he's not just the population by itself for life, regardless of the overwhelming emotion person of his stature

'He's entitled to hunt so believe damage insisting of the is ha

'You'd expect has a good re extremely dar afforded the propound th scientific

'– he's a good scientist in his field, but he's way outside of his field and comfort zone here. He doesn't understand the science and the whole concept. He's cherry picked and misinterpreted and is going down a very dangerous path. Applying dietetic measures, he's doing harm and flouting the Hippocratic oath,'

off his area of expertise. 'He's just the plot a little – he's not basing all his public statements on the best available data. Yes, he's right to question any scientific statement of any type, but please bring the good data.'



## Inconvenient truth or public health threat?

For Tim Noakes, the University of Cape Town's 'great centenary debate' on what constitutes a healthy diet was a 'kangaroo court', deliberately set up to discredit the 'inconvenient and threatening truths' behind his relatively recent and much-touted high-fat, no sugar, no carbohydrates eating regimen.

For his scientific peers and opponents, however (and possibly most of the audience that gathered at UCT's Learning Centre lecture theatre, the 6 December debate being streamed live on the internet and to the nearby Sports Science Centre), he's a threat to the lay public's health and a self-confessed 'cholesterol denier'. The scene was set for an epic academic debate between the charismatic Noakes and fellow UCT graduate and fellow A-rated scientist, Jacques Rossouw, the Washington-based epidemiologist on heart disease prevention and former director of the local Medical Research Council's Institute for Nutritional Diseases.

Ultimately, however, it proved somewhat disappointing, although highly educational, with no clear 'winner', Noakes dramatically declining a 10-minute rebuttal of Rossouw's wide-ranging presentation. As the country's pre-eminent sports scientist explained to *Izindaba* afterwards, 'it was a kangaroo court ... that's why I withdrew. I knew they had the big guns there waiting to fire so I limited myself in getting into the debate. I have an international reputation to protect. The debate jumped on the bandwagon of free intellectual debate as part of UCT's centenary celebrations, but it was actually a kangaroo court ... I knew it had one goal – to expose me and shut me up. There had been that demeaning and unprofessional letter to the *Cape Times* from my colleagues at Groote Schuur [Hospital], so I knew there was a body of opinion out there looking for my blood.' He said he was 'astonished' by what he regarded as 'probably the rudest audience I've addressed in 40 years,' adding, 'whenever I was criticised, they clapped. That's when I said, OK, I'm cutting my losses and not saying anything more. I can read an audience. The moment I said something, it didn't matter whether I was right or wrong. I could see the hostility was rising. I decided the audience was not mature enough, so I'm out of here.'



Professors Jacques Rossouw and Tim Noakes

### Statin industry under threat – Noakes

Noakes suspected Rossouw was flown to Cape Town by the Heart Foundation 'other bodies' to silence him because he was asking inconvenient questions. He said the entire statin industry feels threatened by the possibility that his radical departure from conventional scientific dogma might hold water. Both his assertions were vigorously denied by the debate convenor and Rossouw.

Debate convenor and UCT Associate Director of the multi-campus collaboration, the Chronic Diseases Initiative in Africa, Krisela Steyn, bumped into her former colleague during an academic visit to W



Professor Krisela Steyn, Associate Director of the multi-campus collaboration, the Chronic Diseases Initiative in Africa.

### Obesity a marker of high carbo diet – Noakes

This is how Noakes summed up his position to *Izindaba* just minutes before delivering his UCT presentation, 'Not everyone is able to metabolise carbohydrates safely and there is a (large) population out there that has carbohydrate resistance. I believe it's genetic and gets worse with age. It's nothing to do with just getting fat. Obesity is purely a marker of people eating a high carbohydrate diet with carbohydrate intolerance. No one ever questions whether you're carbohydrate

the Hippocratic oath,' he warns. Noakes maintains that diabetics do not have higher cholesterol levels than other people, that half of all heart attacks occur in people with normal cholesterol, that glucose is the single most important predictor of risk and that a high-fat diet reverses (almost) all coronary risk factors. He says his diet outperforms studies on 30 other diets and equals studies on another 10. Both agree on the danger of fast foods and sugar (Noakes says sugar should either be banned, highly taxed or restricted), but differ slightly on refined

animal... the blood... then 'd... heart d... this to... medic...

'You... has... ext... aff... pr...

has made this mistake.' She cited Linus Pauling, the Nobel Prize winner for chemistry, 'going on a tirade about vitamin C curing the common cold,' which was shown that at best it might shorten the duration of the common cold, but we had Mbeki. The question is, if you one get there? If you're not standing the academic data, it can do a harm.' She said the public with her academics we

highlighted his lack of appreciation of the complexities of fat metabolism. You'd see a teacher of Tim. He has a good education, so this is extremely dangerous. It has been afforded the (public) space to expound these ideas without scientific validity,' she added.

