

THE BIG IDEAS

How to Conquer Cancer

Take a different route up.

The Truth

But only in small doses.

Dogma vs. Science

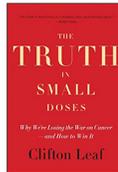
Escape one to enter the other.

Preemption

Is huge. Go metabolic!

Counting

The truth in large doses.



The Truth in Small Doses

Why We're Losing the War on Cancer—and How to Win It

BY CLIFTON LEAF · SIMON & SCHUSTER © 2014 · 512 PAGES

“Others may contend that reporting on the lack of progress made against cancer steals precious hope from those who need it most. With each life saved, with each report of success, they say, comes renewed hope for those newly diagnosed and for their loved ones.

I do not dispute the raw power of hope. I have felt it myself, believed in its magic to help me through my own bout with cancer long ago. I have seen my mother rely on it, wield it, call it forth in the darkest hours of her own fight. None of us, perhaps, could live without it.

But for hope to be more than mere wishing, it needs vision; it needs a commitment of will; it needs a clear perspective on where we are and where we need to go.

And for that, it helps to know how we got here.”

~ Clifton Leaf from *The Truth in Small Doses*

This is the ninth Note on cancer we've done so far. (Check them all out [here](#).) I picked this book up after [Travis Christofferson](#) referenced it a couple times in *Tripping over the Truth*. I've been looking forward to reading it, but held off as I focused on super-practical books on the metabolic approach to cancer that have empowered my brother in his quest to conquer his cancer.

Clifton Leaf is a great writer and the Editor-in-Chief of *Fortune* magazine. He tells us that nine years before he wrote this book he began his reporting on cancer with a five-word question: *How did we get here?* (btw: My five word question when my brother was diagnosed: *How do we conquer cancer?* ← His and yours and everyone else's...)

Specifically, Leaf wanted to know: How did we get to a point, 40+ years after Nixon declared War on Cancer, where the real death rate is, essentially, the same as it was in the 1950s? (Despite what we've been led to believe and all the cash spent.) That's a great question. And, he provides a powerful look at what's gone wrong and how to fix it. (Get a copy of the book [here](#).)

Although wonderfully written (and I highly recommend it), I have to say it was a bit challenging for me to read at times. Why? In short: Because I think cancer is, at its core, a *metabolic* disease and Clifton's narrative is written from the prevailing “cancer is caused by genes” perspective.

To put it in perspective, the only reference to Otto Warburg (the godfather of the metabolic theory of cancer) was a chapter-leading quote that, a bit ironically, quotes Warburg from a speech he gave entitled: “*The Prime Cause and Prevention of Cancer.*”

Unfortunately, and I say this with deep respect, Clifton didn't actually talk about WHAT Nobel Prize winner Otto Warburg thought was “*The Prime Cause and Prevention of Cancer.*” (Hint: He thought the prime cause of cancer was metabolic dysfunction.)

Which is truly unfortunate, because a) I'd LOVE (!!!) to hear what Clifton and his brilliant mind think about Warburg's ideas (and, of course, the metabolic theory argued for by its #1 modern

“Despite the seemingly endless procession of discoveries in the lab, despite the spate of recorded ‘wonder drugs,’ the deadliest malignancies are still nearly as deadly in 2013 as they were at the start of the cancer war. Fewer than a fifth of Americans diagnosed today with a cancer of the lung, pancreas, liver, or esophagus are expected to live five years. Likewise, cancers of the stomach, brain and ovary largely remain the killers they were at the start of the cancer war.”

~ Clifton Leaf

proponent, [Thomas Seyfried](#) whose journal articles and book [Cancer as a Metabolic Disease](#) we profile); and, b) I think Warburg's framework provides the most powerful answer to the subtitle's provocative statement "*Why We're Losing the War on Cancer—and How to Win It.*"

Update: After typing that I realized that, perhaps, Clifton has updated his thinking on the subject (the book was written in 2013; I'm writing in 2018). Enter: Google: "Clifton Leaf Otto Warburg."

