It is never too late to improve your health by changing your lifestyle

Chinese Proverb:

The best time to plant a tree was 20 years ago

The second best time to plant a tree is now.

Dag:

The best time to change your lifestyle for better health was 10, 20, 40 years ago.

The second best time to change your lifestyle for better health is now.

There is much too much information here for a short presentation.

Therefore, this file ***ScienceHealth.pdf*** is available for download and review at

www.forssell.com/health

This file reads best with ***Full Screen Display***

Changing your lifestyle is not easy.

You must be willing to question not only the culture in which you live, what most everyone knows and others say, but your own tastes, habits and long held convictions. You must be open to the possibility that what you and most everyone else know ain't so.

Curricula, Sciences, Scientific Method, Perceptual Control Theory, Disease, Nutrition, Health, Weight Loss, and Sustainability

This is report #11 at www.forssell.com/keto, an update and expansion on report #10,

In the summer of 2018 Christine told our Primary Care Physician that she felt tired all the time. He recommended ***The Art and Science of Low Carbohydrate Living***.

Christine and I read the book together, discussing sentence by sentence, learning about biochemistry and metabolism. We stumbled into a ketogenic lifestyle.

Then, in February 2019, Christine was diagnosed with Parkinson's Disease. We reported to friends. (See #1 and #2)

One friend suggested we read ***The Carnivore Code***.
We concluded that the most likely cause of Christine's late onset PD was leaky gut and chemical warfare by plants. We had already eliminated carbohydrates. Now we adopted mostly animal foods.

The story of our journeys before Parkinson's provides context for our thinking, research, conclusions and recommendations.

I am satisfied that the changes we made to our lifestyle, discussed in these reports, were good for both of us these last five years.

Authors I respect tell you their stories—what they have experienced and how they arrived at their insight. I try do do the same by telling our story.

File: ***https://www.forssell.com/ScienceHealth.pdf*** Size: 7.875 x 14 in (Full screen display) Comment: dagc@forssell.com Update: February 20, 2025

Contents

Think for yourself

We did not always think for ourselves. We followed advice by others. We ate a variety of whole grains for some years. We bought into ideas of low fat, low salt. We ate a balanced diet.

My reports on sciences and our effort to mitigate Parkinson's disease are all about thinking outside the box, outside the current paradigm, seeking out information that makes sense to us and acting on that information.

These are reports on ***our*** findings, readings, thoughts and conclusions.

Think for yourself so you figure out what is right for ***you***.

Design

This report is designed for reading, but at the same time I made the image size and orientation suitable for full screen display.

Reports on the web

We shared our journey in reports to friends and family.
These are posted at my website: ***www.forssell.com/keto***
(Text from the website. Headings in blue are linked at the website, not here.)

Notes on Exercise, Low Carbohydrate Living and Degenerative Disease

At the end of 2019, our Holiday Report provided an account of our introduction to a keto lifestyle and our realization that Christine has Parkinson's.

#1 Holiday Report on Health ← **Links, Books, and Video**

By late April 2020 I wanted to share info about resources for exercise, began a search for more on YouTube, and then info regarding our keto lifestyle. This expanded to degenerative disease and then a search for scientific research reports.

#2 Notes on Exercise, Keto, and Disease ← **Conference on YouTube**

The scientific reports led me to realize that a keto lifestyle mitigates Parkinson's disease, perhaps more than exercise, so I prepared a proposal for a large-scale study.

#3 Proposal: Educational, Scientific Study

Our home gym has evolved over the years to one that facilitates vigorous exercise with therapists using conference video.

#4 Home gym

Reports on the web continued

Our broadcast in early July led a friend to suggest that we explore a possible relationship between Parkinson's and our plant diet. We did just that and here is our report on happenings the last seven months.

#5 Journey Continues - updated may 2021

Our study of Parkinson's and keto/carnivore lifestyle calls for a few special reports

#6 What causes Parkinson's ← **#6 Saladino's discussion of PD + medical research report.**
#7 Constipation
#8 Salicylates
#9 LDL

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#10 Parkinson's Nutrition Health Weight (April 2024)

Updated and expanded:

#11 ScienceHealth (February 2025)

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The conference YouTube playlist is here. ***https://tinyurl.com/ketoconference***

I searched YouTube for "dr. Stephen Phinney keto" and found this and more:
Dr. Stephen Phinney on the ***Safety and Benefits of a Ketogenic Diet***
Part 1: ***www.tinyurl.com/KetoSafety01*** Part 2: ***www.tinyurl.com/KetoSafety02***
Part 3: ***www.tinyurl.com/KetoSafety03***

See also ***www.virtahealth.com***, a company Dr. Phinney co-founded.
Its mission is to cure Diabetes type 2 using a keto diet.

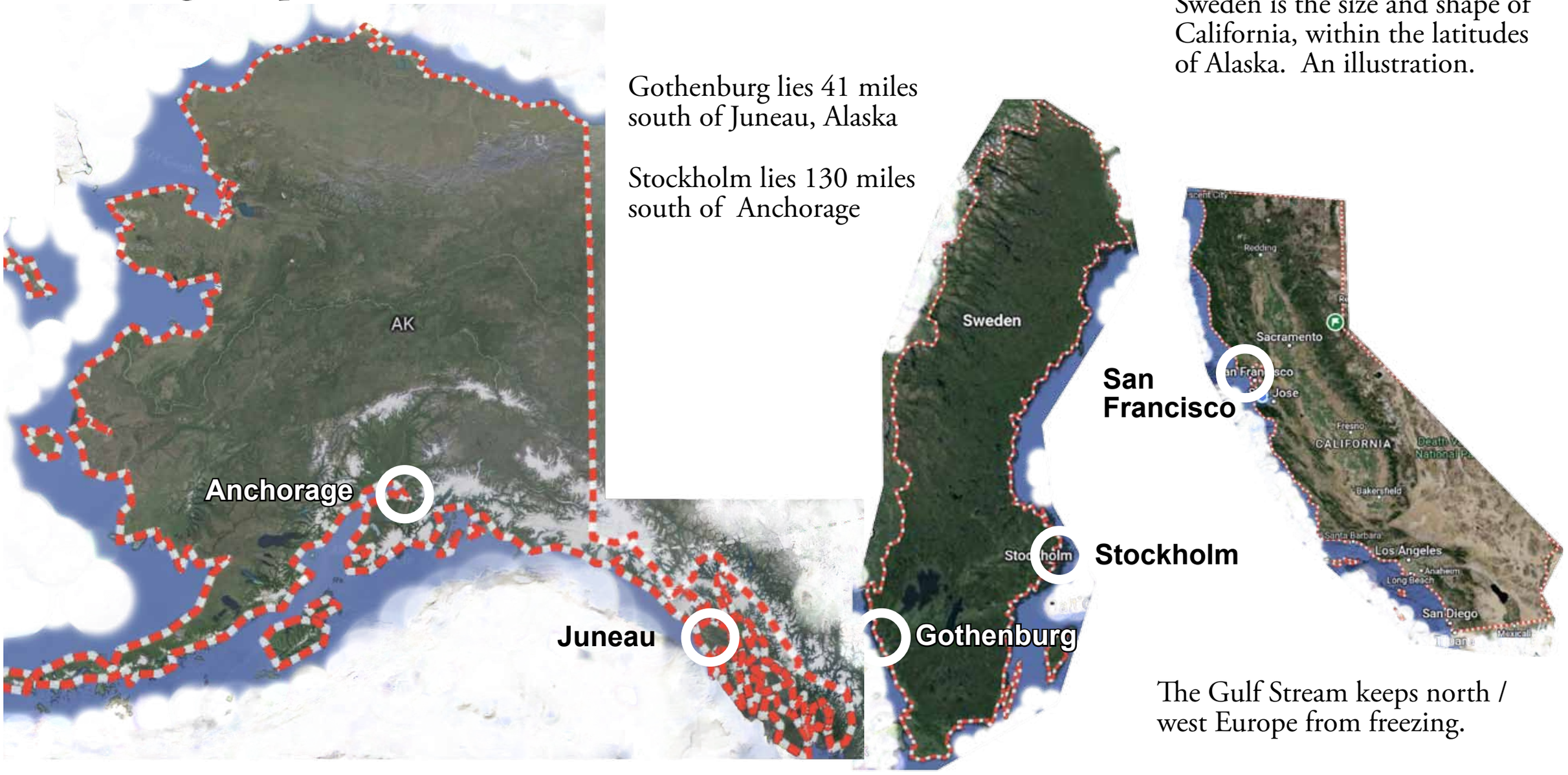
Where we grew up

Sizes to scale, comparable

Gothenburg lies 41 miles south of Juneau, Alaska

Stockholm lies 130 miles south of Anchorage

I have explained for years that Sweden is the size and shape of California, within the latitudes of Alaska. An illustration.



The Gulf Stream keeps north / west Europe from freezing.

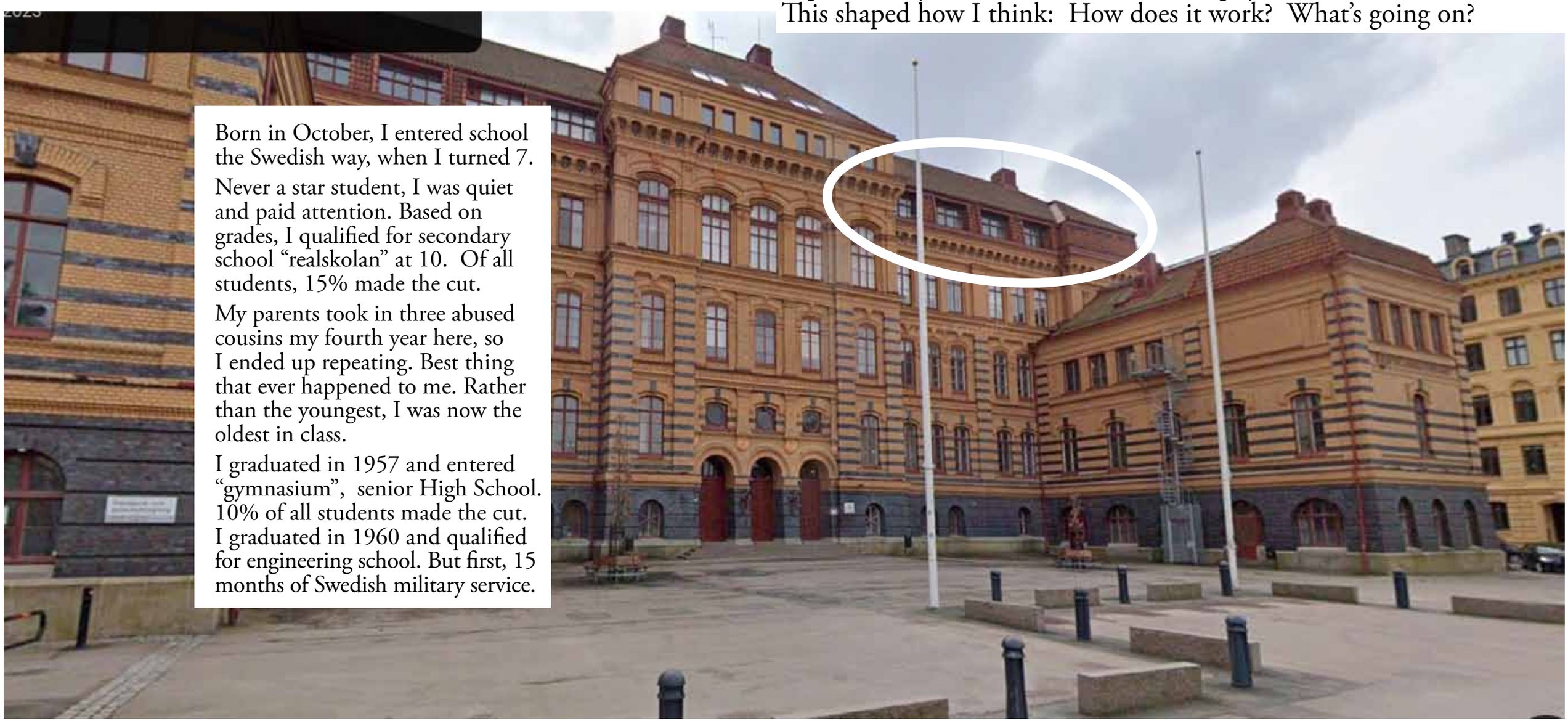
Where we grew up

With both parents working, a nanny or two, and five sisters, I was left to my own devices. I was free to roam Gothenburg, a safe city with almost no cars but good public transportation.

Where we grew up

Where we grew up

School opened in 1886 and had acquired a collection of teaching apparatus in labs and auditorium classrooms on the fourth floor. I spent nine years here with at least two physics lessons a week. This shaped how I think: How does it work? What's going on?



Born in October, I entered school the Swedish way, when I turned 7.

Never a star student, I was quiet and paid attention. Based on grades, I qualified for secondary school "realskolan" at 10. Of all students, 15% made the cut.

My parents took in three abused cousins my fourth year here, so I ended up repeating. Best thing that ever happened to me. Rather than the youngest, I was now the oldest in class.

I graduated in 1957 and entered "gymnasium", senior High School. 10% of all students made the cut. I graduated in 1960 and qualified for engineering school. But first, 15 months of Swedish military service.

Our story

We got acquainted walking together on a hike to a lake midsummer eve 1960.
We talked about everything.
She told me where to find her.

I served military duty in town with leave Wednesday evening and Sunday.

We spent quality time every week.

Friendship grew, and love too.

Christine graduated Senior High School the following May.

She proposed in June !!!

College would separate us for two years.
She was 21, I just 20.

I hesitated, but not too long.

Our story

We were formally engaged April 9, 1962

Married Feb 21, 1964

Celebrated Golden anniversary 2014

Our story

Surprised by stage 4 Melanoma, Christine entered in-home hospice in late September 2023.

Christine enjoyed loving visits by family and friends, and we celebrated our 60th anniversary four months early with toasts to a happy marriage.

Christine passed away Oct 17.

I get to remember and celebrate 63 wonderful years with Christine.

Life has been good. Still is.

Our story

Christine's many interests

Before a job offer in 1965 brought us to the U.S., Christine worked as a Phys Ed teacher in Gothenburg while I finished my studies to mechanical engineer.

Once in the U.S. she would have had to duplicate her education to work here.

Christine worked with pride inside the home. She insisted that mothers are productive.

She was dedicated to health in every way, a gourmet cook (lucky me), and health nut.

We ate a nutritious diet. Whole grains and vegetables of many kinds, meat, fish, fruit.

We spoke Swedish at home. Daughters understood.

We saved to fly our family to Sweden every few years. Karin and Lisa knew their grandparents well, and their ants, uncles, and cousins too.

Christine was an exchange student to the U.S. with American Field Service in 1957-58, so of course, Karin and Lisa spent a year as exchange students in Sweden. They are both fluent in Swedish.

Christine maintained Swedish culture and traditions, and led a children's group in a Swedish club.

Friends and family knew Christine as a steady, caring, dependable and loving friend.

Our story

Dag's discovery and interest

By the mid-70s, Christine took an interest in sales of vitamin and mineral supplements. I joined her for training and motivating seminars to support her effort.

Curious, I started reading about psychology and related fields. By the early 80s I found an engineering text that explains how our nervous system functions. It spoke to me and I became involved in a movement to develop what is now called Perceptual Control Theory (PCT).

PCT became a major interest in my life. Still is.

Among other things, PCT explains why it is so very difficult to change your lifestyle choices.

We are all controllers! All living things are!

Controllers achieve and maintain things the way they want them to be.

We have all spent a lifetime developing understandings and preferences and we do our best to defend them if they are disturbed by others pushing on them.

My involvement with PCT led me to develop *www.livingcontrolsystems.com*, and *www.pctresources.com* starting in 2003.

See also *www.iapct.org*.

Changing your lifestyle choices requires consideration of different understandings.
You must be willing to question not only the culture in which you live, what most everyone knows and others say, but your own tastes, habits and long held convictions. You must be open to the possibility that what you and most everyone else know ain't so.

This is not easy.

The following pages present info about books we found enlightening along the way, my understanding about sciences and more. Notice that reports

#1 Holiday Report on Health and
#2 Notes on Exercise, Keto, and Disease

already hold much information about books, video, scientific conference and medical research.

Curriculum

We grow up in a culture, learn a language, are educated and become immersed in understandings and ways of thinking from / by curricula where and when we live.

I think of a curriculum as a body of knowledge and ideas taught or embedded in ...

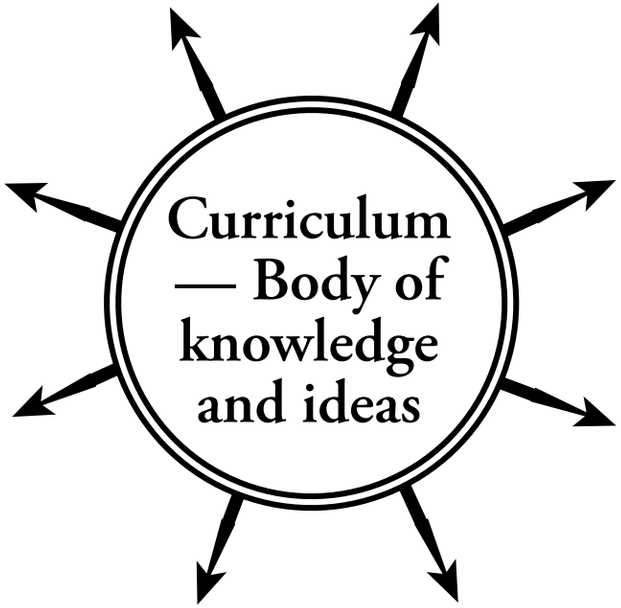
Science	Physics, Chemistry, Medicine, Psychology, Economics, Neurology...
Craft	Smelting copper 3,000 years ago, Alchemy, Baking, Sewing, Carpentry....
Technology	Engineering, Production, Transportation...
Traffic	Rules of the Road, Sea, Air, Space...
Culture	Egypt 3,000 years ago, China, Inka, "The West", "The East"...
Religion	Buddhism, Hinduism, Islam, Christianity, Jedaism 4,000 years ago, Forest spirits...
Fashion	Formal, Business, Casual, Swimming, Sports...
Sports	Archery, Swimming, Chariot racing, Basketball, Soccer, Tennis...
Politics	Libertarian, Republican, Green, Democrat,
Language	Idioms, expressions (the sun rises in the East), unique words and ideas.

Curriculum

Curricula / sciences evolve slowly, subject to Collective Control

Collective Control can be thought of as a tug-of-war, where the knot moves slowly or not at all:

in many dimensions



People may pull in different directions, and some make novel suggestions, but curricula move SLOWLY

Curriculum

Curricula / sciences evolve, but it takes time

An earth-centered model of the universe:

Intuitively obvious!

People have observed since time began that all heavenly objects revolve around the Earth.

Ptolemy published the *Almagest* about 150 AD.

A sun-centered model of the universe:

Counter-intuitive.

Aristarchus of Samus proposed a sun-centered model of the universe	250 BC
Copernicus published *De Revolutionibus*	1543
Tycho Brahe made accurate observations	1572
Kepler studied Tycho Brahe and defined ellipsis	1609
Galileo made a telescope from eye-glass lenses	1609
Galileo published *Dialogue Concerning the Two Chief World Systems*	1632
Newton published laws of motion and gravity *Mathematical Principles of Natural Philosophy* in	1687

The transition took 144 years.

