

THINK AND EAT YOURSELF SMART

A NEUROSCIENTIFIC APPROACH
TO A SHARPER MIND AND HEALTHIER LIFE

DR. CAROLINE LEAF



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To all of you who want to live a healthy, integrated life, spirit, soul, and body, and who recognize the power of the mind—this book is dedicated to you.

To all of you who recognize the responsibility of stewardship of this beautiful earth God has so graciously given us—this book is dedicated to you.

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The hours that go into a scientific book of this nature are endless. It is therefore always an exciting and satisfying intellectual challenge to be able to feed the bottomless pit of researching and reading and thinking. And as information is conceptualized and formed into ideas that can be expressed logically—an endeavor that never has an end because of the nature of science being a continual cycle of discovery—a highly skilled research assistant becomes imperative to the success of a project of this nature. To this end, I acknowledge Jessica, who not only became such an assistant but did so with excellent skill, professionalism, and brilliance. She helped me read through, evaluate, and think through the minefield that food and eating have become in the world today—a struggle we really had to target. We had so many discussions as she tirelessly helped research and make sense of a plethora of conflicting information. She helped connect multiple complex concepts and edited my writing with excellence and wisdom. She spent hours in the kitchen helping create and prepare our family's favorite recipes to put in this book. She encouraged me when I felt overloaded trying to finish a book in

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Prologue

You may have heard that our global food production system is deeply flawed. You're right. In fact, it's probably worse than you imagine. Fortunately, there's hope. It is possible for us to vote with our forks for better practices that respect our health and the health of the planet.

To begin voting for a better way, we need to increase our knowledge about food and food practices. We need to improve our shopping and cooking skills. And, most importantly, we need to change our attitudes toward food, health, healing, and nutrition. Once we have opened our minds to a new, healthy way of approaching food, and have started removing unhealthy foods and habits from our everyday lives, we will have entered a culinary world bursting with magnificent smells, tastes, sights, sounds, and feelings that will bring joy to both our mouths and our stomachs.

Yet such changes will require more than a bit of effort. This book is not a feel-good-quick-fix-magic-solution-pop-a-pill-latest-food-fad-I-have-the-only-solution diet. It is a *long-term, sustainable* challenge to a big problem: what to eat in our world today. It is an attempt to reintroduce a culture of *thinking and effort*

back into eating, one based on diligently stewarding the body and world God has entrusted to us. In the spirit of renewing the mind, it is a lifestyle book that seeks to reimagine what we eat within an integrated spirit, mind, and body framework (Rom. 12:2; 1 Thess. 5:23).

The mind is a key factor throughout this book. Thinking, as you will see, plays a dominant role in eating. Toxic thoughts can negate the positive effects of good nutrition. Healthy thoughts can enhance the effects of good nutrition and mitigate the effects of bad nutrition—to a degree. In fact, healthy thoughts lead to better food choices. Eating and thinking are so intertwined that what you are thinking about before, during, and after eating will impact every single one of the 75–100 trillion cells in your body, including the cells of your digestive system. Your state of mind will have a negative or positive influence on your digestive health, and your digestive health will also have a negative or positive influence on your state of mind.

One reason I felt convicted to write this book is because of the plethora of complicated and conflicting messages about food we are all exposed to. There is always someone new telling us they have the solution to everyone’s dietary and/or exercise habits, suggesting that if we don’t follow their advice we will surely drop dead. Even a lot of nutritional advice from so-called experts is often based on overblown correlations and inaccurate interpretations. And that is not even mentioning the \$50 billion supplement industry. I worked out that if I had to follow the advice of just one company, I would be taking up to sixty-five different tablets, three times a day!

The fact is we are all unique, which means that a way of eating, exercising, and sleeping that works for you may not work for me, even if it is a healthy lifestyle and a *real* food diet, which I will discuss in part 1. Let’s take juicing as an example. This has spiraled in popularity and for good reason; it is a great way of getting all those necessary fruits and veggies into your daily intake. But I personally get very lethargic and uncomfortable after drinking any

type of juice (and I have pretty much tried every combination). I prefer to get my daily intake of veggies in other ways. So this book will not give you the solution but rather teach you how to be your own solution, with the help and guidance of the Holy Spirit.

Rather than getting caught up in whether we should go paleo, vegan, vegetarian, gluten-free, plant-based, raw vegan, or follow the blood type diet or even genetic typing (to mention just a few diets that are popular today), it would be much better to understand the fundamentals of eating, the completely entangled relationship between thinking and food, and how our uniqueness spreads throughout our spirit, soul, and body.

The book is divided into three parts that will help you begin approaching these issues with a renewed mindset. Part 1, “Admit It!” deals with the dysfunctional state of our current food system, and how far it has become removed from the concept of *real* food—the *real* food system God gave us. Part 2, “Quit It!” focuses on the power of the mind and the impact of toxic thinking and toxic food choices on the brain and body. Part 3, “Beat It!” deals with lifestyle changes that can help you begin the task of thinking and eating yourself smart. It includes twenty-one of my family’s favorite recipes, which can help you apply these lifestyle changes in your kitchen and your tummy!

I am not a dietician, nutritionist, or medical doctor. My area of expertise is the mind, and I have approached eating from this perspective. After extensive research for years in aspects related to mind, brain, and body health from a scientific perspective, I personally do not think you have to have a degree in nutritional science to know what you should put in your mouth. I think the fact that we feel we cannot even make our own food choices anymore without the help of an “expert” is a sign of just how broken our food system has become. Indeed, the field of nutrition is massive, and the research is so extensive that it is not possible in a book of

this size or nature to present all sides of every argument. To this end, I have had to be selective and have included as many original sources as possible to encourage and empower you to make your own choices—to encourage and empower *you* to think and eat yourself smart in every area of your life.