First result: BINGO! A *Fortune* article entitled: "[The Deadly Link Between Sugar and Cancer](#)" in which Clifton dips his toe in the water and recommends Travis's [Tripping over the Truth](#) for more on the subject. Awesome. For now, let's explore a few ideas on how the war on cancer is *really* going. But first, let's start with the end of the book. :)

HOW TO CONQUER CANCER

"Without question, some of those discoveries have saved lives. However, America's four-decade investment in cancer research—a total of more than \$300 billion (inflation-adjusted) in taxpayer spending, private R&D, and donations—has not stopped, or even substantially slowed, the soaring cancer burden. 'More money' has not solved the problem."

~ Clifton Leaf

"Rising 14,692 feet into the air, the Matterhorn cuts the sky line like a stone arrowhead, a pyramid of rock so steep that even ice and snow lose their grip and tumble to the glaciers below. Jutting up from the border of Switzerland and Italy, the peak is a thousand feet lower than that of Mont Blanc, the tallest of the Alps, and lower even than several neighboring mountaintops. But for nearly eight decades following the ascent of Mont Blanc in 1786, the Matterhorn remained out of reach—the only peak in Europe that has never been summited."

That's the lead story (pulled from the *Encyclopedia Britannica*) in the final chapter (called "Matterhorn") in which Clifton walks us through his thoughts on how to win the war on cancer.

First, the story. Then, the strategy.

The Matterhorn was the last peak in Europe to be summited. It was a beast. People tried to summit it from a bunch of different routes. All without success.

Then one artist on assignment from London (named Edward Whymper) with no experience summiting mountains "*was struck by a hunch so irrational that he thought it had to be a revelation. In all the attempts to conquer the mountain, none had attacked from the northeast. The reason could not have been more obvious: viewed from the Swiss village of Zermatt, the Matterhorn was a towering, featureless wall of stone.*" "*But what, the artist wondered, if its sheer face was an illusion: a trick of light and distance and even popular imagination?*"

Long story a little shorter, our unlikely hero gave it a shot. An avalanche pushed him back. He tried again a month later and VOILA! "*What they found.... would amaze even the unwavering believer: it was a hidden 'staircase' of ridges leading them straight to the top.*"

The Matterhorn was conquered. And, that's perhaps the PERFECT metaphor for our quest to conquer cancer. NO ONE has been able to summit the beast that is Mt. Cancer via all the paths they've tried. Read: From the "cancer is caused by genes" approaches.

But... What if we've been approaching it from the wrong side of the mountain? What if cancer isn't primarily a disease of genes gone bad but an issue of dysfunctional energy metabolism (with genetic mutations as the downstream EFFECTS of the primary cause of metabolic dysfunction)?

Alas, that's PRECISELY what Travis Christofferson lays out in *Tripping over the Truth* and what we've been talking about in all the prior Notoes on cancer.

When we look at cancer as primarily a *mitochondrial metabolic* disease, it's as if a STAIRCASE appears out of nowhere that allows us to climb the unclimbable mountain. (Seriously.)

Having said that, Clifton focused his big brain on the astonishing inefficiencies in the cancer research culture and presents great ideas on how to go about Optimizing it—bringing us all the way back to Day 1 and how we *should* have started with more of a NASA-inspired, mission-driven model rather than the approach we took.

The connection to NASA and space exploration makes me think about leading metabolic researcher Thomas Seyfried's final words in his treatise *Cancer as a Metabolic Disease*.

Here's how he puts it: *"It is important to recognize that my view of cancer as a metabolic disease is not part of the mainstream view of cancer, which is viewed as an incomprehensibly complex genetic disease. Support for my position comes from a perusal of the articles in the Science issue commemorating the anniversary of the US National Cancer Act. No aspect of cancer metabolism was mentioned in this issue. As mentioned in Chapter 10, the failure to discuss the role of energy metabolism in the origin of cancer would be like failing to discuss the role of the sun in the origin of the solar system. Should we be surprised that the same questions remain unresolved after 40 years? Should we be surprised that most targeted therapies developed from the cancer genome projects have been a costly waste of time? Should we be surprised that so little progress has been made in managing advanced cancers?"*

So... Stating the obvious: We never would have landed a man on the moon if we still thought the (flat) earth was the center of the universe. And, guess what? I don't think we're ever going to conquer cancer as long as we think genes are the cause of cancer.