Curriculum

Curricula / sciences evolve, but it takes time

In 1601, an English sea captain named James Lancaster conducted an important experiment. Commanding four ships on a voyage from England to India, he served lemon juice every day to the crew of one of the ships. Most remained healthy. But on the other three ships, 110 of the 278 sailors died of scurvy by the journey's midpoint.

The experiment was of immense import to seventeenth-century seafarers, since scurvy claimed more lives than any other single cause, including warfare and accidents. Surprisingly, however, this vital information had little impact on the British Navy.

The Navy did not conduct its own experiments until 1747, nearly 150 years later, and did not stock citrus fruits on its ships until 1795.

And the British merchant marine followed suit only in 1865, some two-and-a-half centuries after the first experiment with lemon juice was carried out.

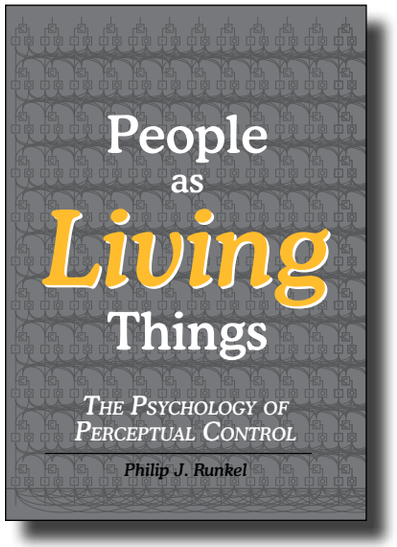
Despite the magnitude of the scurvy problem, and despite the availability of a simple solution, people were slow to respond.

Solving the problem of death by Scurvy

1st Successful experiment, James Lancaster	1601
2nd Successful experiment, British Navy	1747
British Navy stocking Citrus	1795
British merchant marine stocking Citrus	1865

The transition took 264 years.

From *People as Living Things*
Runkel, 2003 p. 479
Free PDF at
www.livingcontrolsystems.com



Time Travel

You learned about the Solar System when you were little. If you were to time travel into the past, say the 1400s, you would realize that the curriculum of astronomy was dead wrong.

The short story *The Country of the Blind* (H.G. Wells, 1904), gave rise to the widely cited proverb: **In the country of the blind, the one-eyed man is king**. But this is false. The one-eyed man does not become king, he is misunderstood, ignored, and prosecuted, as told in the story.

If you spoke up, you would be prosecuted.

Copernicus was a time traveler. He saw the future. He did not dare release his work until he lay on his deathbed because he did not want to be burned at the stake for heresy.

Galileo was a time traveler too. He received political support from the city state of Florence where he had been court mathematician, so he got away with house arrest for life. The Vatican could not kill him.

Time travelers too are the brave authors who speak up against their curricula in medicine and elsewhere, curricula that are collectively controlled by consensus of thousands of established authority figures.

These brave authors see the future, but live in the present. They frequently lose their jobs because they speak up, and may be expelled from their professional societies, but in this day and age they are not imprisioned. Some make a living through the Internet. Read their stories. Read the introduction to *The Case for Keto* (Gary Taubes, 2020) which tells you about **Conventional authorities** and **Heretics**.

Dr. Atkins, with millions of patients who got much healthier, was vilified by an authority figure at Harvard who himself had no patients.
(*The Art and Science of Low Carbohydrate Living* Volek & Phinney, 2011)

William T. (Bill) Powers, originator of Perceptual Control Theory (PCT) was vilified by authority figures in psychology.

Peer review by authority figures, especially those who wrote foolish papers, made it difficult for Powers to respond.

So it goes. Nevertheless, young people, not yet committed to the existing curriculum, are able to evaluate and adopt ideas that move the curriculum forward.

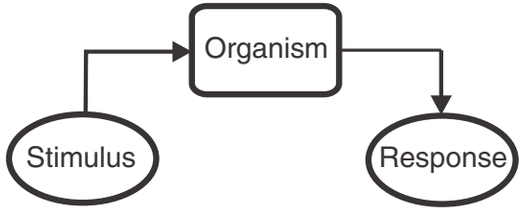
Senior authority figures do not change their minds, but they do die.

Scientific Method Research in psychology and related life sciences

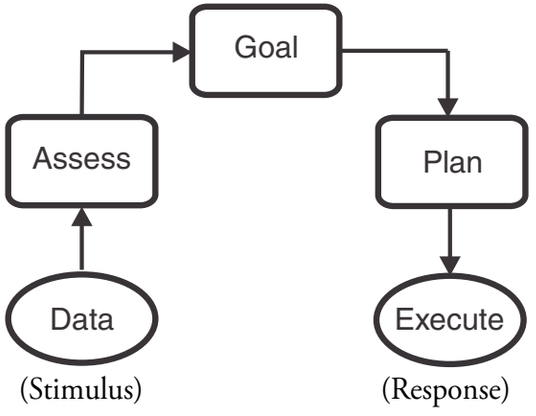
People have observed since time began that animals respond to stimuli, such as when your doctor strikes your kneecap to test your reflexes.

Scientists have adopted the scientific method the way it is used in the physical sciences to understand living organisms.

For Behaviorism, this can be represented:



For Cognitive psychology, this way:



Using the same scientific method.

As we shall see, the scientific method is not approprate for the study of living organisms.

This is a ***MAJOR*** problem for psychology and life sciences in general.

When the scientific method is used to study human behavior, the underlying assumption is that humans are simplistic, inanimate objects, i.e. dead.

Compare the title of Runkel's work: *People as **Living** Things.*

A scientific physical experiment performed with an inanimate object.

Push here and see what happens there.

You can tell all there is to know about the properties of this wood dowel by this scientific method.

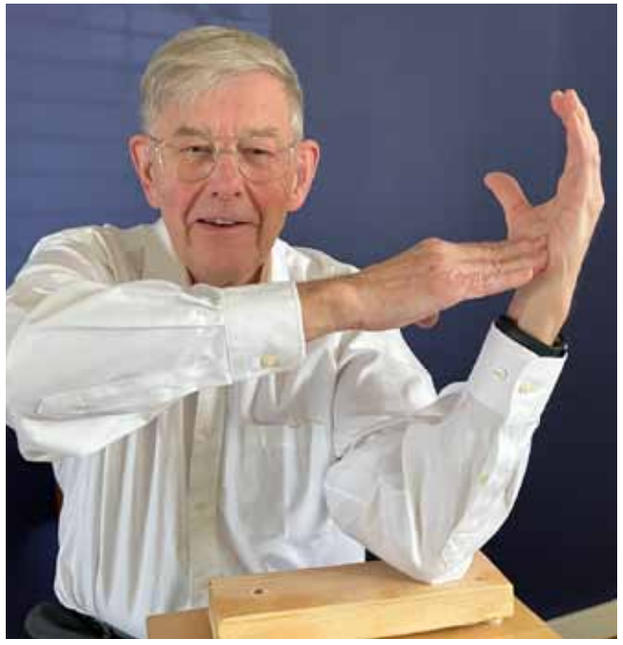
For more, see ***www.livingcontrolsystems.com/intro_papers/exper_method.pdf***

Scientific Method

Research in psychology and related life sciences

When you push on a living organism, which has a mind of its own, it may want to hold this position and resist.

Or, if it has no particular desire about this position, it will just yield to the push.



But, if it gets annoyed, it may push back stronger than the push.

With this presentation, I push hard on your understanding, an understanding you have developed over a lifetime. What you do in response is up to you. You may tune me out, walk out, want to punch me, or pay attention, study, learn, and take action. What are the odds? I do expect that just sharing a provokative view of nutrition and such will be met with resistance, so I elaborate on the scope of the problems I see with our culture, and of course, that resistance.

I am here for those who are dissatisfied with their condition and really want to do something about it.

Perceptual Control Theory (PCT)

A more complete idea of living organisms (summary)

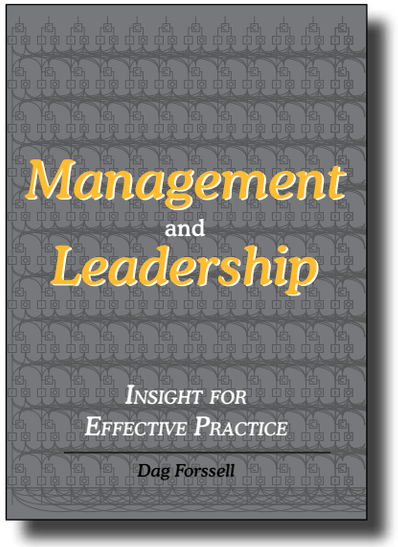


Illustration from
Management & Leadership
Forssell, 1993-2013 p. 31
Free PDF at ***www.living-controlsystems.com***

Our language reflects our controlling nature.

We are living control systems, and we know it.

Perceptual signal
What you experience, your interpretation of the Controlled variable.

Controlled variable:
The thing or idea "out there" or in imagination that you focus on.

Disturbance
In psychology: Stimulus

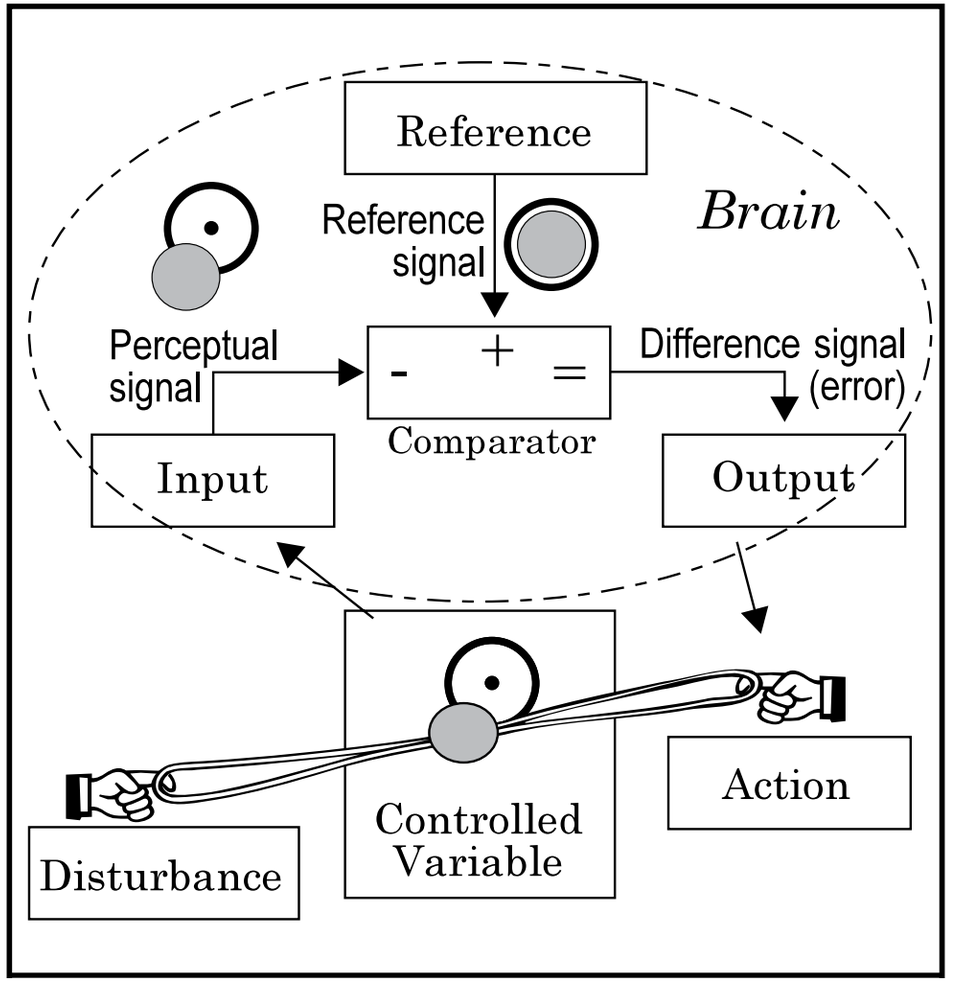


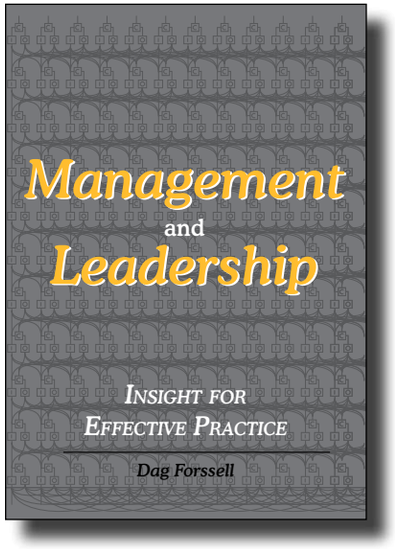
Exhibit 8. Rubber band diagram.

Reference signal
What you want to experience, Desire, Objective, Wish, Expectation, Goal, Longing, Aim, Preference,

Difference signal
Dissatisfaction, Something wrong, Fatigue, Sorrow, Hunger, Thirst, Unhappiness, Distress, Grief...

Action
In psychology: Response

Perceptual Control Theory (PCT)



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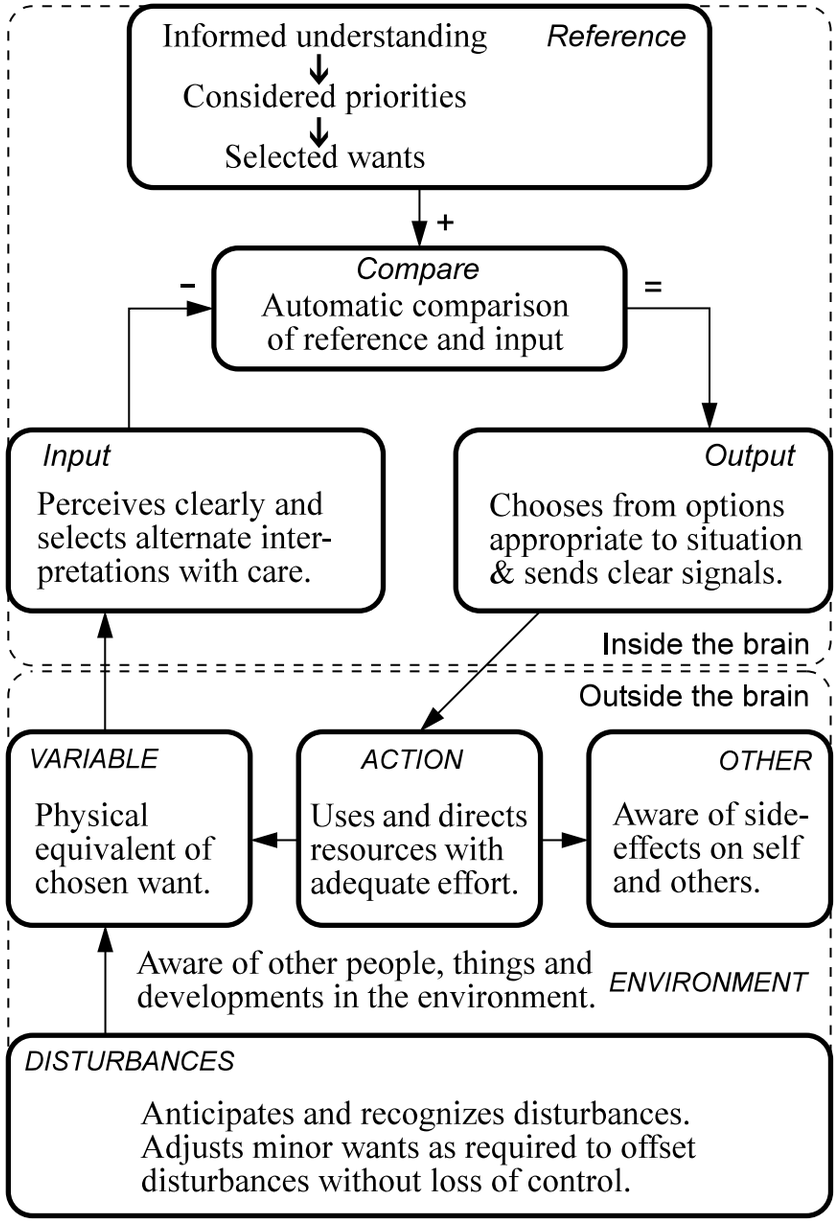
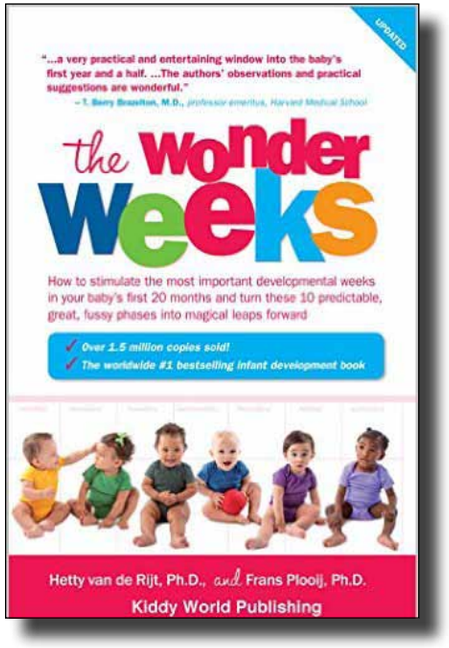


Exhibit 12. An effective person

Support for PCT

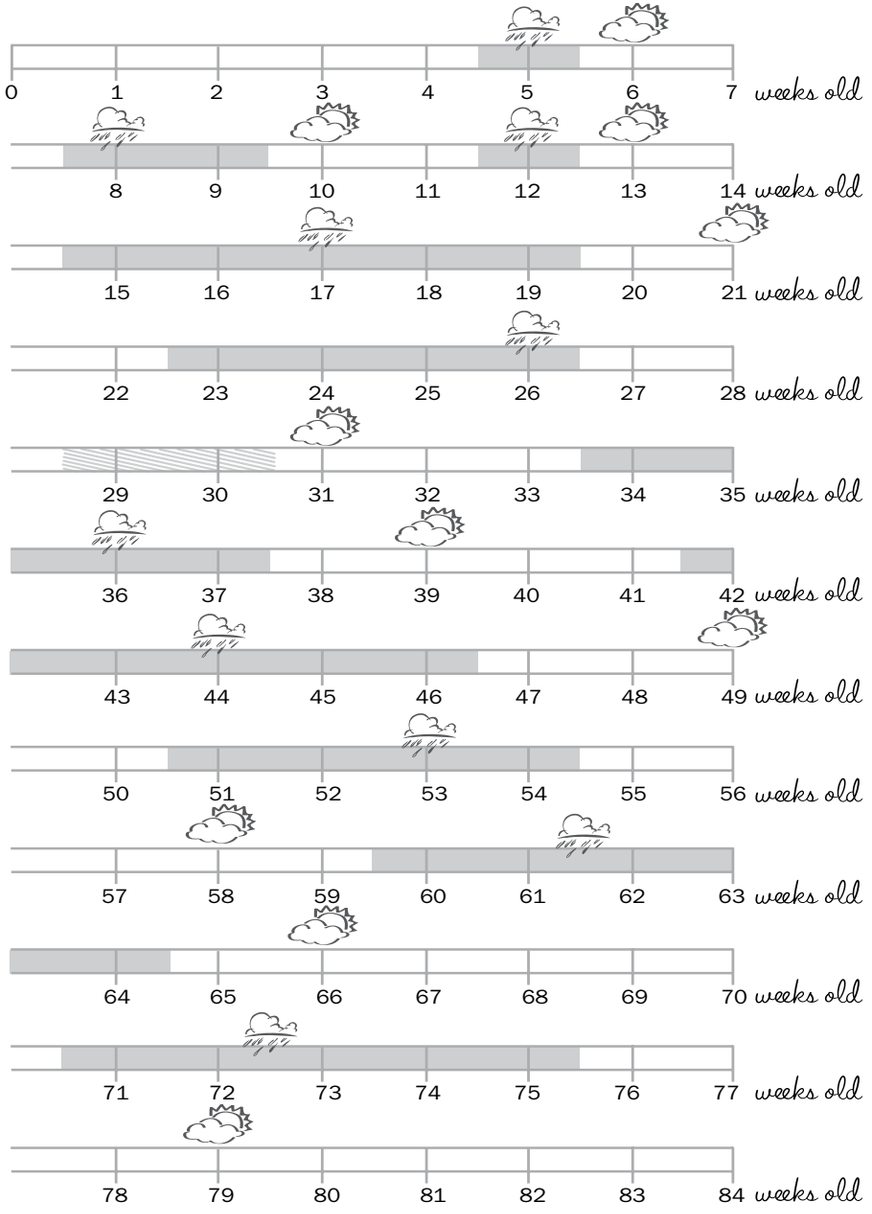
Solid confirmation of the basic concepts of Hierarchical perceptual Control (HPCT).