### Noakes' diet 'a temporary aberration' – Rossouw

Rossouw told *Izindaba* that the

work better. I have no problem with that but when you generalise and say everyone should be on the diet permanently, eat your fats and no carbs, that's not right especially when there are no long-term data on that, while there are data on the conventional diet. Why mess with success? I think five years from now we'll be able to stand back and say where we are ... and the public will have stopped paying attention. I regard this as a temporary aberration. Advocating it for wider health promotion will not stand the test of time.'

According to Steyn and Levitt, the Chronic Diseases Collaboration at the Medical Research Council is due to release a formal report on the existing data on the subject in February 2013. Even that debate has 'long over it.'

in according to the Procedure, and had that cholesterol is a risk factor for heart disease, current dietary advice does no more harm than to argue that his data to argue an important risk factor and that current advice does more good

'I think Rossouw is a science and understanding lack of appreciation of metabolic good. He's proposing she

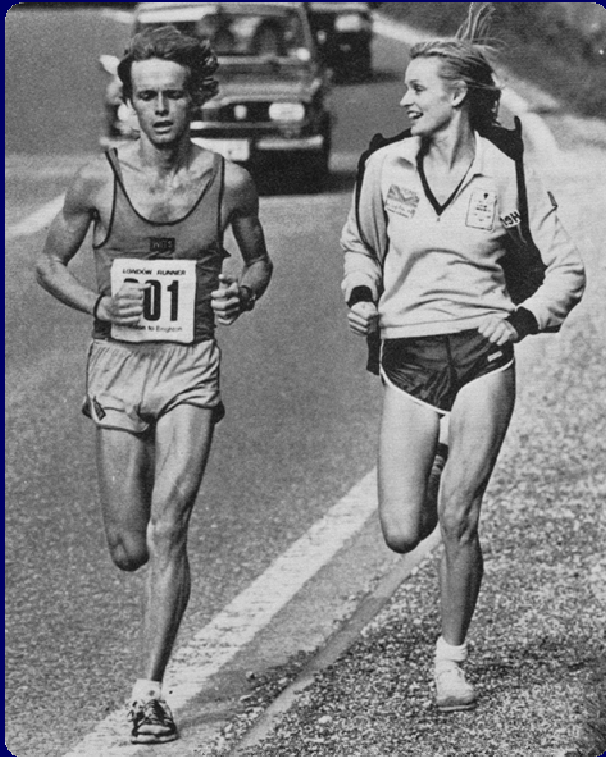
but when you should be on your fats and especially with data on that conventional

Advocating it for wider health promotion will not stand the test of time.'

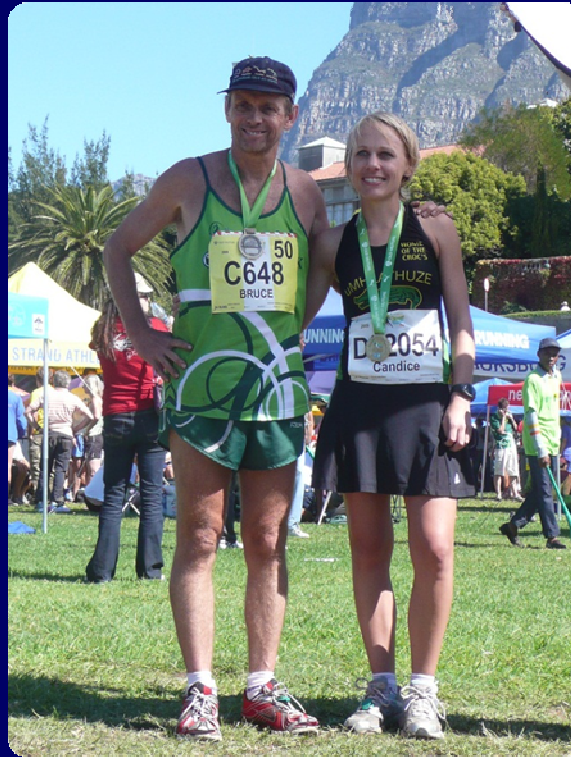
Why mess with success?

'Noakes is a people who know what he's doing. He's a member of a lot of good work done in heart disease prevention. If Noakes came up against anyone in this field he would get the same reception he got at his "faculty meeting" [the centenary debate].