It's time to step out of the nucleus where we're obsessed about genes and step into the cytoplasm where we can see the mitochondria. Then step back even further out of the tumor so we can see the terrain. Then... VOILA. Enter: The Metabolic Protocol.

That's our staircase that takes us all the way to the summit of Mt. Cancer.

PATIENTS, CONQUERORS, TEACHERS AND THE TRUTH

" Even four decades ago, most patients with early-stage disease lived at least five years. But patients with metastatic cancer still face nearly the same dire odds they did at the start of the cancer war."

~ Clifton Leaf

"The soap opera continues for another page and a half—at which point the aim of the pamphlet becomes clear. It answers the tortuous question that confronted every family hit with cancer: 'How much truth can a patient face?'

Some patients, when told, are so overwhelmed they might give up the struggle the booklet explains. Others become rash and suicidal. Yet to tell the person nothing of his or her malignancy risks having the family member resist urgently needed treatment, such as surgery.

In the end, the pamphlet's author makes the only appropriate resolution to this dilemma clear: 'What the patient is told about his illness is for the doctors to decide.' And the doctor's best approach is to offer 'truth in small doses.'

Here, in these four words, lies the heart of the cancer culture."

That's from the end of a chapter called "The Truth in Small Doses" in which we discover the origins of the title of this book.

Clifton picked up the "truth in small doses" line from a pamphlet called "When a Family Faces Cancer" that was published in 1959 by the Public Affairs Committee in cooperation with the American Cancer Society.

Where to begin with that passage? (Hah.)

First, let's refer back to the ancient etymology of the word *patient*. By now (if you've read the Notes in order) you know what the word literally means. As we discussed in [Radical Remission](#), the word *patient* comes from the Latin word *pati* which literally means "to suffer" or "to submit."

In this case, of course, the "patient" submits to the authority of the doctor who gets to decide who knows what and tends to deliver the "truth in small doses."

I *strongly* prefer a VERY different dynamic.

Recall that, as we discussed in *Radical Remission*, the opposite of "to submit" is "to CONQUER."

Patient = one who submits. CONQUEROR = one who conquers.

Slightly different orientation, eh?

All of which makes me think of James Stockdale—the commanding officer of hundreds of prisoners of war in Vietnam. Stockdale was also a Stoic philosopher. Jim Collins told us about what he called “[The Stockdale Paradox](#).”

“There were 567,628 deaths from cancer in 2009, some 62,000 more than there were in 1990. How was it possible that an additional 62,000 cancer deaths per year could translate into a celebration? (Sixty-two thousand deaths is more than US losses from the entire Vietnam War.) How could anyone have scanned the rising toll from cancer, decade after decade, and concluded that the ‘news had never been better’?”

~ Clifton Leaf

Very short story: We need to simultaneously have a deep, abiding confidence that we will, ultimately conquer our challenges (even if that means gracefully navigating the premature end of our lives) AND we need to be willing to embrace the facts of reality. Period.

As Stockdale put it, the naive optimists who ignored reality were the ones who died first.

In this context, we need to know the truth. Specifically, we need to look at the efficacy of the “standard of care” approach and then map out our strategy accordingly. Not as “patients” submitting to anyone else’s authority but as the Conqueror-CEOs of our own healthcare, committed to doing everything in our power to conquer cancer.

On that note, wisdom from [Outside the Box Cancer Therapies](#) comes to mind. They make the VERY important point that, basically, the more aggressive (and late-stage) the cancer, the *less* effective traditional care tends to be and the *more* aggressive WE need to be in mapping out our own integrated battle plan.