Highly recommended as a baby shower gift.



The Wonder Weeks
Ploij 1992-2022
www.thewonderweeks.com

Your Baby's 10 Great Fussy Phases



Franz Plooij, a Dutch researcher, has conducted studies on when we first acquire perceptions on each level. His work suggests that by age 75 weeks humans have perceptions at all eleven levels. Plooij's research, which was originally with chimpanzees, demonstrates that human's behavioral hierarchy is uniquely complex.

Level	*Weeks*	*Detail*
System concept	70-75	Belief, The way things are, Sense of self, Identity
Principle	60-64	Generalizations, Criteria, Standards, Values priorities
Program	43-49	Choices, Logical procedures
Sequence	40-43	Simple or repetitive series of events and elements
Category	32-37	Words, Symbols, Chair
Relationship	22-26	Bark/dog, "Above" target, Walk "on" floor
Event	14-17	Open door, Hug, Fall, Reach
Transition	11-12	Changes in general movement
Configuration	7-9	Edges, Texture, Posture, Patterns
Sensation	Birth	Loud, Bright, Hot, How much
Intensity		Frequency of neural current

This illustration *A People Primer,* Roy 2009

Support for PCT

The first paper on PCT was publised in 1960. Bill Powers' major work *Behavior: The Control of Perception* was published in 1973.

Unique to PCT, Bill Powers has created a suite of computer simulation and tutorial programs. See

Living Control Systems III: The Fact of Control.

These Windows rograms are available for download from www.livingcontrolsystems.com

Tracking task programs with random disturbances replicate human behavior with 95-99 % correlation.

Making Changes

~~Necessity~~ is the mother of invention

but what is necessity? I say:

Dissatisfaction is the mother of invention

Dissatisfaction is the difference between what you want (and your wants depend on how you understand things) and how you perceive your situation with regard to the want.

If there is not much difference, you are content with your condition. You are not likely to make any changes.

With difference you are dissatisfied and take action.

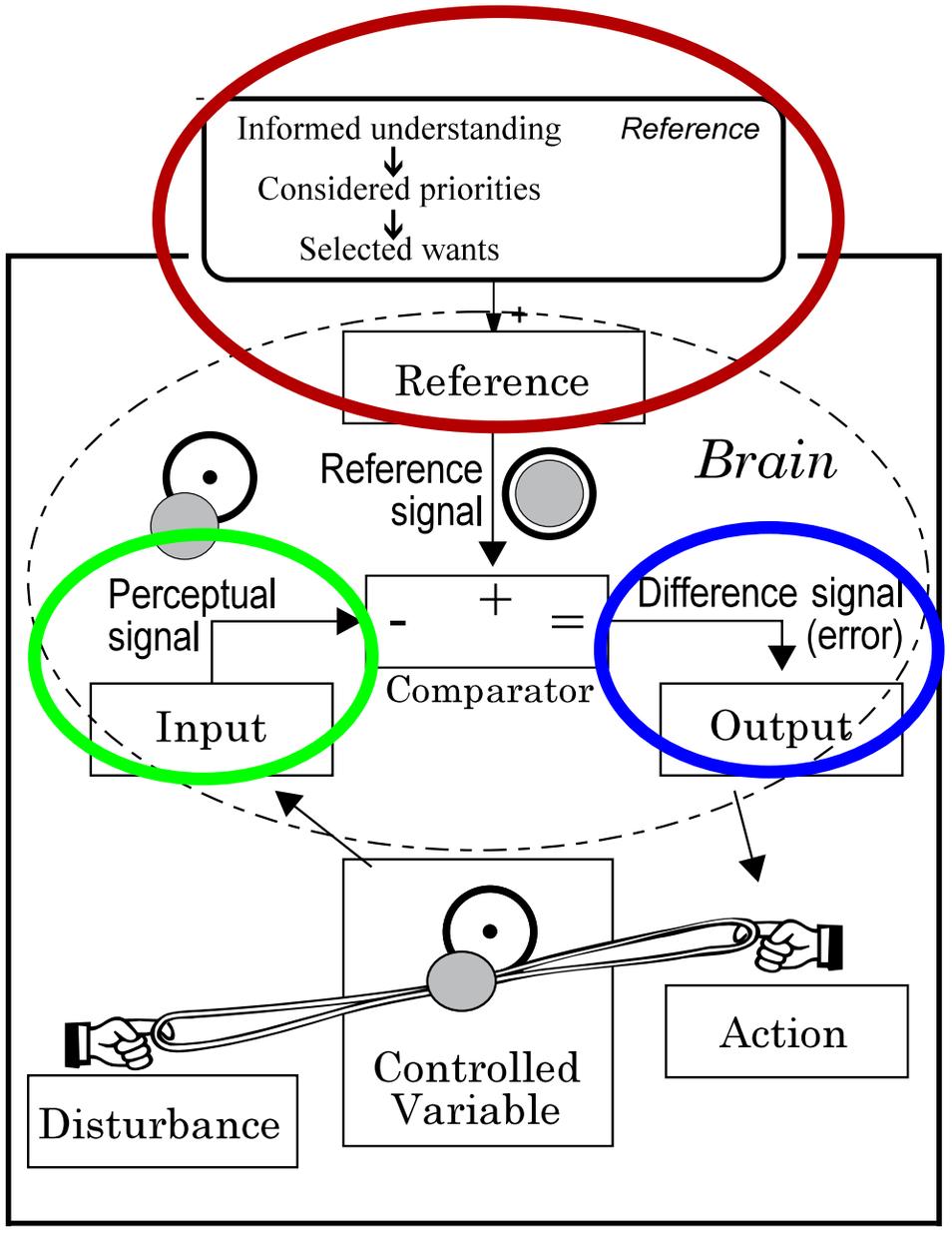
I am offering my understanding for your consideration. If it makes sense to you, you change your understanding, what you want and how you perceive your condition. If those changes lead to dissatisfaction, you try changes.

The difference signal we call grief

I choose to experience my late wife in loving memories (red), and I do (green). Thus I have no difference (blue) between what I want and what I experience. No grief.

If I were to intensely long to be with her while she is no longer, I would suffer never-ending grief.

Grief is a universal affliction. I shall give it more thought.



Two ways to solve a problem

When I was 18, practising physics problems for finals, I came to a simple circuit with a simple problem:

At point A, the voltage is zero.
What is the voltage at point B?

The obvious answer, going directly from A to B is – 2 V

First, to show off, I started with ***the long way around.*** I set up equations around the loop, solved them and arrived at the answer: – 2 V.

Second, I stated the obvious – 2 V.

My teatcher marked me way down.

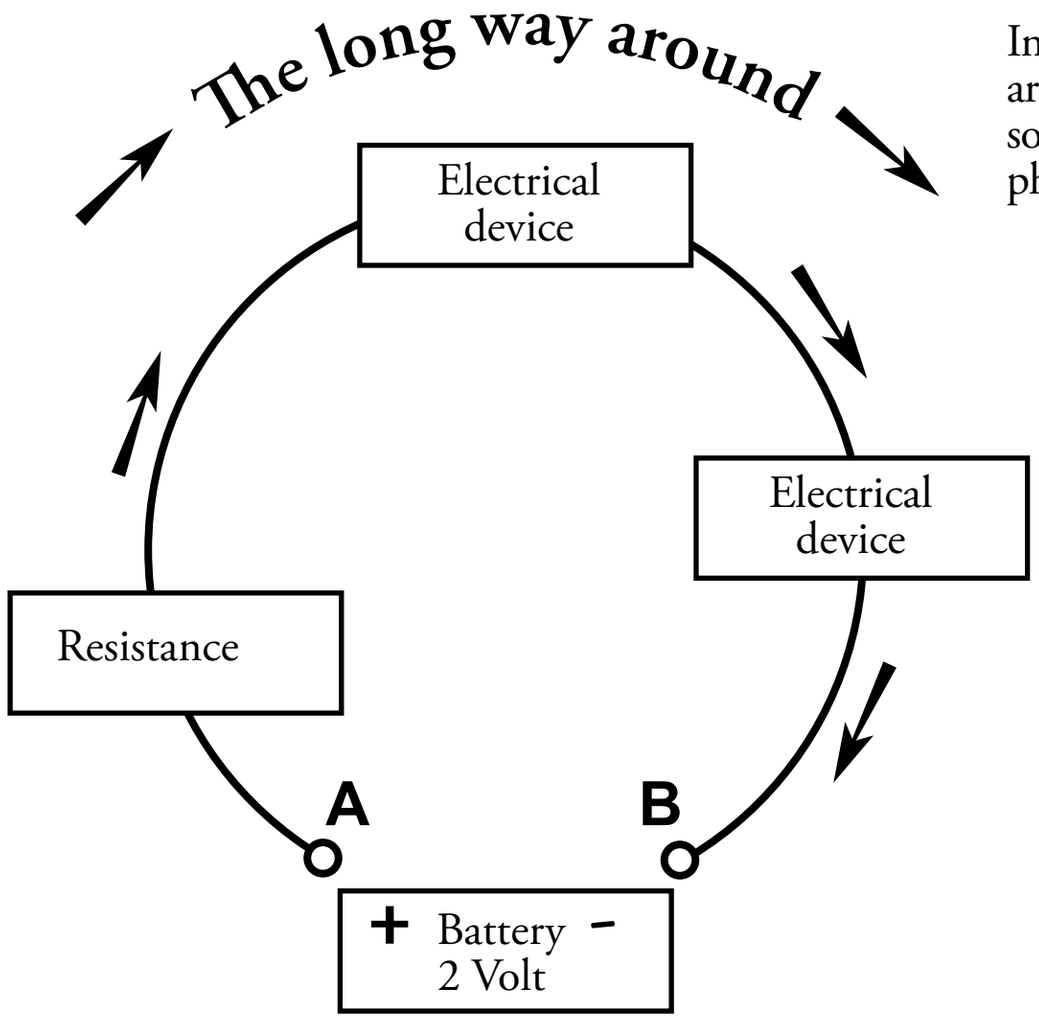
A passing grade.
Not the top grade I expected.

Only recently have I thought of a good reason why:

I did not display confidence.

I should have just stated the obvious and left it at that.

What is the lesson here?



The obvious answer

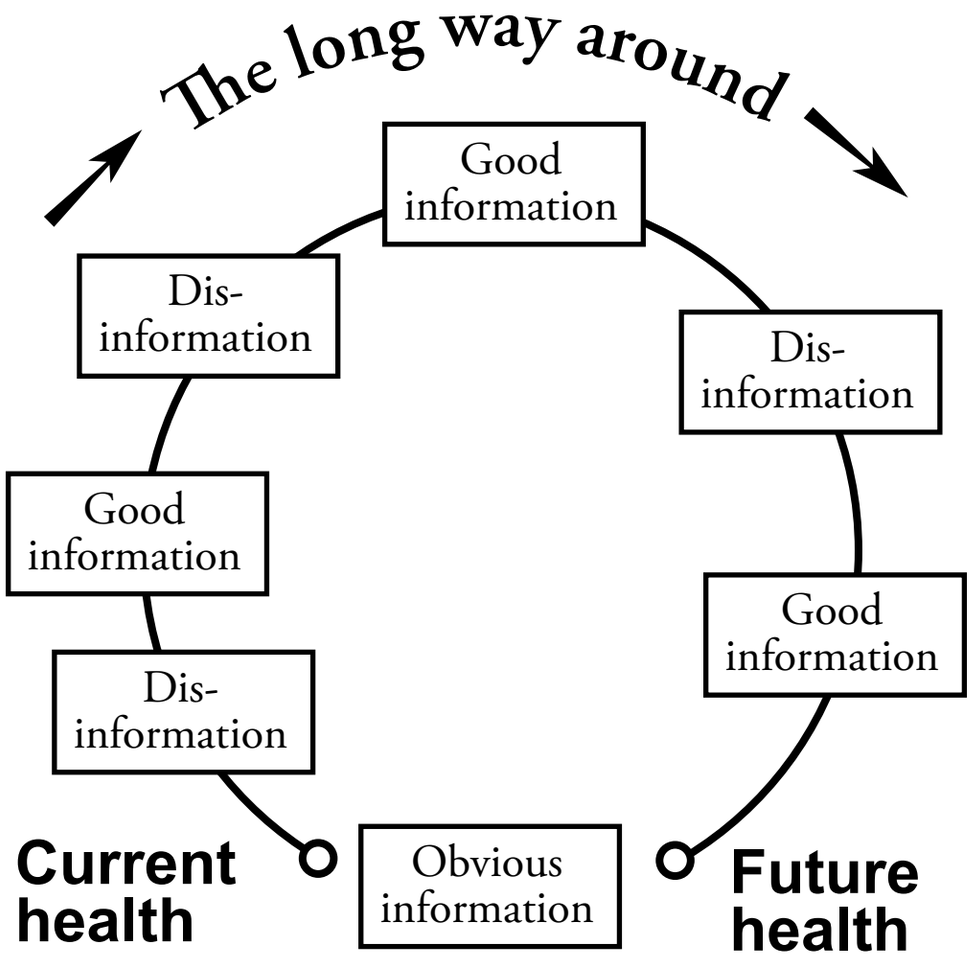
In physics, the long way around works for problem solving because the laws of physics are clear and precise.

Two ways to solve a problem

When it comes to our health, there is an obvious answer, and a long way around just the same.

First, let us explore
The obvious answer
(4 pages)

Second, let us explore
The long way around
(26 pages)



The obvious answer

In life science, the long way around can give bad results because our culture and many curricula are loaded with dis-information.

The obvious answer: Humans are carnivores

Ancient Humans Were Apex Predators For 2 Million Years, Study Discovers

By Mike McRae 17 November 2024

Cave art reflects our ancient eating habits.

Paleolithic cuisine was anything but lean and green, according to a study on the diets of our Pleistocene ancestors.

For a good 2 million years, *Homo sapiens* and their ancestors ditched the salad and dined heavily on meat, putting them at the top of the food chain.

It's not quite the balanced diet of berries, grains, and steak we might picture when we think of 'paleo' food.

But according to a study from 2021 by anthropologists from Israel's Tel Aviv University and the University of Minho in Portugal, modern hunter-gatherers have given us the wrong impression of what we once ate.

"Human behavior changes rapidly, but evolution is slow. The body remembers."

....

For example, compared with other primates, our bodies need more energy per unit of body mass. Especially when it comes to our energy-hungry brains. Our social time, such as when it comes to raising children, also limits the amount of time we can spend looking for food.

We have higher fat reserves, and can make use of them by rapidly turning fats into ketones when the need arises. Unlike other omnivores, where fat cells are few but large, ours are small and numerous, echoing those of a predator.

Our digestive systems are also suspiciously like that of animals higher up the food chain. Having unusually strong stomach acid is just the thing we might need for breaking down proteins and killing harmful bacteria you'd expect to find on a week-old mammoth chop.

.....

None of this is to say we ought to eat more meat. Our evolutionary past isn't an instruction guide on human health, and as the researchers emphasize, our world isn't what it used to be.

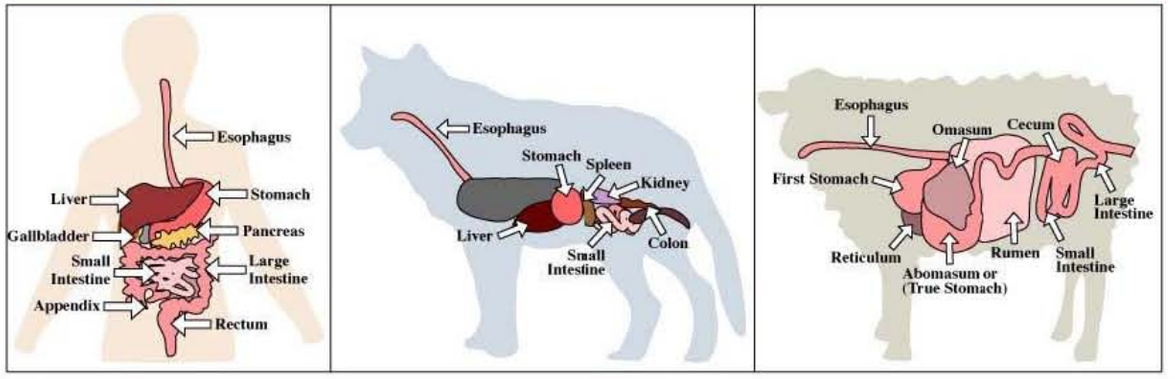
But knowing where our ancestors sat in the food web has a big impact on understanding everything from our own health and physiology, to our influence over the environment in times gone by.

https://www.sciencealert.com/ancient-humans-were-apex-predators-for-2-million-years-study-discovers

The obvious answer: Humans are carnivores

By every measure, humans are very much like wolves.