# Changes in body mass with age in world record holder who maintained high rates of energy expenditure but became progressively more carbohydrate-intolerant



1984



2009



2012



# Three athletic carbohydrate-intolerant fatties lose a combined 48kg by changing to a high fat diet

World Champion at age 49 –  
16kg lighter

Non World Champion  
20 kg lighter

Age 56

12 km  
5km  
42km

Censored



# WHY DOES SEVERE OBESITY OCCUR IN SOME WHEN ALL EAT HIGH CARBOHYDRATE DIETS?

Humans differ in their ability to store ingested carbohydrate in liver and muscle (carbohydrate/insulin resistance)

Body weight is (should be) homeostatically regulated

Addictive foods upset the homeostatic regulation of body weight

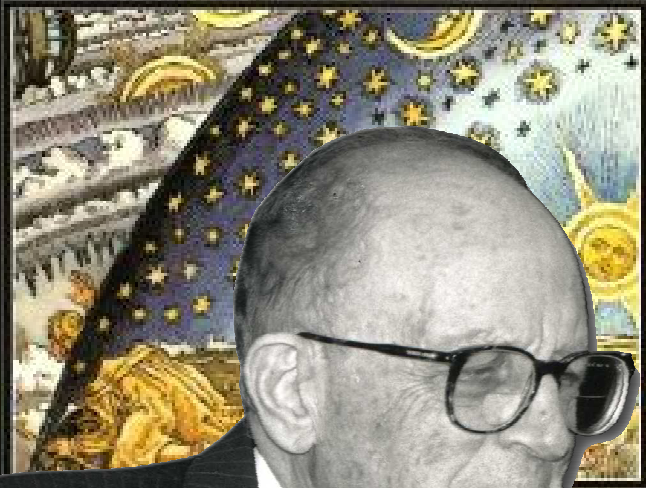


Largest man in the world in 1903



American police officer in 2012

AUTHOR OF THE CREATORS  
**THE  
DISCOVERERS**  
A HISTORY OF MAN'S SEARCH  
TO KNOW HIS WORLD AND HIMSELF



The greatest obstacle to discovery is not ignorance – it is the illusion of knowledge ... I have observed that the world has suffered far less from ignorance than from pretensions to knowledge.

It is not sceptics or explorers but fanatics and ideologues who menace decency and progress. No agnostic ever burned anyone at the stake.

*John Burt Foster*

BOOK WILL CHANGE THE WAY YOU EAT

**“We now must face the reality that until we fundamentally alter our eating behavior, we will continue to squander billions of dollars on ineffective weight-loss schemes. The sooner we create and implement a framework that promotes prevention and treatment strategies that work, the sooner we will regain **control over our minds** and bodies. And then things can begin to change.”**

DAVID A. KESSLER 

*AD Kessler MD. The End of Overeating 2010 (p. 251)*



"A vitally important book, destined to change the way we think about food."  
—MICHAEL POLLAN, AUTHOR OF *IN DEFENSE OF FOOD*

"Gary Taubes is a brave and bold science journalist who does not  
accept conventional wisdom." —*THE NEW YORK TIMES*

# GOOD CALORIES,



# BAD CALORIES

FATS, CARBS, AND THE CONTROVERSIAL  
SCIENCE OF DIET AND HEALTH

GARY TAUBES

# WHY WE GET FAT



AND  
WHAT  
TO DO  
ABOUT IT



GARY TAUBES

AUTHOR OF *GOOD CALORIES, BAD CALORIES*

# CONCLUSIONS

The basis for the current global obesity/diabetes epidemic is the substitution of real foods in the modern diet with man-made foods that are specifically engineered to be addictive as a result of their “perfect” combination of sugar, salt and fat.

To prevent or reverse obesity – Don’t eat addictive foods.



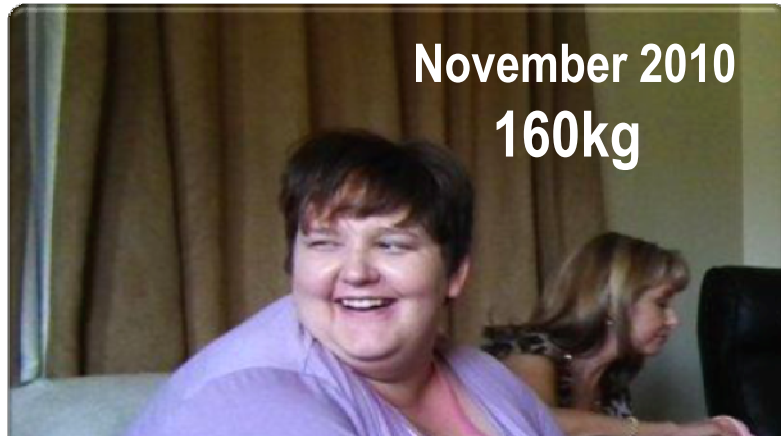
# UNITED STATES SENATE SELECT COMMITTEE ON NUTRITION AND HUMAN NEEDS (1968-1977)



Resolution of this dilemma turns on a value judgment. **The dilemma so posed is not a scientific question;** it is a question of ethics, morals, politics. Those who argue either position strongly are expressing their values; **they are not making scientific judgments.**

Philip Handler, National Academy of Science

# DR C.B. (MBCHB US) LOST 89KG IN 12 MONTHS



“People are fed by the food industry which pays no attention to health and are treated by the health industry which pays no attention to food”.

Dr Mark Hayman MD - Lenox, MA    @markhymanmd