Here’s how they put it: “*We will often highly recommend standard cancer therapies in a ‘high survival’ cancer (with a well-rounded integrative oncology program), even though it may be similar for a low stage cancer. On the other hand, a high-stage cancer where survival is much lower and effects of standard treatment would more likely cause harm than remission, we will often tip the balance in the other direction and focus on an aggressive integrative approach.*”

P.S. Do you know the ancient etymology of the word *doctor*? It’s from the Latin word *docere*—which means “to teach.” So... What a doctor should *really* be doing is TEACHING US how to conquer cancer. Alas, we can’t teach what we don’t know. Therefore, let’s get back to assuming the role of CEO/Conqueror and putting together a team of “teachers” worthy of advising us.

DOGMA VS. SCIENCE

“Just like that, scientific truth had changed. The sun didn’t revolve around the earth. The earth wasn’t flat. And human cells carried twenty-three—not twenty-four—pairs of chromosomes. ...

Over a period of at least thirty years, many scientists—people trained to challenge conventions, to mistrust their own ingrained biases, to sharpen their instinct of skepticism—refused to question a finding that they had suspected was wrong. They’d accepted as incontrovertible fact something contrary to their own investigation and experience.

The question is, why? Why had so many scientists abandoned science when confronted with dogma?”

That’s from Chapter 1: “Counting” in which we discover that, when you actually do the math, you CLEARLY see that we are NOT winning the war on cancer. More on that in a moment.

For now, let’s talk about the story that preceded this passage. Get this: At one point we were certain that human cells had twenty-four pairs chromosomes. Textbooks were printed elucidating this scientific FACT.

Then... Someone pointed out the FACT that we had *twenty-three* pairs of chromosomes.

Oops. “*The sun didn’t revolve around the earth. The earth wasn’t flat. And human cells carried twenty-three—not twenty-four—pairs of chromosomes.*”

And, most importantly for our purposes regarding applying this wisdom to cancer: “*Just like that, scientific truth had changed.*”

"Our current system is designed not to solve problems, but to produce studies."

~ Clifton Leaf

But here's the thing: Scientists had their doubts about it for a long time. But no one said anything. They just went with the accepted "dogma" rather than practice true SCIENCE.

And, get this: One of the leading textbooks of the day actually had a picture of "*the human karyotype (the complement of chromosomes divided in matched pairs)*" that "*clearly showed forty-six chromosomes. The photo caption, however, read forty-eight.*" → "*The question is, why? Why had so many scientists abandoned science when confronted with dogma?*"

That makes me think of Seyfried again. He tells us: "*In summary, the origin of carcinogenesis resides with the mitochondria in the cytoplasm, not with the genome in the nucleus. How is it possible that so many in the cancer field seem unaware of the evidence supporting this concept? How is it possible that so many in the cancer field have ignored these findings while embracing the flawed gene theory? Perhaps Payton Rous was correct when he mentioned 'the somatic mutation theory acts like a tranquilizer on those who believe in it.'* I attribute the absence of any real progress in the war on cancer over the last 40 years to the flawed concepts of the somatic mutation theory, and to the failure in recognizing mitochondrial dysfunction as a credible scientific explanation for the origin of the disease. The failure is an inexcusable tragedy ultimately responsible for the deaths of millions of cancer patients."

PREEMPTION: METABOLIC STYLE

"Imagine," said Sporn, "that instead of intervening early in the process of say, heart disease, we had poured tens of billions of public health dollars into developing better defibrillators ... and faster ambulances to get heart attacks to the hospital? What if we had treated heart disease like an event to react to rather than a long process to stop at the beginning (or even the middle)? What if we had approached this leading killer, in other words, the way we have approached cancer—how many millions of people would have died too soon?"

Mike Sporn is a legendary cancer researcher. He's one of the most cited researchers and was an early proponent of "Preemption" (which is the name of the chapter in which we meet him). The basic idea of the "preventionists" makes ABSOLUTE sense.

"If the people funding our cancer research were the ones funding our first boatbuilders, [former CEO of Intel Andy] Grove told me, no one would ever have sailed an ocean. We'd still be studying the basic questions of flow dynamics," he said.

~ Clifton Leaf

It's a LOT easier to *prevent* cancer than it is to treat it. And... This is another place where it's kinda hard to read the book. Why? Because, when viewed from a METABOLIC perspective (rather than, echo, a genetic perspective), the conventional approach to finding the "biomarkers" we can detect that will allow us to use medical "chemoprevention" to preempt the disease appears to me to be a bit misguided and unnecessarily complex.