THE HERBIVORE VS. OMNIVORE COMPARISON CHART



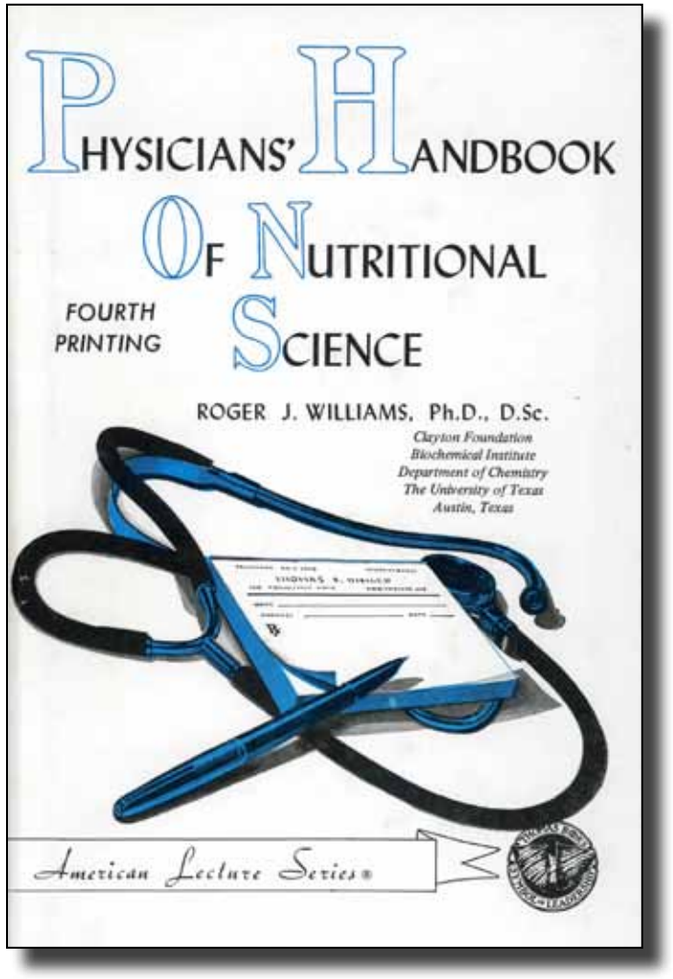
Teeth:	**MAN**	**WOLF**	**SHEEP**
incisors:	both jaws	both jaws	lower jaw only
molars:	ridged	ridged	flat
canines:	small	large	absent
Jaw:	**MAN**	**WOLF**	**SHEEP**
movements:	vertical	vertical	rotary
function:	tear & crush	tear & crush	grinding
mastication:	unimportant	unimportant	vital function
rumination:	never	never	vital function
Stomach:	**MAN**	**WOLF**	**SHEEP**
capacity:	4 pints	4 pints	8 1/2 gallons
emptying time:	3 hours	3 hours	never empties
interdigestive rest:	yes	yes	no
bacteria present:	no	no	yes - vital
protozoa present:	no	no	yes - vital
gastric acidity:	strong	strong	weak
cellulose digestion:	none	none	70% - vital
digestive activity:	weak	weak	vital function

Colon & Caecum:	**MAN**	**WOLF**	**SHEEP**
size of colon	Short/small	Short/small	Long
caecum size:	tiny	tiny	Long
function of caecum :	none	none	vital function
appendix:	vestigial	absent	Caecum
rectum:	small	small	capacious
digestive activity:	none	none	vital function
cellulose digestion :	none	none	30% - vital
bacterial flora:	putrefactive	putrefactive	fermentative
food absorbed:	none	none	vital function
volume of faeces:	small/firm	small/firm	voluminous
gross food in faeces:	rare	rare	large amount
Gaul Bladder:	**MAN**	**WOLF**	**SHEEP**
size:	well-developed	well-developed	often absent
function:	strong	strong	weak/absent
Digestive Activity:	**MAN**	**WOLF**	**SHEEP**
from pancreas:	solely	solely	partial
from bacteria:	none	none	partial
from protozoa:	none	none	partial
overall efficiency:	100%	100%	50% or less
Feeding Habits	**MAN**	**WOLF**	**SHEEP**
frequency:	intermittent	intermittent	continuous
Survival without:	**MAN**	**WOLF**	**SHEEP**
stomach colon & caecum:	possible	possible	impossible
microorganisms:	possible	possible	impossible
plant foods:	possible	possible	impossible
animal protein:	impossible	impossible	possible
Ratio of Body Length to:	**MAN**	**WOLF**	**SHEEP**
entire digestive tract/small intestine:	1:5 1:4	1:7 1:6	1:27 1:25
	Huge difference!		**4 times Longer!**

As you can clearly see the science tells the story of what we should be eating!
Special Thanks to Dr.Barry Groves PhD: http://www.second-opinions.co.uk/carn_herb_comparison4.html

Special thanks to Dr. Barry Groves PhD; ***http://www.second-opinions.co.uk/carn_herb_comparison4.html*** ***https://x.com/SBakerMD/status/916077796719390720?lang=en***

The obvious answer: 12 principles of nutritional science



www.forssell.com/NutritionalScience.pdf

CHAPTER 4

WHAT ARE THE BASIC PRINCIPLES WHICH UNDERLIE NUTRITIONAL SCIENCE?

Nutritional science with all its ramifications and implications is grossly underdeveloped. Its basic principles have heretofore not been set forth, and this we will attempt to do.

1. *All organisms utilize continuously their own metabolically derived energy.* This energy, the use of which is essential to and intimately intertwined with all life activities, has its ultimate origin in the sun, but is made available by reason of special biochemical transformations which living organisms are able to perform. In mammals and many other organisms the dominant process for getting this internal energy is a complicated burning of fuel substances which must be obtained from the environment. This burning is brought about through the agency of many enzyme catalysts.

2. *The catabolism (burning) of suitable types of fuel by mammals not only provides indispensable energy but also yields essential intermediates for the biosynthesis of those cellular components which can be produced endogenously. Poorly balanced fuel mixtures can cause the accumulation of intermediates which can be detrimental.* Too much use of amino acids, fat acids and alcohol for energy purposes can cause difficulties (sometimes serious) for known and unknown reasons. Growing evidence indicates that some carbohydrates, notably sucrose (see sugar consumption), may also be damaging when used excessively as an energy source.

3. *All organisms, to make it possible for them to derive energy and carry out essential functions, require from their environment many nonfuel nutrients (raw materials) for building and maintain-*

The obvious answer: What is nutritious? Animal foods! Inexpensive too!

In round numbers, we are made up of 50 million million (50 trillion) living cells.

These cells, so small you need a microscope to see one, communicate with each other and collaborate.

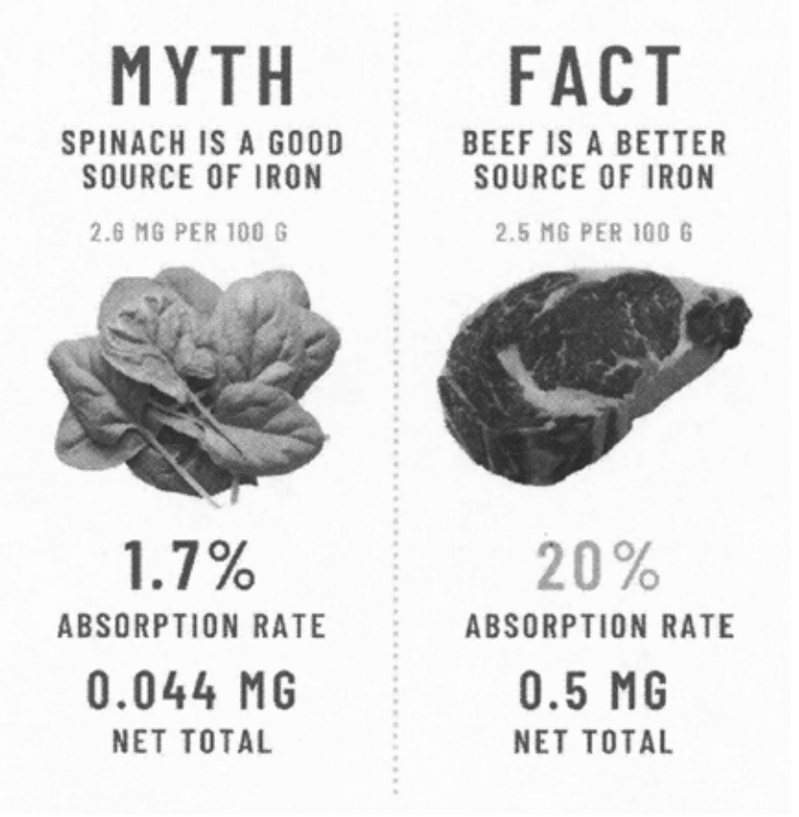
Each is a living control system. The miracle of evolution is that your cells communicate using sensors and nervous system processing so well that as you read this, you project it all somewhere in the back of your head, in living color and stereophonic sound.

Your cells are animal cells, made up of the components that animal cells require: A ***complete*** set of amino acids (protein), vitamins, minerals, saturated fats, water...

What better source of these building blocks to feed your digestive system than other animal cells. From animals nose to tail, meats and organs. Fish, clams and insects. Eggs, milk, cheese.

Plants have different biochemistry, a lesser set of amino acids, fewer vitamins. Much, much less bioavailability. And plants wage chemical warfare against anything and anyone that wants to eat them.

We can deal with plants, and our liver can neutralize some poison, but we don't thrive on a diet of plants.



From *The Dietitians Dilemma*, Ch 7, *Plants vs Animals*

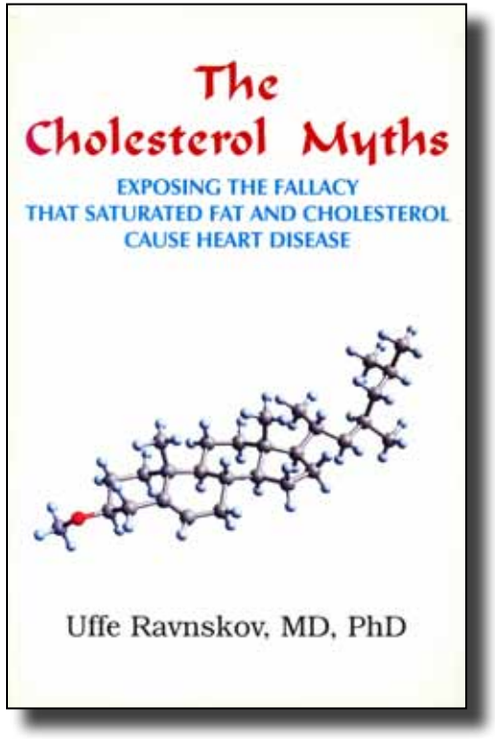
Why pay for plants and fruits with little nutrition value (perhaps lots of calories) when you can shop wisely for highly nutritios, calorie-dense meats and animal foods.

The long way around: Dis-information—Blue Zones and Cholesterol

In 1953 Dr. Ancel Keys published a study, now called the Seven Countries Study, with data from six countries that showed a convincing correlation between fat consuption and death rates. Why six countries? Data was available from 22.

Dr. Ravnskov lays out all the flaws in this study, one of the most influential, widely quoted and believed medical studies ever.

If Dr. Keys had cherry-picked six other countries, he could have proven the opposite of what most everyone has come to believe.



Foreword by Michael Gurr, PhD
Author's Foreword

Introduction:
The Diet-Heart Idea - A Die-Hard Hypothesis

Myth 1:
High-fat foods cause heart disease.

Myth 2:
High cholesterol causes heart disease.

Myth 3:
High-fat foods raise blood cholesterol.

Myth 4:
Cholesterol blocks arteries.

Myth 5:
Animal studies prove the diet-heart idea.

Myth 6:
Lowering your cholesterol will lengthen your life.

Myth 7:
Polyunsaturated oils are good for you.

Myth 8:
The cholesterol campaign is based on good science.

Myth 9:
All scientists support the diet-heart idea.

Dr. Keys had these →
He chose these ↓

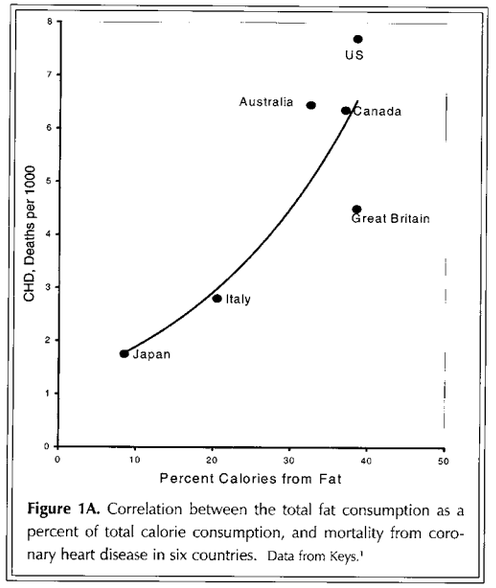


Figure 1A. Correlation between the total fat consumption as a percent of total calorie consumption, and mortality from coronary heart disease in six countries. Data from Keys.[1]

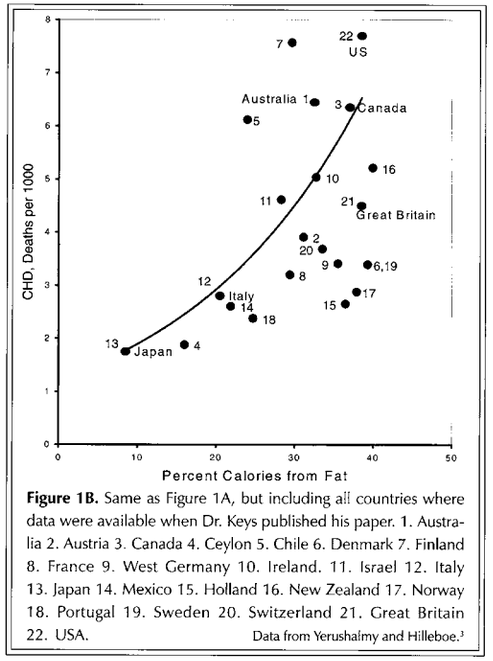


Figure 1B. Same as Figure 1A, but including all countries where data were available when Dr. Keys published his paper. 1. Australia 2. Austria 3. Canada 4. Ceylon 5. Chile 6. Denmark 7. Finland 8. France 9. West Germany 10. Ireland. 11. Israel 12. Italy 13. Japan 14. Mexico 15. Holland 16. New Zealand 17. Norway 18. Portugal 19. Sweden 20. Switzerland 21. Great Britain 22. USA. Data from Yerushalmy and Hilleboe.[3]

Everyone knows that if you eat saturated fat, your arteries will clog and you get heart disease.

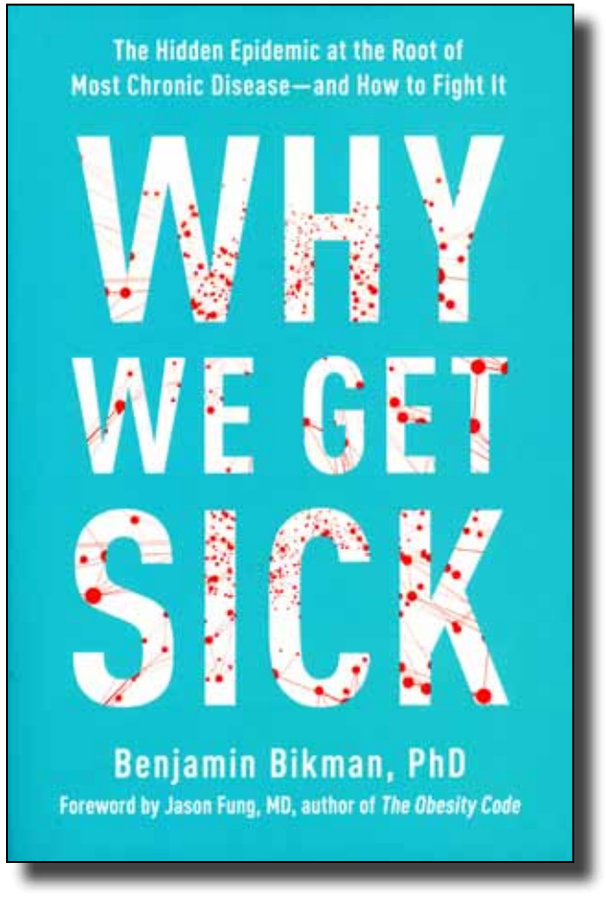
Not possible.

Your digestive system does not work that way.

This is a myth.

The long way around: *Good Information—All about insulin*

Carbohydrates raise blood glucose. Insulin removes glucose from blood and brings it into fat cells. This routine causes disease.



Praise for *Why We Get Sick*

"If one reads headlines about the health of folks in developed nations, it's a depressing read. Heart disease, diabetes, neurodegeneration such as Parkinson's and Alzheimer's . . . all increasing. We know more about these diseases than ever before, yet we seem virtually powerless to do anything about them. But what if, instead of all these conditions and disease being separate and unconnected, one physiological state—elevated insulin levels—was the driver of all this suffering? In *Why We Get Sick*, Benjamin Bikman unpacks the root cause of modern diseases and provides a concise road map to help you regain or maintain your health."

—*Robb Wolf,* New York Times *and* Wall Street Journal *bestselling author*

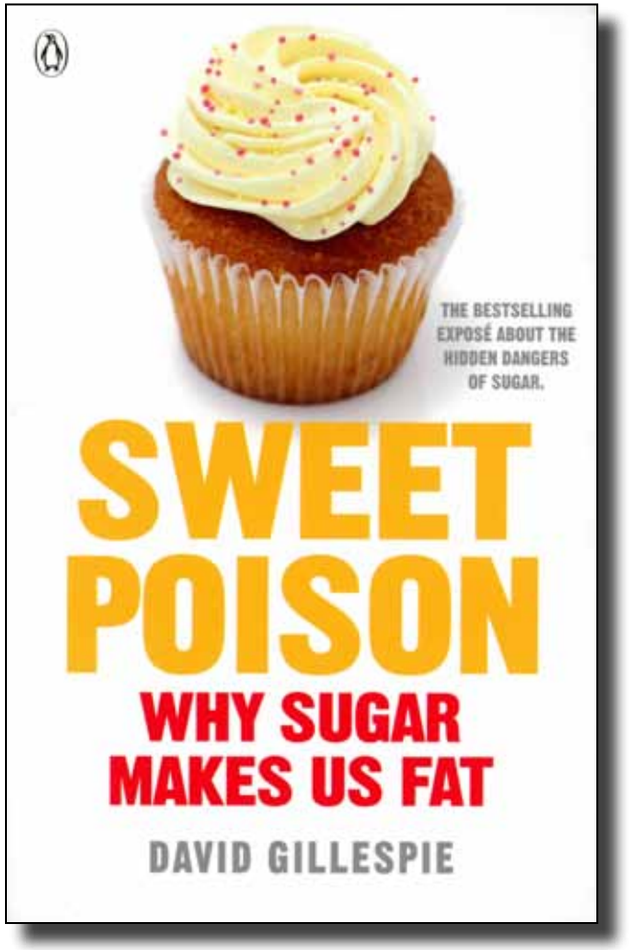
"This book is a unique, rigorous contribution to understanding insulin resistance as an underlying cause of chronic disease and aging. Well written and highly accessible, Dr. Bikman has written a book for both scientists and the average reader who seeks a path back to good health."

—*Nina Teicholz, science journalist and* New York Times *bestselling author of* The Big Fat Surprise

"It's time to make 'insulin resistance' part of the public lexicon. That so many people are unaware of this widespread condition with serious ramifications is a monumental problem, and it's one that *Why We Get Sick* sets out to solve."

—*Dr. Aseem Malhotra, cardiologist and professor of evidence-based medicine*

The long way around: Good Information—Biochemistry of sugars, especially fructose



David Gillespie was 6 stone overweight, lethargic and desperate to lose weight fast – but he'd failed every diet out there.

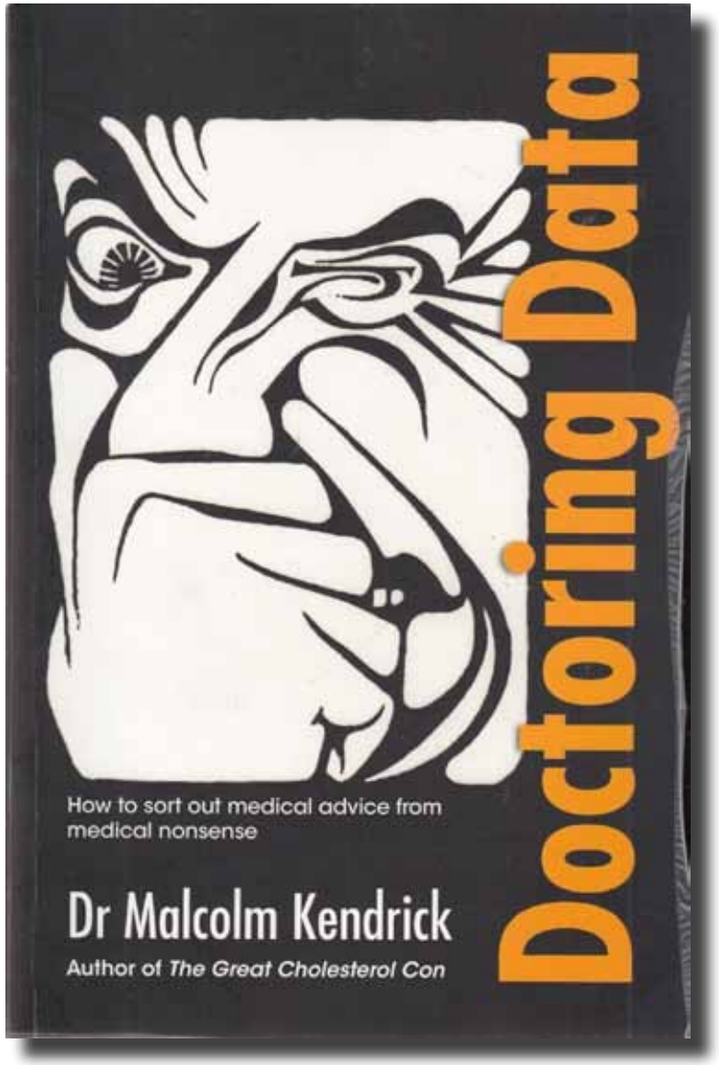
When David cut sugar from his diet he immediately started to lose weight and – more amazingly – kept it off. Now slim and with new reserves of energy, David set out to investigate the connection between sugar, our soaring obesity rates and some of the more worrying diseases of the twenty-first century. He discovered:

IT'S NOT OUR FAULT WE'RE FAT

- Sugar was once such a rare resource that we haven't developed an off-switch – we can keep eating sugar without feeling full.
- In the space of 150 years, we have gone from eating no added sugar to more than 2 pounds a week.
- Eating that much sugar, you would need to run 4.5 miles every day of your life to not put on weight.
- Food manufacturers exploit our sugar addiction by lacing it through 'non-sweet' products like bread, sauces and cereals.

SWEET POISON exposes one of the great health scourges of our time and offers a wealth of practical information on how to break your addiction to sugar.

The long way around: Good Information about Dis-information



Dr. Kendrick's urgent message: *Think For Yourself!*

From the back cover:

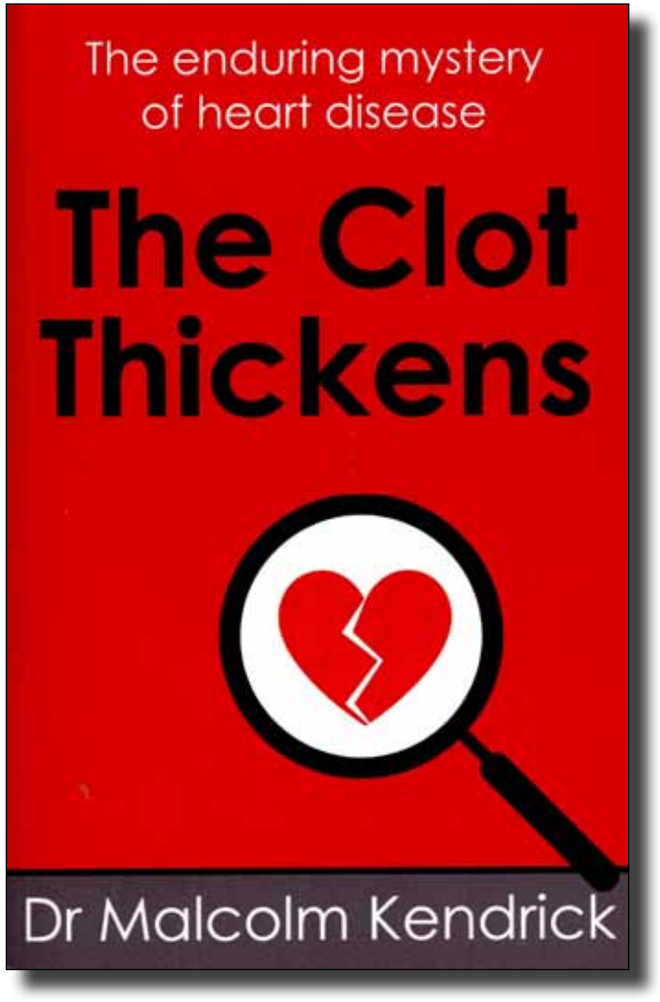
Dr. Kendrick, a GP in Britain, takes a scalpel to the world of medical research and dissects it for your inspection. He reveals tricks that are played to make minute risks look enormous. How the drug trials can be hyped, the data manipulated, the endless games that are played to scare us into doing what, in many cases, makes the most money. After reading this book you will know what to believe and what to ignore.

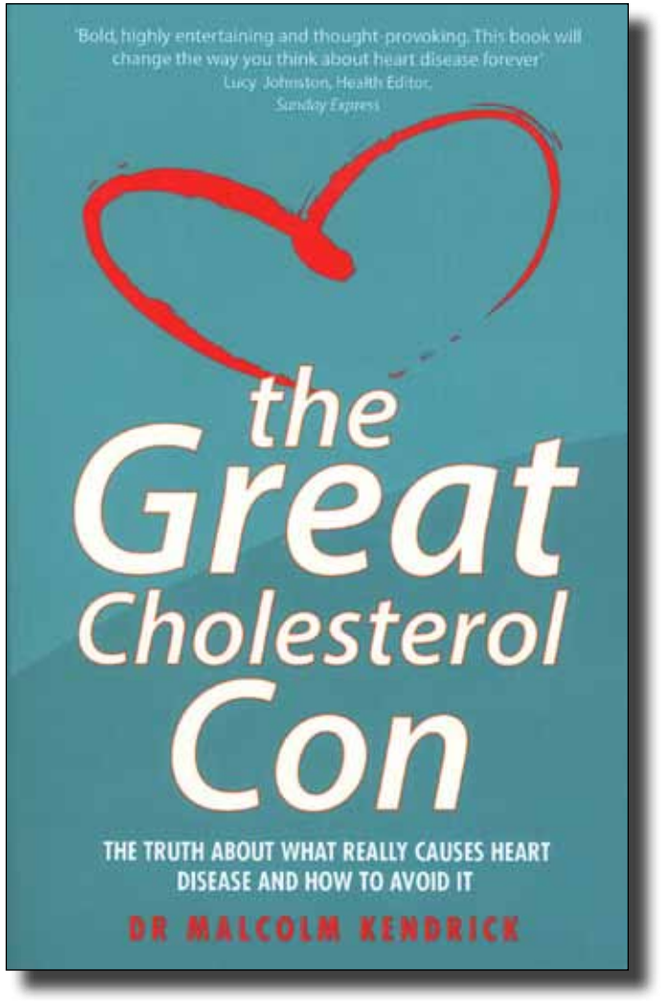
A page turner... Dag

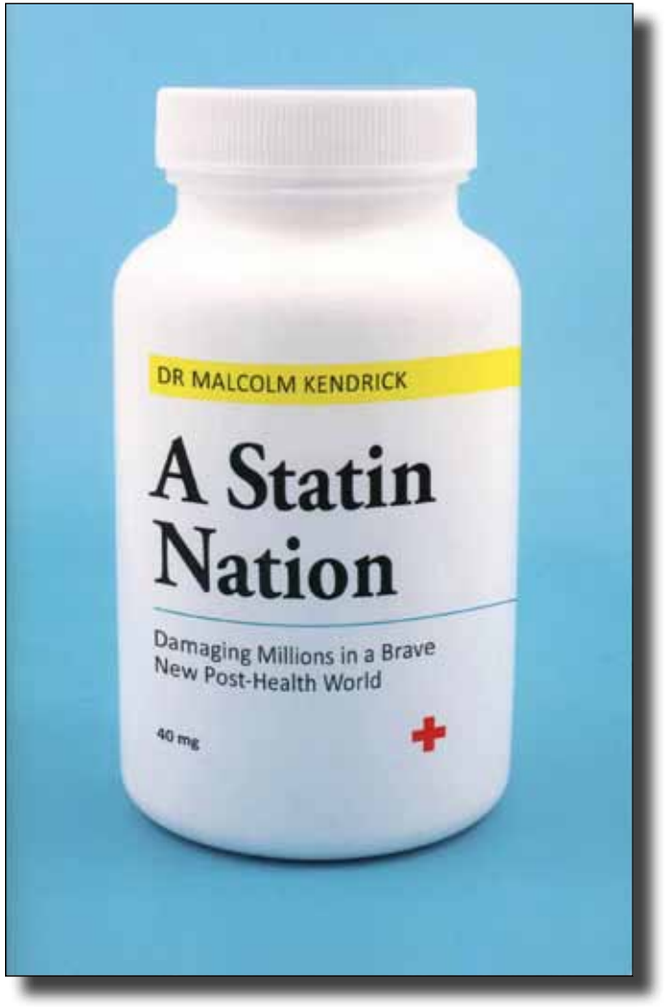
The long way around: Good Information about Dis-information

More from Dr. Kendrick

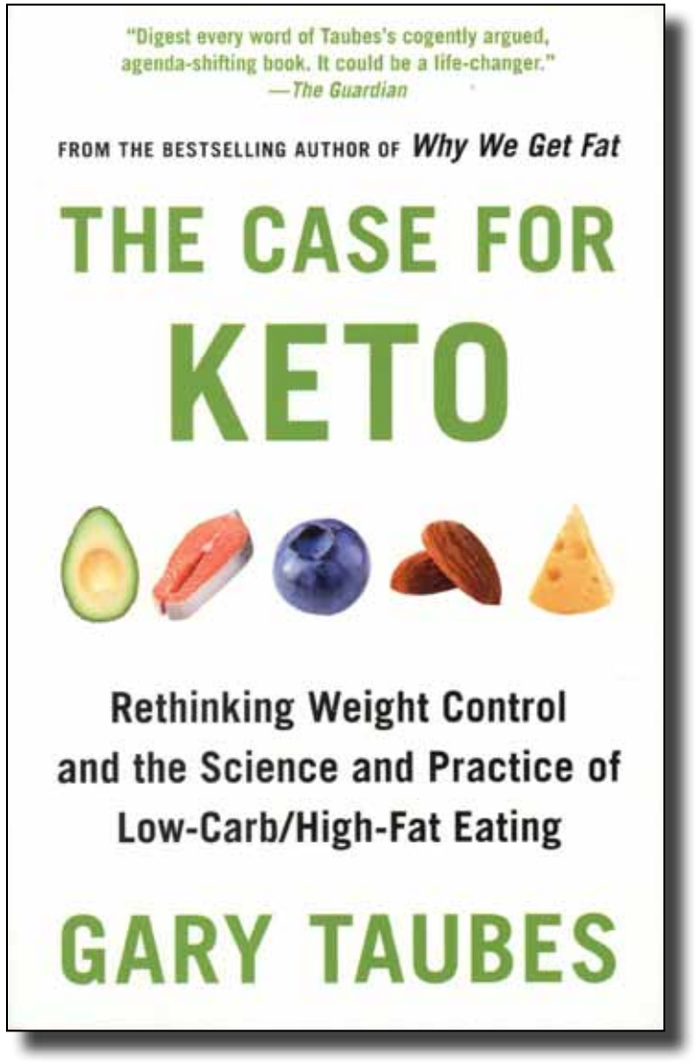
Dr. Kendrick (and other heretic authors) argues that ***some*** (not all) influential research has been at best bad, and at worst, fraudulent. As a result, many physicians make recommendations that are unhealthy.







The long way around: Good Information about Time Travelers and Keto



Voices of Authority vs Heretics

The introduction to this volume recounts the authors' conclusions from interviews with more than 700 health professionals. He discusses two factions in health care: ***Conventional authorities*** and ***heretics***.

Most books I feature are by heretics.

Heretics have not only studied a given curriculum, but have gone through gut wrenching discoveries of what does and does not work. They tell you who they are.

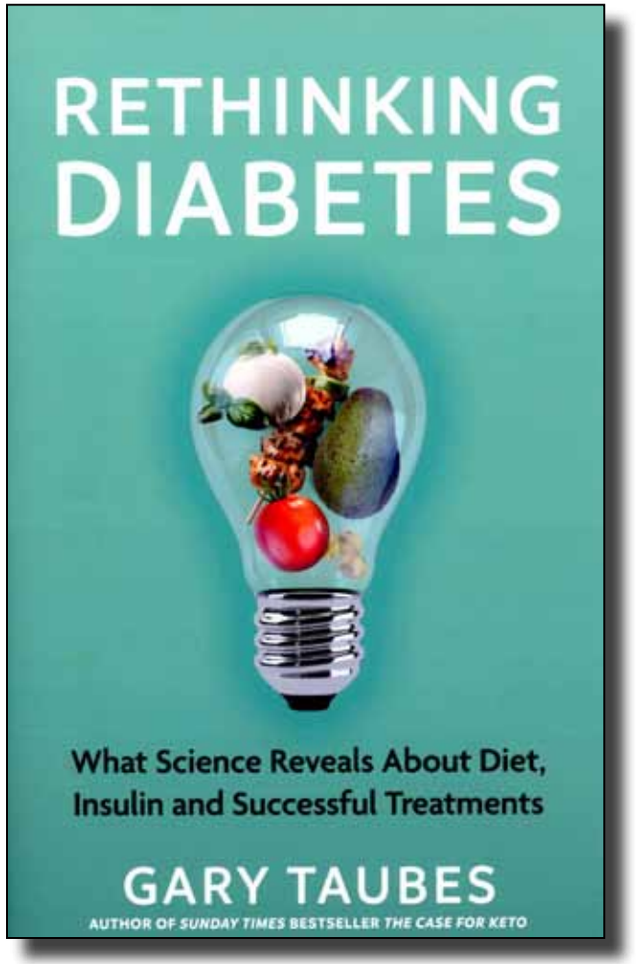
Important to me in this introduction is not Keto but the recognition and appreciation of heretics, .

Read the introduction here:

www.forssell.com/TheCaseForKetoIntro.pdf

The long way around: Good Information about Dis-information

More from Gary Taubes



"The science has been pretty awful"

www.forssell.com/TruthDiabetes.pdf

FROM THE AUTHOR OF *THE CASE AGAINST SUGAR*

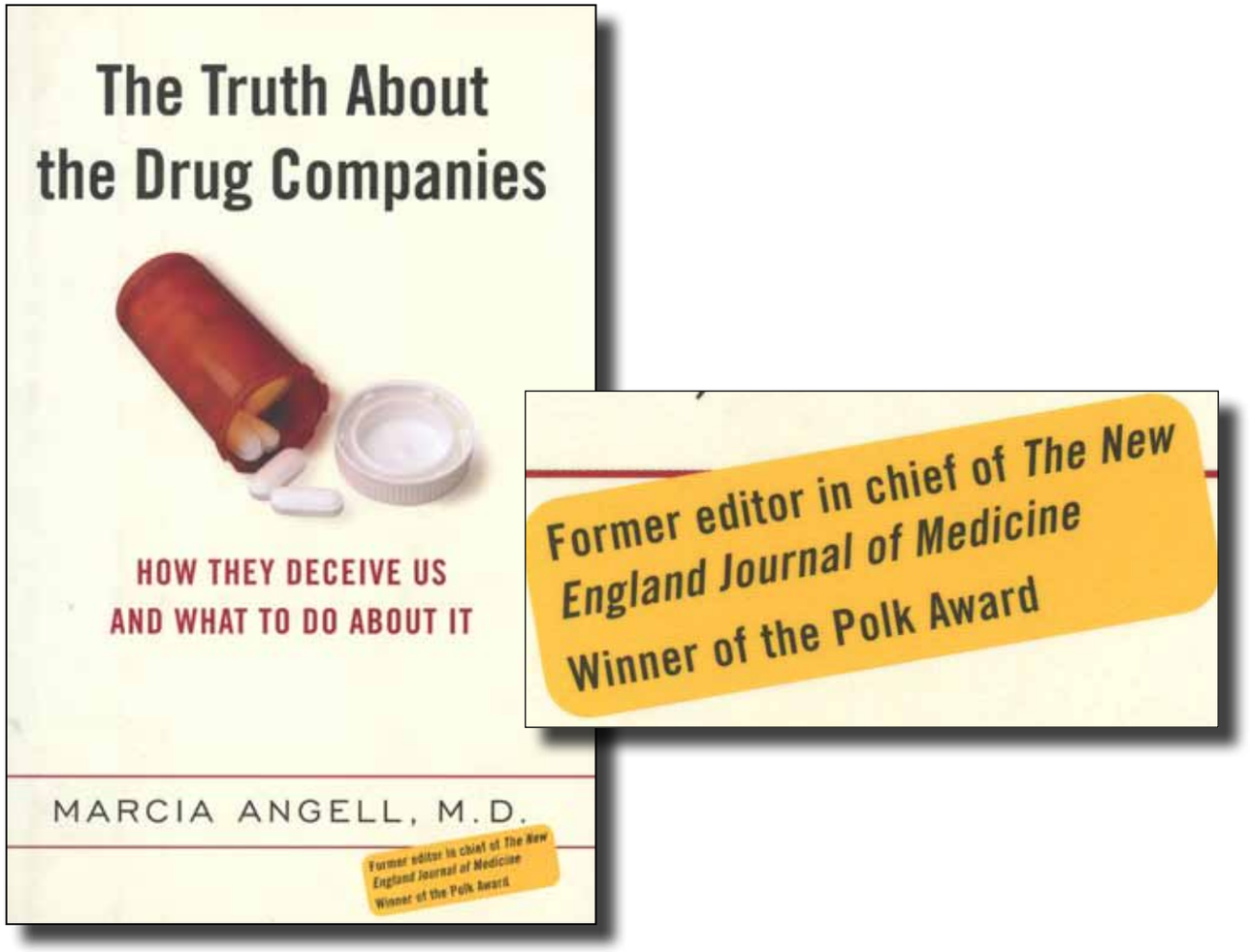
An eye-opening investigation into the history of diabetes research and treatment that rethinks the role of diet in treating diabetes.