To quote Seyfried again: "*It is my opinion that many cancer researchers, through their propensity to focus on gene mutations and mechanisms of action, have made the quest for cancer management far more complicated than it actually is.*"

In short: Why look for a super-complex *genetic* marker for a cancer when you can look for a constellation of super-simple *metabolic* markers?

Part of a longer chat, but if we view cancer as a *metabolic* disease, you pay a LOT of attention to simple *metabolic* panel markers. Things like fasting glucose and hemoglobin A1c (a 90-day trailing look at blood glucose) then throw in a systemic inflammation marker (like hs-CRP) and Vitamin D for good measure. All EASILY modified by nutrition and, from a mitochondrial metabolic perspective, super important biomarkers. (Again, my brother went from diabetic to healthy glucose in 5 weeks. And his PET scan left his oncologist saying he couldn't see his (pancreatic Stage IIB) cancer and that he'd do what we're doing if he was in our position.)

COUNTING: THE TRUTH IN LARGE DOSES, PLEASE

"To grasp this drama, one has to look at the raw numbers. From 1970 to 2010, America's

"Unmentioned in the tally of survivors is how many are likely to relapse after the five-year benchmark or succumb to metastases later on. ... Nonetheless, in official recordkeeping, a patient who dies after a grueling six-year fight with breast cancer is placed in the 'survived' category. (By such accounting, the late Elizabeth Edwards is considered a treatment success.)"

~ Clifton Leaf

population swelled by more than 100 million. Its residents aged and fattened. Yet there were 138,000 fewer deaths from heart disease in 2010 than in 1970. ...

The pattern holds, strikingly, for causes of death that have nothing to do with chronic illness—from fire-related fatalities to accidental drownings to deadly strikes of lightning. Even to car accidents. America's highways now carry 140 million more vehicles than roads did in 1970. Freeways across the country snarl with congestion. *Road rage* has not so quietly entered the lexicon. And still there were 19,000 fewer motor-vehicle-related fatalities in 2010 than in 1970.

The tale can be summed up in a single syllogism: Over the past four decades, the crude mortality rate for all the myriad causes of death *apart* from cancer, considered together, has dropped 24 percent. The same rate for cancer, meanwhile, has climbed 14 percent.

Some 580,000 Americans now fall to [cancer's] menace in a single year—as do an additional 7 million people around the globe.

No great insight or observation is required to see that we are far from victory in the long war on cancer. It takes no leap of logic to conclude that our strategy is flawed. All it takes is a little counting."

I tend to deliberately wrap up these Notes with a super-positive Idea. I kinda inverted the order with this one. Having said that, there is a TON of vigorous hope in the truth in LARGE doses.

The big dose of truth isn't palliative—but it is catalytic as it forces us to reconsider our approach.

I say we lace up our conqueror-style mountain climbing shoes and go up the METABOLIC side of the mountain. <— What we'll find may "*amaze even the unwavering believer.*" If you look closely, you might just see "*a hidden 'staircase' of ridges leading them straight to the top.*"

Sending love to you and your loved ones along with a fierce, urgent resolve to conquer cancer,

B

Brian Johnson

If you liked this Note, you'll probably like...

[The Truth in Small Doses](#)

[Cancer as a Metabolic Disease](#)

[The Metabolic Approach to Cancer](#)

[Radical Remission](#)

[Keto for Cancer](#)

[Anticancer](#)

About the Author of "The Truth in Small Doses"

CLIFTON LEAF



Clifton Leaf is Editor in Chief at *Fortune*, where he directs the editorial content and brand strategy across all of *Fortune's* platforms. Previously, he served as deputy editor at the magazine, and before that was a guest editor for *The New York Times* op-ed page and *Sunday Review*.

About the Author of This Note

BRIAN JOHNSON



Brian Johnson loves helping people optimize their lives so they can actualize their potential as he studies, embodies and teaches the fundamentals of optimal living—integrating ancient wisdom + modern science + practical tools. Learn more and optimize your life at optimize.me.