'One of the crucial responsibilities of scientists and science journalists is to question established beliefs and common assumptions. Gary Taubes [has] accomplished precisely this in this thought-provoking book [which] offers significant insights'
Siddhartha Mukherjee, author of *The Emperor of All Maladies*

'A remarkable tour de force that should be of considerable interest to all persons with diabetes and clinicians and researchers in the field. A must-read'
Dr Sanjiv Chopra, Professor of Medicine, Harvard Medical School

'Decades of research have brought us contradictory recommendations on managing diabetes. *Rethinking Diabetes* convincingly makes the case for a new paradigm for the prevention and treatment of this common disorder'
Abraham Verghese, Professor of Medicine, Stanford University Medical School, author of *The Covenant of Water*

The long way around: Good Information about Dis-information

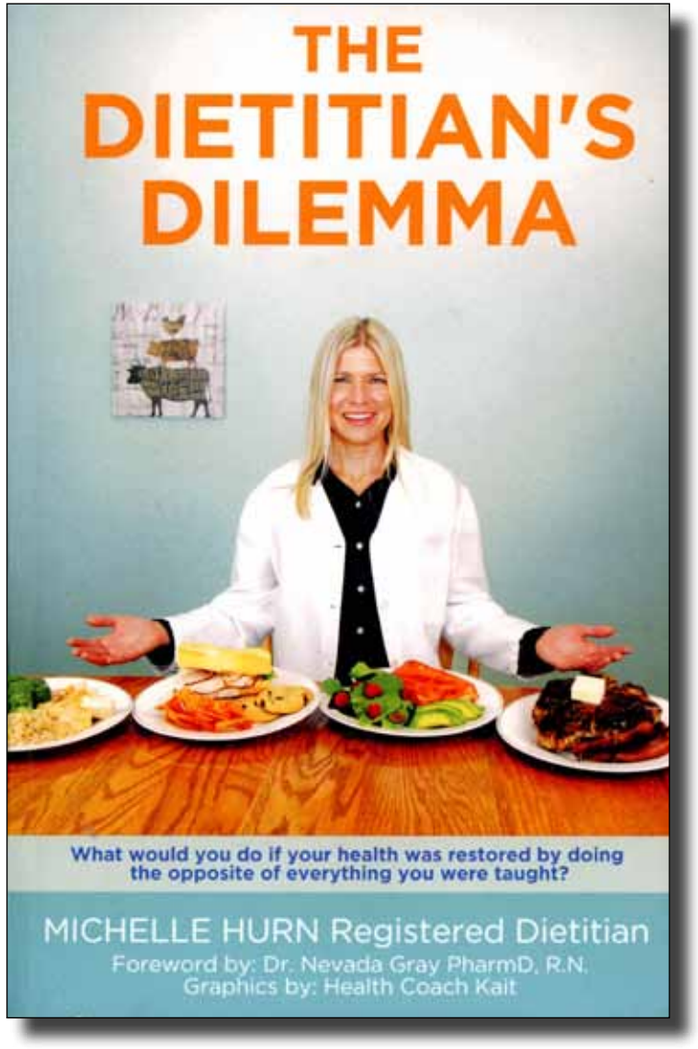


"It is simply no longer possible to believe much of the clinical research that is published, or to rely on the judgement of trusted physicians or authoritative medical guidelines.

I take no pleasure in this conclusion, which I reached slowly and reluctantly over my two decades as an editor of *The New England Journal of medicine*."

Marcia Angell, MD.

The long way around: Good Information about Dis-information



www.forssell.com/DietitiansDilemmaCh6.pdf

www.forssell.com/DrivingForce.pdf

This book is required reading.

Typical of heretic authors, Michelle tells you all about her journey.

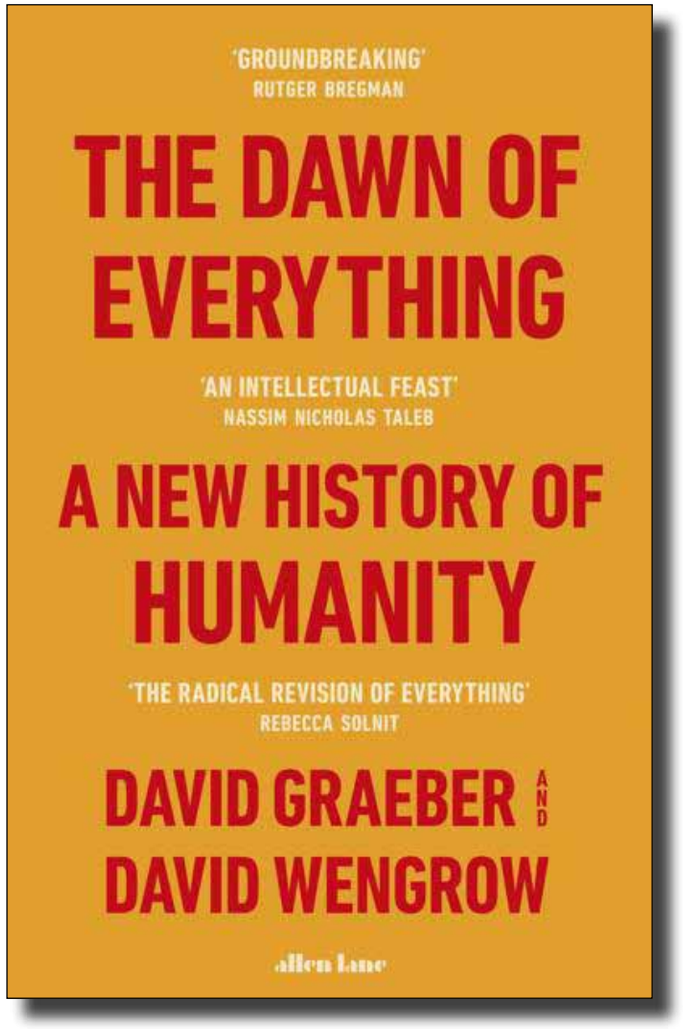
Well illustrated, this work informs and inspires.

Enjoy!!!

About nutrition research, see also this blog post by the author of *Sacred Cow* (p 33)

www.forssell.com/YouAreWhatYouEat_Wrong.pdf

The long way around: Good Information



Agriculture has been adopted and abandoned over and over

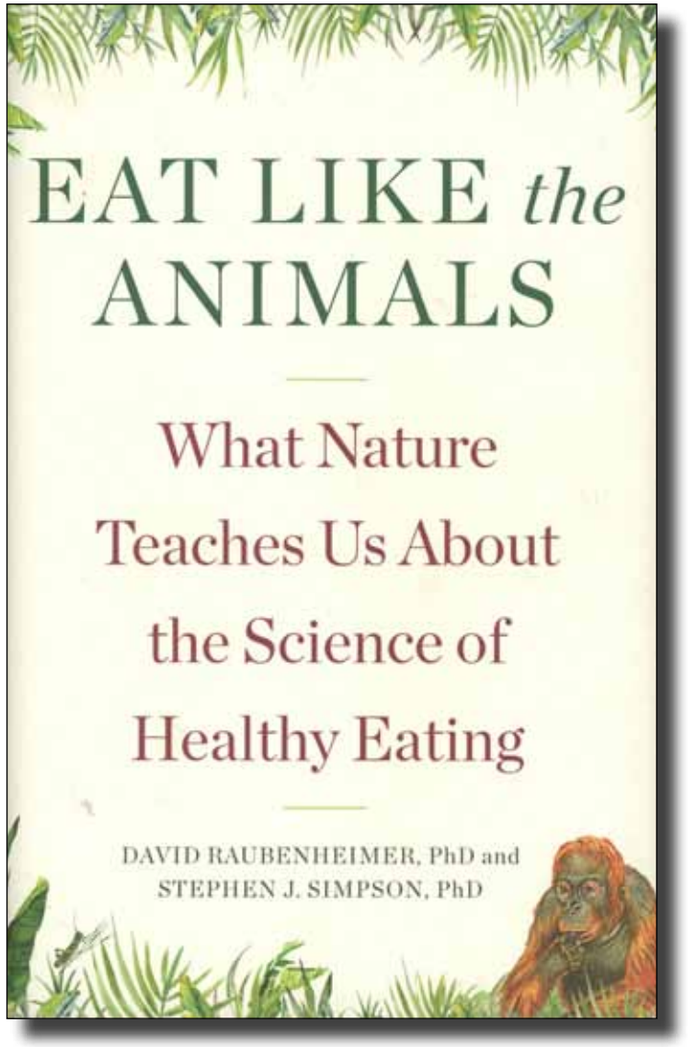
www.forssell.com/DawnEverythingReview.pdf
www.forssell.com/DawnEverythingIntro.pdf

This massive volume is another page turner. It provides a reevaluation of human history (archaeology and anthropology), going back to long before the last ice age.

Discussions of civilization, government structures or lack thereof, slavery or lack thereof, wisdom imported from North America that gave rise to the era of enlightenment in Europe.

The authors discuss the choice of nutritional lifestyle made over and over by various populations around the world. People have turned to agriculture in times when fish and game were scarce. And abandoned agriculture when fish and game were plentiful. The history of agriculture is not one of continuous progress.

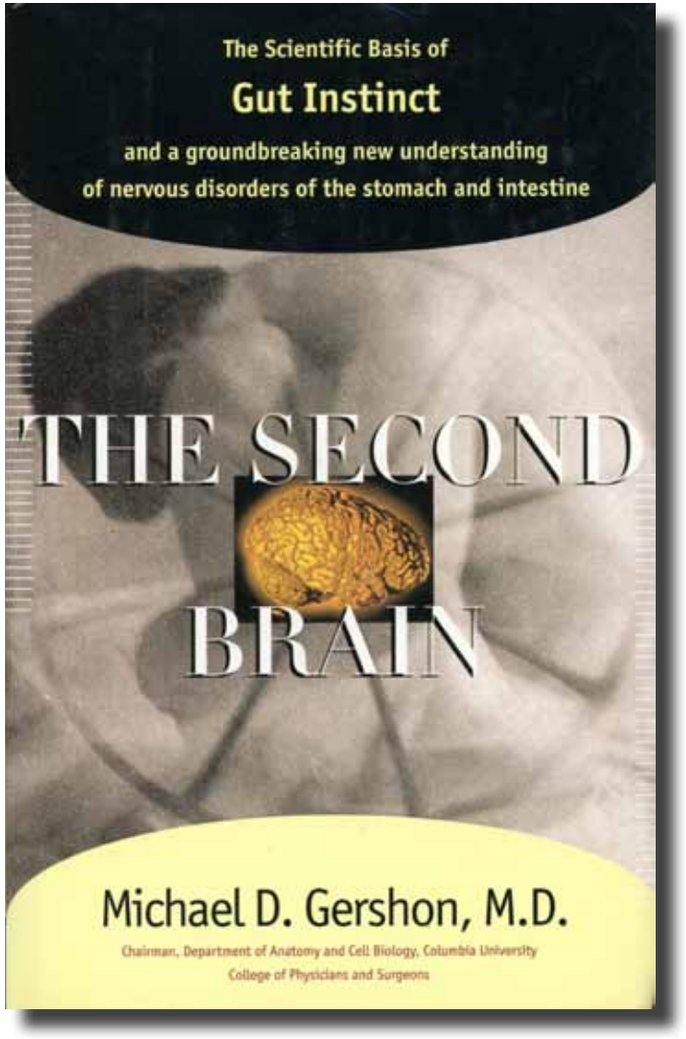
The long way around: *Good Information*



Our evolutionary ancestors once possessed the ability to intuit what food their bodies needed and in what proportions, and ate the right things in the proper amounts—perfect nutritional harmony. From wild baboons to gooey slime molds, most every living organism instinctually knows how to balance its diet—except modern-day humans. When and why did we lose this ability, and how can we get it back?

David Raubenheimer and Stephen Simpson reveal the answers to these questions in a gripping tale of evolutionary biology and nutritional science based upon years of groundbreaking research. Their colorful scientific journey takes readers across the globe, from the foothills of

The long way around: Good Information



How can the body know when we have ingested enough protein?

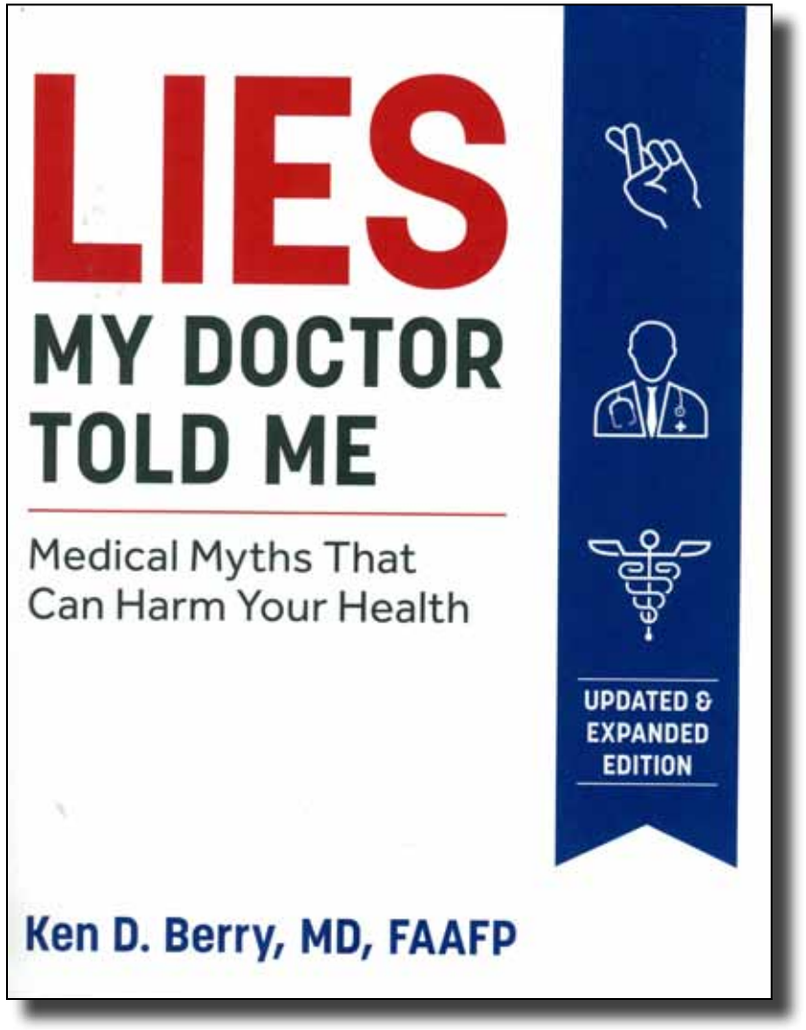
"Dr. Gershon spills his guts in an entertaining and highly informative book about how smart our gastrointestinal tract is. He writes with a fatherly love about his research and that of his colleagues, and engages our sense of wonder about something we almost never think about. Great any room reading!"

—RONALD A. RUDEN, M.D., author of *The Craving Brain*

"An interesting treatise that records the rediscovery of the importance of the nervous system in the abdominal organs, this book provides an opportunity for lay readers to explore the fascination of the second brain and the scientists who discovered its marvels. . . . Dr. Gershon documents this new renaissance in enteric neuroscience."

—MICHAEL CAMILLERI, M.D., Professor of Medicine and Physiology,
Mayo Foundation, Gastroenterology Research Unit

The long way around: Good Information



An account of the reality in which dedicated physicians live

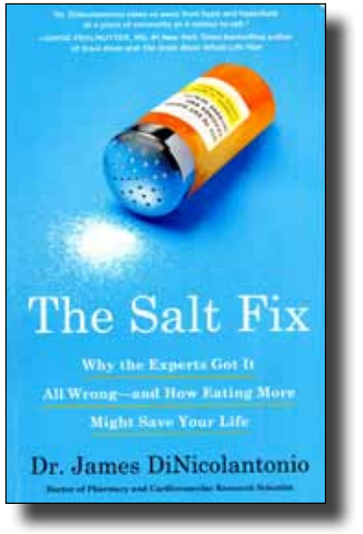
A loving, passionate account of the world in which your physician lives.

A page turner.

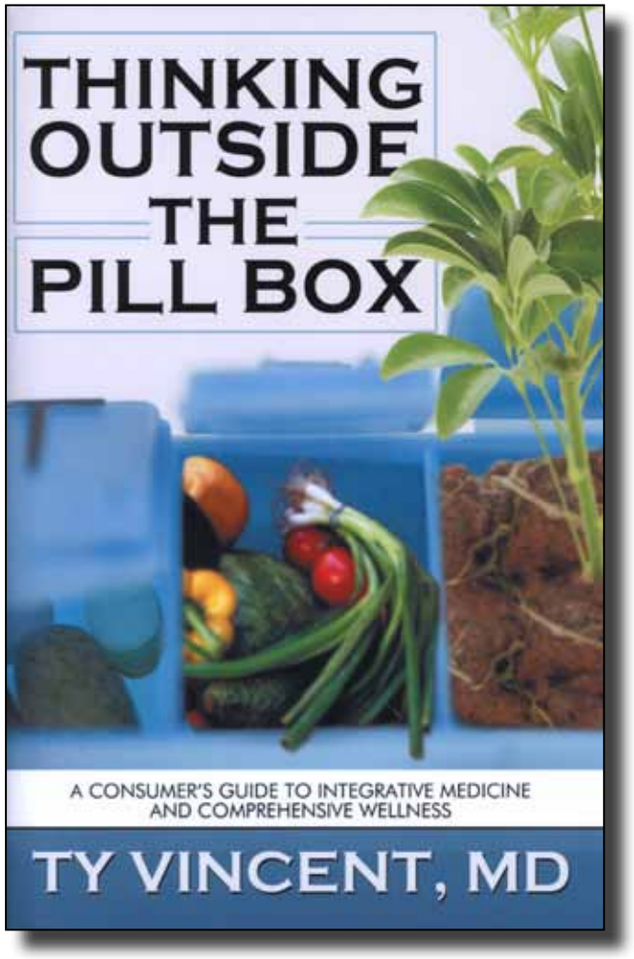
It is also an account of well established myths that govern medical review boards.

27 chapters cover diseases, foods such as wheat, and popular myths from many angles. Each chapter features home work for study, such as *The Salt Fix.*

Don't be put off by the title.
The book is terrific!



The long way around: Good Information — A review of all things medical

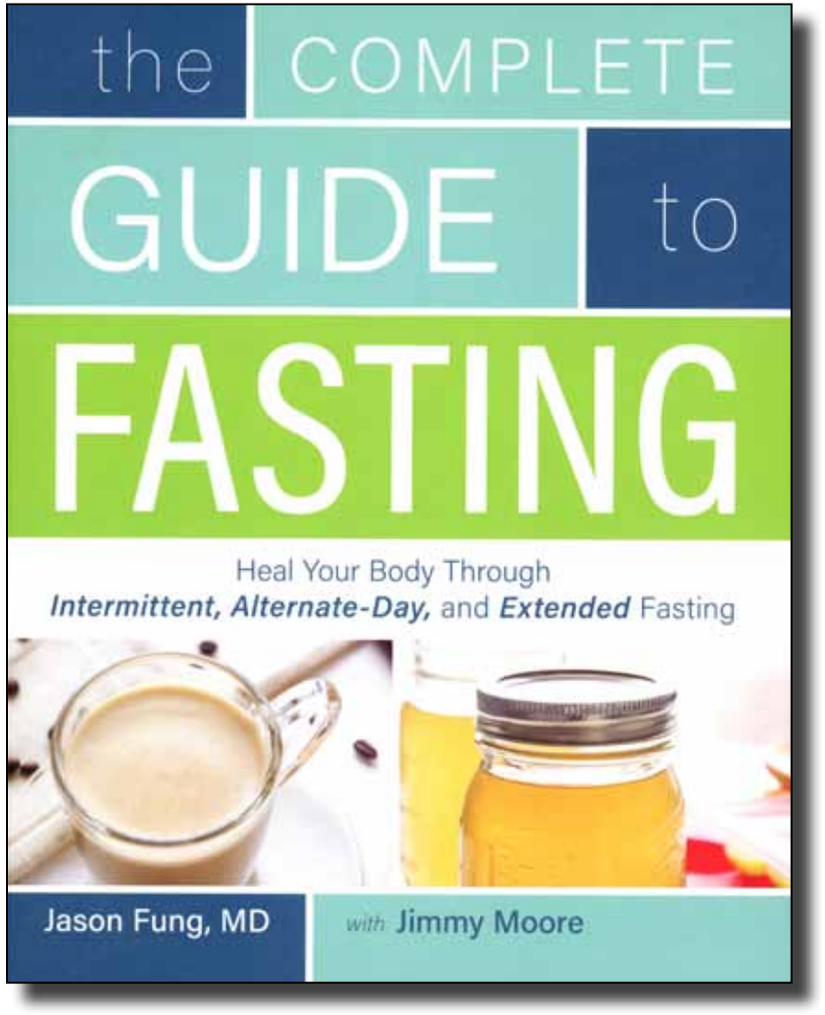


Dr. Vincent tells you all about his experience.
This is a comprehensive review of medical issues and practices.
Chapter 1 defines eleven approaches to medical practice:

Conventional, or Allopathic Medicine
Complementary and Alternative Medicine
Traditional Medicine
Holistic Medicine
Homeopathic Medicine or Homeopathy
Osteopathic Medicine
Naturopathic Medicine
Functional Medicine
Orthomolecular Medicine
Environmental Medicine
Integrative Medicine

Capabilities and shortcomings of each are clearly spelled out.

The long way around: Good Information



Dr. Fung makes a point about patients NOT wanting change

This is a comprehensive, beautiful book about Obesity, Diabetes, and Keto. We shall address keto shortly, but I wanted to share this statement.

To me, Dr. Fung confirms my suspicion that patients really don't want to change their lifestyle. Dr. Fung is one of the few physicians who is knowledgeable enough to give dietary advice, but change is hard.

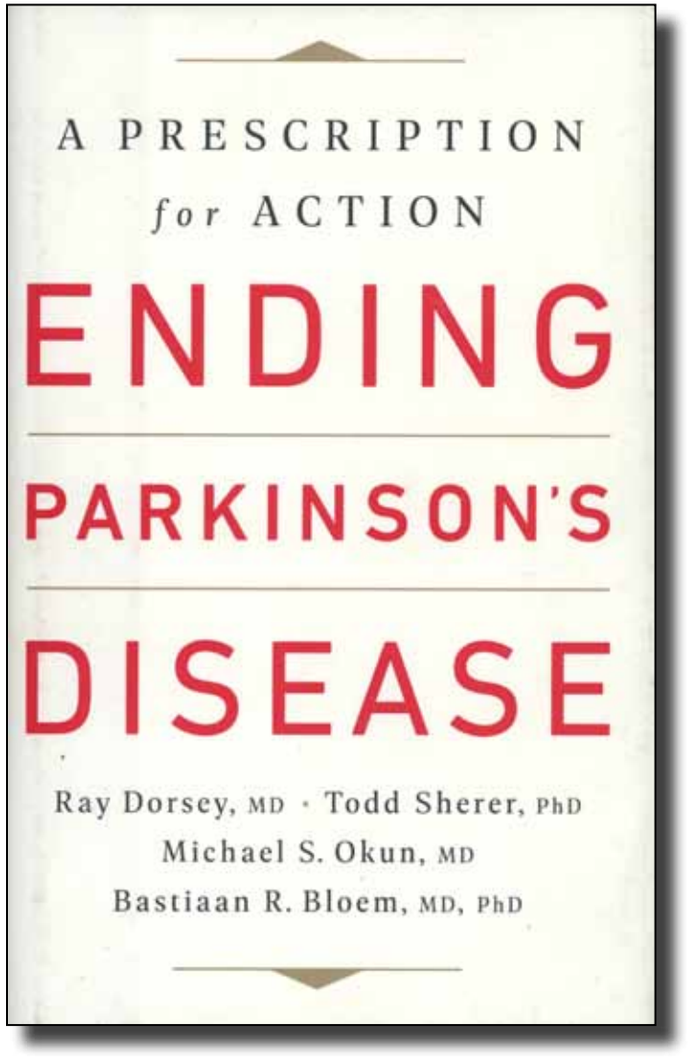
An excerpt from the Introduction

In 2012, I established the Intensive Dietary Management Program, which has a unique focus on diet as a treatment for the twin problems of obesity and type 2 diabetes. At first, I prescribed low and very low carbohydrate diets . Since refined carbohydrates highly stimulate insulin, reducing these carbohydrates should be an effective method of lowering insulin.

I gave my patients lengthy sessions of dietary advice. I reviewed their food diaries. I begged. I pleaded. I cajoled. But the diets just didn't work. The advice seemed hard to follow; my patients had busy lives and changing their dietary habits was difficult, especially since much of it ran contrary to the standard advice to eat low-fat and low-calorie.

But I couldn't just give up on them. Their health, and indeed their very lives, depended upon reducing their insulin levels. If they had trouble avoiding certain foods, then why not make it as simple as possible? *They could simply eat nothing at all*. The solution was, in a word, *fasting* .

The long way around:



Experts on PD are ignorant about biochemistry and plant poisons. So are most physicians, dietitians, health workers, and lay people.

www.forssell.com/DagOnIgnorance.pdf

Christine and I danced with ***www.stepupforparkinsons.com*** during covid.
I wrote the board with some suggestions. My lament (above) speaks for itself.

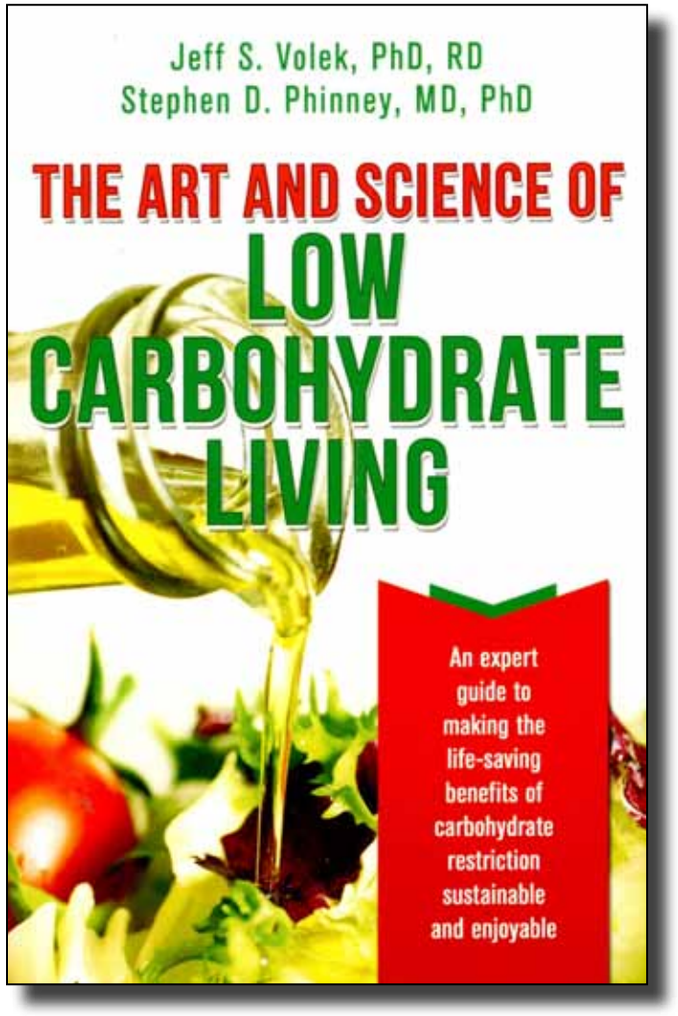
Lonnie Ali (below) predicts an exponential rise of PD. The same goes for many degenerative diseases. Why is it that it is so difficult to connect this rise to the increasing abandonment of animal foods during the last century?

Plant foods are not nutritious the way religious and commercial dis-information, embodied in government guidelines, will have us believe.

"Over the next twenty-five years, the number of people with Parkinson's disease is expected to double to at least 12.9 million. With its forecasted exponential rise, most of us will either be affected personally within our own families or know someone with the disease. This book is a must-read for all of us who are or might be affected. It pulls no punches with regard to the seriousness of this emerging pandemic, and its common-sense environmental approaches and precautions, if implemented, will abate the spread of this insidious disease. I know this to be true. I lived it."

—LONNIE ALI

The long way around:



This book was our introduction to Keto.
I read out loud, Christine read silently. We discussed every detail.

Christine and I read this book on the recommendation of our Primary Care Physician (PCP). This book is written for physicians, but the introductory chapters are easy reading.

I read out loud, Christine followed in her copy. We discussed what it meant to us every step of the way. We were on the same page, in full agreement as we decided to change our lifestyle to help Christine's brain heal and regenerate as discussed in the conference videos in my report #2, page 6

We realized that Keto is not a "diet" in the common sense of the word, meaning that you change some preferred foods or buy some packages labeled keto in the store.

Keto (fat for fuel) is an alternative biochemistry and metabolism, far superior for your health long term compared to the predominant Carbohydrate (glucose for fuel) biochemistry and metabolism.

As discussed in my lament on the previous page, physicians fail to learn biochemistry in medical school. Our PCP told us that he had excellent results with his diabetic patients, but that his colleagues were not interested. So it goes.

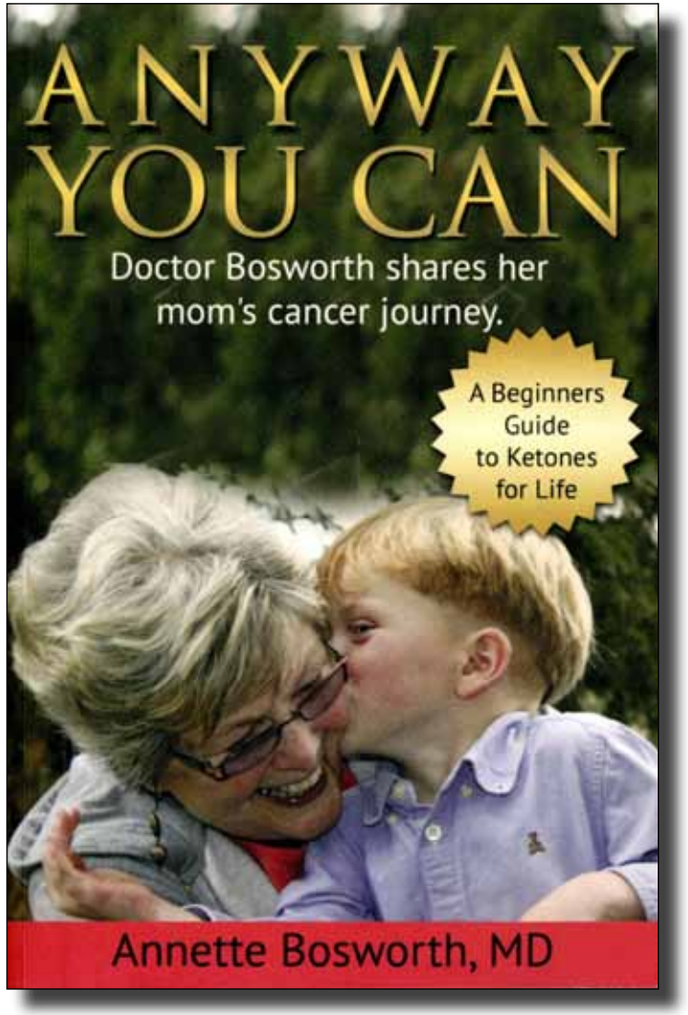
When your body has adapted to a Keto metabolism, it can handle small amounts of carbs as part of your food intake, but basically, you must go all the way to get the benefit.

The benefits make it well worth the effort. Read that Chapter 3 on the next page.

The handout below holds the ToC and introductory chapters. Enjoy!

www.forssell.com/ArtScienceIntro.pdf

The long way around: A superb introduction to Keto



Dr. Bosworth shares her initial apprehensions about keto because ketoacidosis is a deadly condition. But this is not the same as ketogenic metabolism. The two words just sound alike.

By telling the story of her fight to save her mom, Dr. Boz explains her journey of search and discovery. She uses simple metaphors, such as kindling to represent glucose... it burns fast ... and logs to represent fatty acids... they last.

When I read the book, late in our game, I knew enough to appreciate that Dr. Bosworth's metaphors make sense.

The short, readable Chapter 3 is the most compelling argument for keto I have found. ***Recipe for a pristine brain!*** Here:

www.forssell.com/AnyWayYouCanCh3.pdf

A recent study just reported in the papers.

Looks like a legitimate study to me.

www.forssell.com/StudyMentalHealth.pdf

The long way around: Resources on the web

JMH | JOURNAL OF METABOLIC HEALTH

https://journalofmetabolichealth.org/

The Journal of Metabolic Health is a peer-reviewed, clinically oriented open access journal covering advances in metabolic health and related disorders. The journal focuses on pathophysiology, prevention, management, and advancing therapy for different patient populations with metabolic health issues, including obesity, metabolic syndrome, type 2 diabetes, cardiovascular disease, and other conditions associated with insulin resistance and inflammation.

Case Report

The ketogenic diet and MetSyn in Parkinson's disease – Symptoms, biomarkers, depression and anxiety: A case study
Melanie M. Tidman

30 April 2024

Perspectives

Carbohydrate reduction for metabolic disease is distinct from the ketogenic diet for epilepsy
Matthew Calkins, Laura Buchanan, Tro Kalayjian, David Dikeman, Mark Cucuzzella, Eric Westman

29 April 2024

LowCarbUSA®
Turning consensus on its head!

https://www.lowcarbusa.org/

Founded in 2015, LowCarbUSA® is dedicated to promoting and growing the low carb / keto lifestyle through a range of initiatives. Our focus includes, educational outreach, hosting scientific conferences, providing online coaching and sourcing and maintaining an extensive collection of credible, evidence-based research and low carb resources. These resources support health care providers, nutritionists and advocates who support a low carb approach. Discover more about our team at LowCarbUSA here and explore our website to uncover all you need to know about embracing the benefits of a low carb lifestyle.

The long way around: Losing weight, curing Diabetes It's the insulin, stupid

Volek and Phinney explain biochemistry.

Plants create glucose through photosynthesis.
Glucose combines into sugars, starches, and then cellulose.

Some animals (herbivores such as cattle and gorillas) can break down cellulose into starches and sugars, but humans cannot. We don't have a large/long fermentation chamber where microorganisms can do the job.

So for us, carbs are sugars and starches, not cellulose. Cellulose is fiber, such as salad.

When you eat carbs, glucose enters the bloodstream.

Your body regulates glucose within narrow limits.

When you eat a meal with lots of carbs, your blood glucose shoots up, and your body gets rid of the excess by having your pancreas secrete the hormone Insulin, which packs away glucose into your cells where it is stored as fat.

Glucose (Bosworth calls it kindling) burns fast, and you cannot store much, so you get hungry soon enough. Therefore three meals a day. As long as you secrete Insulin regularly, you cannot access the fat in your cells.

Fat accumulates.

Over the years, your cells get tired of this routine.

You become insulin resistant, pre-diabetic,
on your way to Diabetes type 2.

If you stop eating carbs, you stop secreting insulin.

Now you can use your own fat for fuel. Your mitochondria will be happy. Diabetes type 2 disappears.

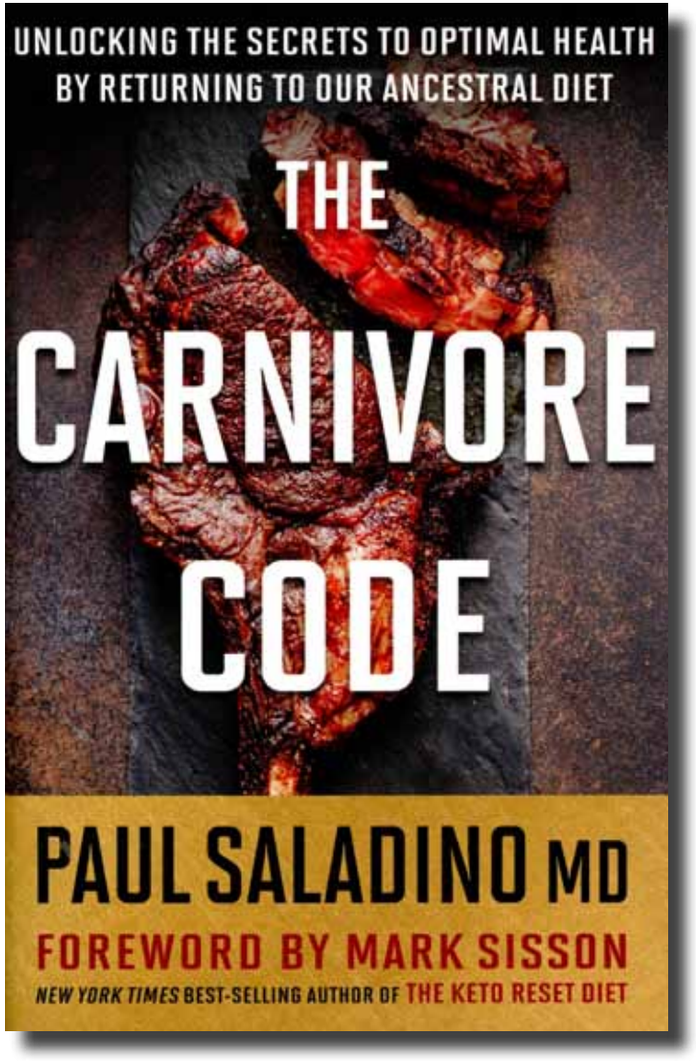
With no insulin, your kidneys will secrete salt, not hold it. So increase your salt intake to avoid the "keto flu". Researchers who want to prove keto bad take advantage of this, as Volek and Phinney explain.

As long as you eat adequate protein you won't have hunger pangs. It becomes easy to eat one meal a day. With a low carb lifestyle you will lose weight gradually and comfortably.

Wasn't that easy?

P.S. You don't have to lose weight. We did not at first. You lose weight when you reduce your intake of calorie dense fatty foods below your daily caloric need. At that point you access your stored fat. You never run out of fuel and never get very hungry.

The long way around: Good Information about Chemical warfare



This was the second book Christine and I read together.

We did not skip the 76 pages with detailed information about the many classes of poisons plants have evolved over hundreds of millions of years to discourage animals from eating them, especially their babies, which come protected by hard shells, spines, poisonous coatings.

Some fruits have evolved to collaborate with animals. Avocado for example, a berry, has delightful flesh and a seed encased in a hard shell, evolved to be swallowed whole and dumped undigested into a pile of fertilizer. Same with apple seeds. You know when you bite some that there is cyanide in their shell.

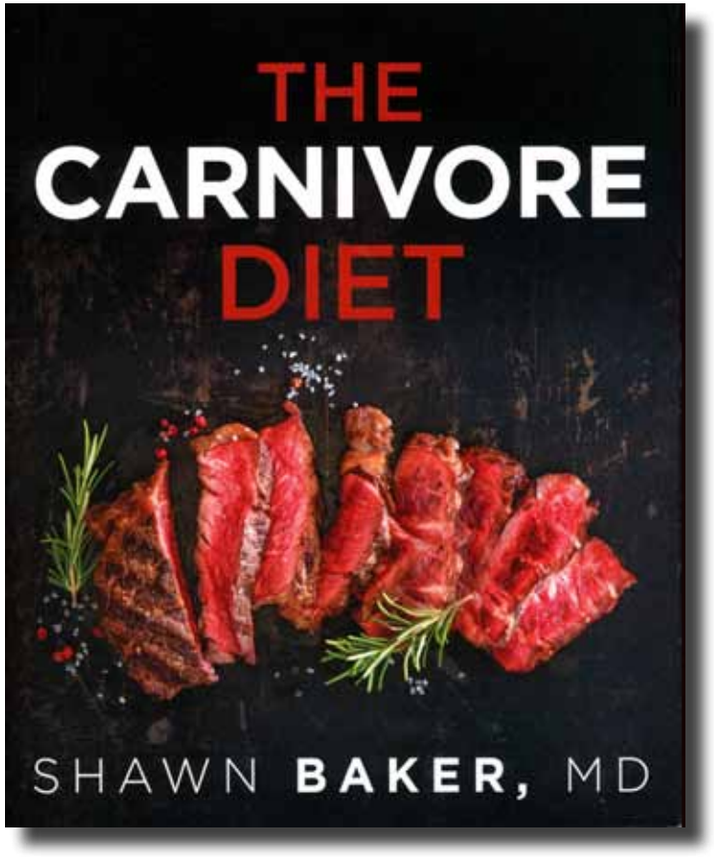
Dr. Saladino explains over and over the crucial difference between epidemiological and interventional research designs.

We found it persuasive and decided to eliminate plants—completely at first, adding back benign plants later on.

A carnivore diet, animal (nose to tail) plus eggs, seafood, sour cream, cheeses and the like, provides the most nutritious food on the planet.

For that report on what causes PD: *www.forssell.com/WhatCausesPD.pdf*

The long way around: Good Information about Chemical warfare



This volume is a much easier read and better illustrated than the Carnivore Code, with nice information about nutrition.

On pages 82-83, Dr. Baker reports on ***The Carnivore Diet and Degenerative Disease***, with a list of ailments that respond positively to the carnivore diet.

It is very helpful to read about the same important issues from a slightly different angle, with slightly different suggestions about the major benefits to our long-term health.

Dr. Baker discusses benefits:

www.forssell.com/CarnivoreDietBenefits.pdf

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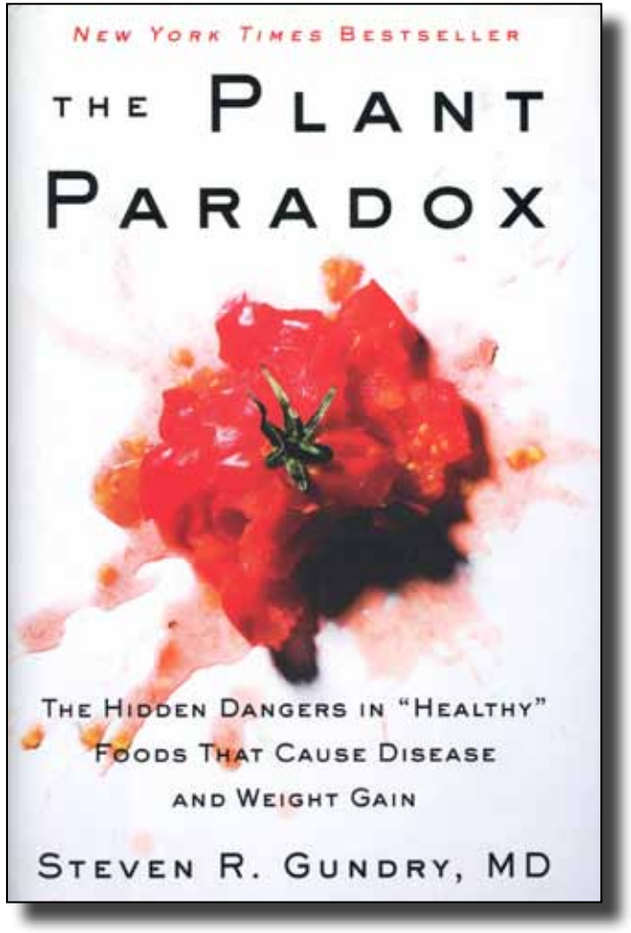
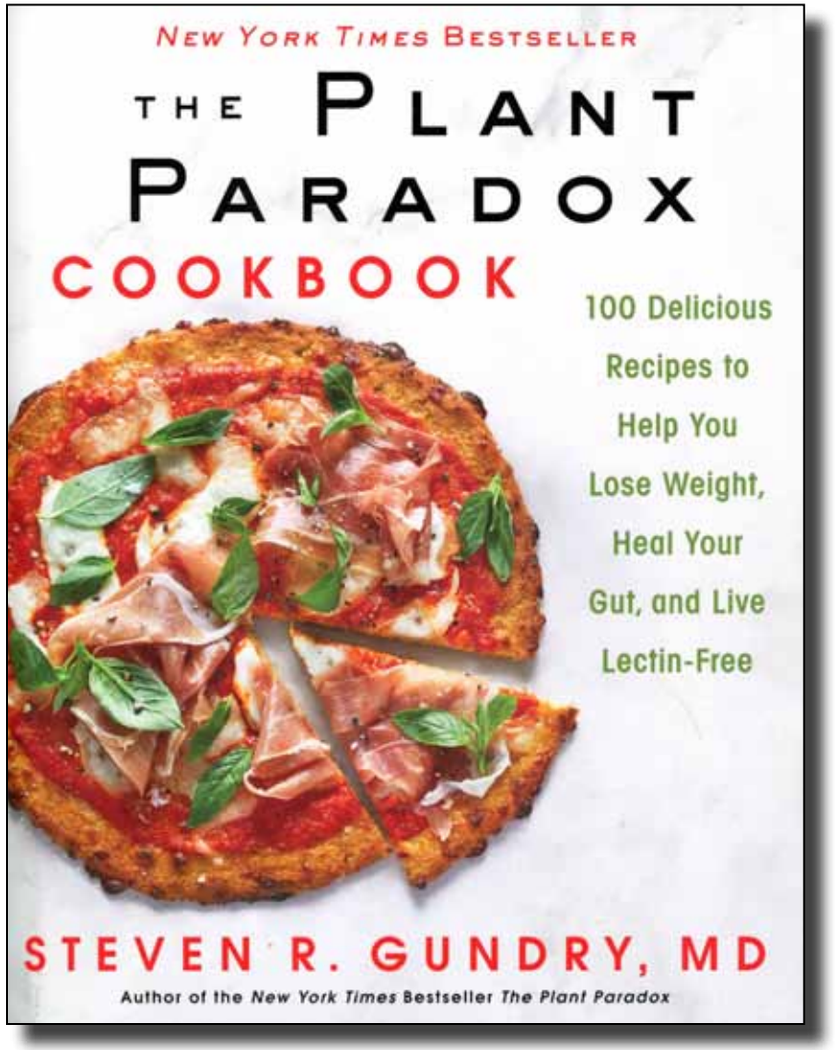
The long way around: Good Information about Chemical warfare



Dr. Gundry covers much ground, including keto, with a focus on one major class of plant poisons: Lectins.

In chapter 10, he tells success stories regarding cancer, ALS, diabetes, kidney failure, and dementia.

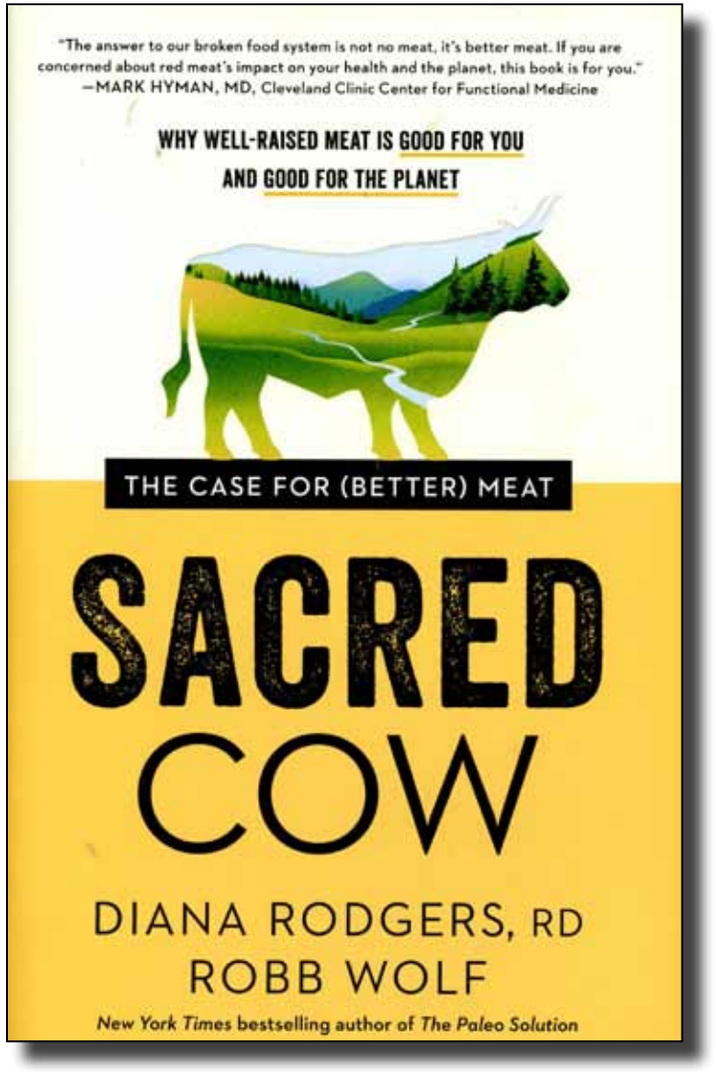
The long way around: Good Information about Chemical warfare



The two-page intro tells you what the program is all about.
Say “Yes, Please” to acceptable foods p. 29-31.
The “No, Thank You” list of Lectin-containing foods p 32.

www.forssell.com/Yes-No-List.pdf

The long way around: Good Information about Sustainability



An eloquent argument for sustainable food production, this volume compares bioavailability and density of nutrients in many plant and animal foods.

Diana Rogers' video shows the effects of agricultural practices that deplete soil and aquifers, leaving a lifeless landscape. See ***www.sacredcow.info***

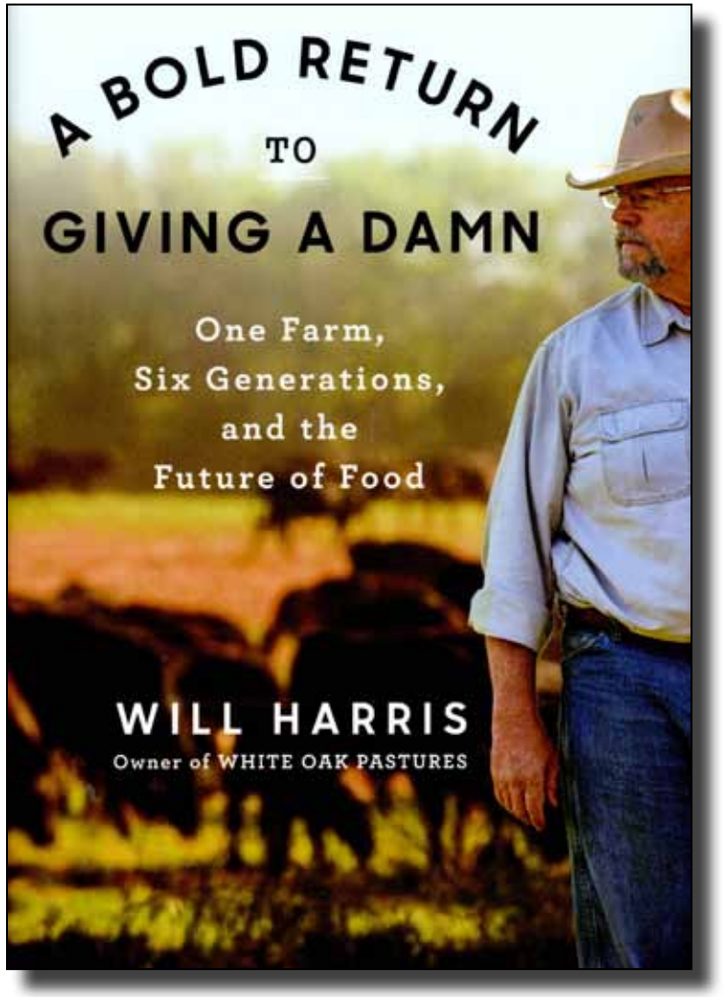
"*Sacred Cow* is a comprehensive, well-documented treatise that provides us with all the scientific data we need to make informed choices about how to eat that will benefit both ourselves and our planet!"

—FREDERICK KIRSCHENMANN, PHD, distinguished fellow at the Leopold Center for Sustainable Agriculture at Iowa State University

"Abandoning animal agriculture might well be the greatest mistake humanity could ever make . . . Evidence defending animal-based foods and farm animals as essential for human health and agricultural sustainability is strong—as clearly documented in *Sacred Cow*."

—JOHN IKERD, PHD, professor emeritus of agricultural and applied economics at the University of Missouri

The long way around: Good Information about Sustainability



"If I could have one wish it is that every eater in America would read this book. Smart, funny, and compulsively readable, it explains everything you need to know about why our food is so bad and what we can do to fix it."

—**RUTH REICHL**, author of *Save Me the Plums: My Gourmet Memoir*

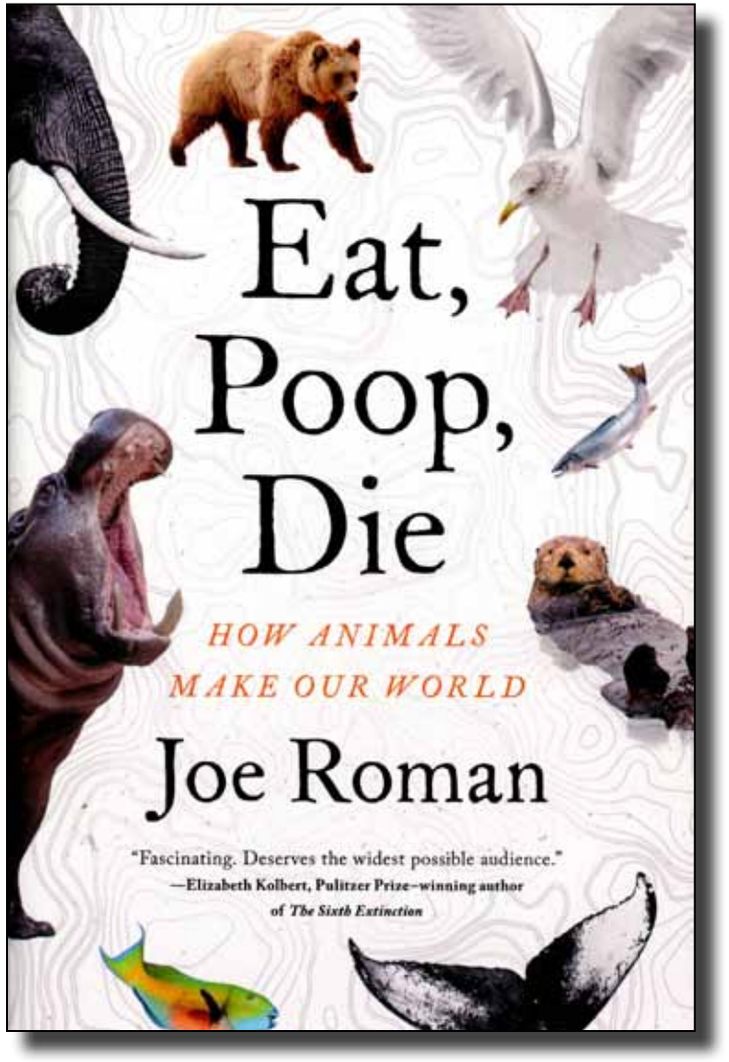
"Will Harris is a visionary innovator who is successfully practicing regenerative agriculture....Today many people in conventional agriculture may choose to ignore this book, but in the future they will have to start following many of his practices. In every industry, the little people are the innovators."

—**TEMPLE GRANDIN**, author of *Visual Thinking: The Hidden Gifts of People Who Think in Pictures, Patterns, and Abstractions*

"This is a story that needed telling and there's no one better to tell it than Will Harris himself. It is a heart-stopping indictment of what our food system has become—by one who helped create it—and the stunning possibilities that opened up when he renounced it for a different way of raising food that has revitalized his land, its people, and their local economy, and inspired thousands."

—**ALLAN SAVORY**, founder of the Savory Institute and author of *Holistic Management*

The long way around: Good Information about Sustainability



Another page turner.

Animals moving about bring biomass, nutrients to large land areas, nourishing soil and entire ecosystems.

Salmon runs bring life to forests around the world.

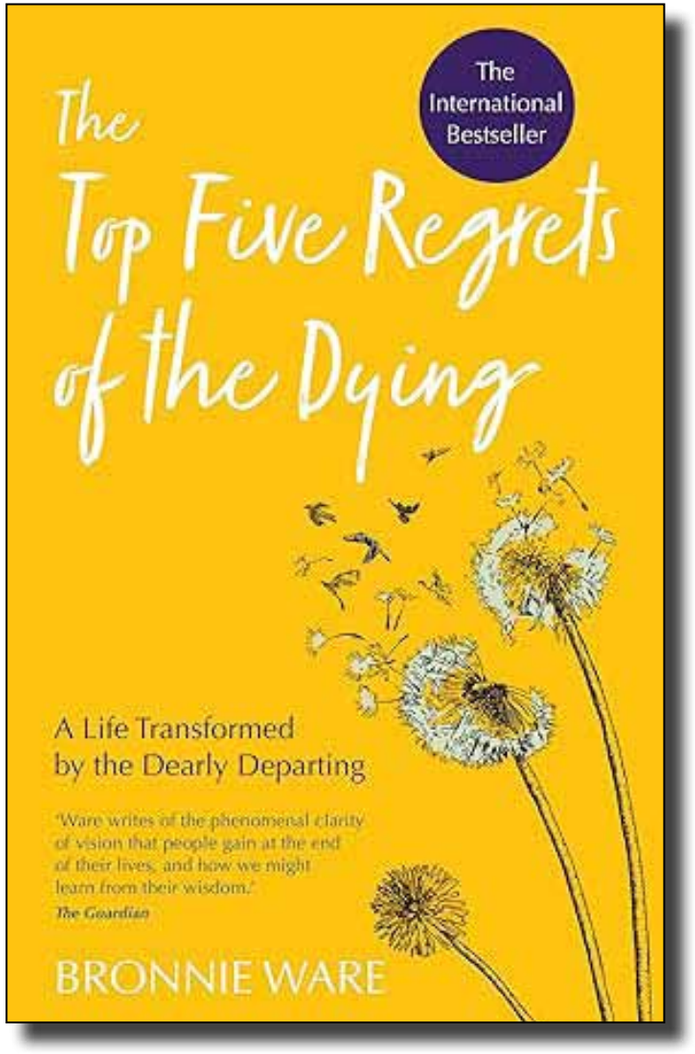
Bison brought life to prairies with pee, poop, hoof massage of the ground, and carcasses.

Wildebeest in Serengeti just the same today.

And more...

"Absolutely fascinating. A compulsively readable scientific exploration of earth's ability to sustain life, but also a collection of entertaining anecdotes from Joe Roman's career as a biologist who has spent a considerable amount of time studying…well, poop. *Eat, Poop, Die* helped me to better understand our planet and gave me a fresh burst of motivation to advocate for it." —Shelby Van Pelt, *New York Times* bestselling author of *Remarkably Bright Creatures*

Advice for living



Events, research, and developments over the last five years add up to an intense learning experience.

I consider myself fortunate to have several things I care about, things that give my life meaning.

I want to share what I have learned.

I don't remember how or where I found this book, but much to my surprise I found

The Top Five Regrets of the Dying

to be all about living well, not death.

Highly recommended

www.bronnieware.com/blog/regrets-of-the-dying/

Another resource I discovered through our Hospice experience and have benefitted from is

https://www.thehospiceheart.net/

https://www.facebook.com/thehospiceheart.net

A great information resource for dealing with decline and death with a focus on preparation, love, and comfort.