God has given us a choice: life or death, blessings or curses (Deut. 30:19). He has also given us, through the incredible *power* in our *sound* minds, the ability to act on these choices and transform our world (2 Tim. 1:7).

And the world we live in desperately needs transformation. Today, nearly a billion people are hungry and almost two billion people are overweight or obese.¹ Indeed, for the first time in our recorded history, millions of people across the world are both overweight and starving: dying of lifestyle diseases that are preventable.² The exploitation and waste of the earth's natural resources, partnered with a dramatically expanding world population and increasing levels of chronic diseases, have led many to question what we should eat, how people will eat, and the way in which our current food production system has contributed to these issues.

Despite all our advances—and there are many to be proud of—millions of people are condemned to live out their days in doctors' offices or dying of extreme hunger; the rest of us are confounded by the latest nutritional advice, marketing campaigns, and calorie-dense foods of a global food industry. What exactly is stopping us from avoiding illnesses and premature deaths that are largely preventable? How have our choices led us down this destructive road, away from God's perfect plan for our lives (Jer. 29:11)?

These tragic facts compel us to question the way we *think* about our food. As the stewards of God's creation (Gen. 1–2), we are not only responsible for our own wellbeing—spirit, soul, and body—but that of the entire world: a world that God so loved that he was willing to send his one and only Son to save it (John 3:16).³

We can change nothing until we fully comprehend what needs to be changed. Just as every action first begins with a thought, we,

as the children of the Creator of this beautiful universe, first have to understand the broken food system we face (Col. 1:15–20). We have to take these thoughts captive unto Christ Jesus, asking him to guide our minds and show us the way forward (2 Cor. 10:5). And, as we renew the way we think about what we eat and how we eat it, we take the first step to renewing our health and the health of God’s wonderful planet (Rom. 12:2).

Only after we admit it can we quit it and beat it.

The choice is ours.

PART 1

ADMIT IT!

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1

Real Food and the MAD Way of Eating

Today, the McDonald's logo is more recognizable than the Christian cross.¹ And just as the cross represents Christianity, the McDonald's *M* can be seen as the image of what has come to be known as the Western Diet, appropriately referred to by its acronym MAD: the Modern American Diet.²

The Diversity of Diet

Throughout our history, human beings have survived, and thrived, on a diversity of diets.³ The early Hawaiian peoples, for example, ate a diet that could be called “high carb” in today's nutritional language, with the majority of their calorie intake derived from the foods traditionally grown on the island.⁴ The African Maasai tribe's traditional diet, one that my own husband Mac grew up on, largely consists of grass-fed beef and dairy products, including

cow's blood. The people that inhabit the Japanese island of Okinawa have customarily eaten a largely vegetarian diet, with limited amounts of fish and meat products.⁵ Traditional cuisines are as diverse as they are delicious.

Human beings are also able to adapt to different ways of eating over time. The original researchers who examined the Mediterranean diet, for instance, found that it took several weeks for foreigners on Crete to adapt to the diet, and in particular the olive oil consumption, of the native islanders. Indeed, after suffering quite a bit of initial gastric discomfort, these foreigners reported an improvement to their overall eating habits and health after several weeks.⁶ Similarly, over time certain populations have become better adapted at digesting starch, resulting in a greater number of AMY1 copies of the enzyme amylase in their genes, which enable these individuals to break down carbohydrates more easily.⁷

Indeed, differences in diet are found not only between communities but within them as well. In my family alone, we have had to learn how to navigate a diverse range of foods. I can only tolerate bland meals and get ill from fungi, gluten, avocado, and tree nuts. My husband and three daughters, however, adore avocados, mushrooms, and nuts, and eat rich, spicy foods. Yet my two eldest daughters cannot digest lactose well, while my youngest daughter has a love affair with cheese. My son, on the other hand, can eat anything, including gluten and dairy. Trying to decide what we are going to have for dinner is quite a challenge, as I am sure you can imagine!

A consistent theme across dietary research is that there is no *one* way of eating that works perfectly for everyone. God created fats, carbohydrates, proteins, and all the other important nutritional building blocks that make up the food we eat—all perfectly and intricately balanced within *real*, whole foods. Essentially, we all have to safely experiment within the context of our unique situations, and, like Daniel in the Babylonian court, find a way of eating that is God-centered, enabling us to thrive and carry out

God's will (Dan. 1). We are fearfully and wonderfully made, and our uniqueness pervades every part of our lives, including what we eat (Ps. 139:14). We, like Daniel and his companions, have to find a way of eating that suits us, so that we can run the race that God has set before us (Heb. 12:1).

Real Food Is Wired for Love

Yet there is one thing the cultures discussed above have in common: *they eat real food*.⁸ This may sound obvious at first. What else can we eat, besides real food? Unfortunately, this is where the MAD is unique. Despite the apparent diversity of foodstuffs in our grocery stores, restaurants, and homes, many of the products available for purchase today are industrially manufactured “food-like products,” as journalist and activist Michael Pollan calls them.⁹ They contain unfamiliar substances that extend shelf life and flavor, and are often derived from just three highly processed commodities: corn, soy, and wheat.¹⁰

Real food is food grown the way God intended: fresh and nutritious, predominantly local, seasonal, grass-fed, as wild as possible, free of synthetic chemicals, whole or minimally processed, and ecologically diverse. It is grown according to God's multifaceted genius, transfused throughout interconnected ecosystems, because he created our ecosystems.

If there has been one consistent theme across the research I have done for this book, it is that our food systems are *wired for love*: when we care about the way our food is produced, and care about “what the animals we eat, eat,” we consume foods that are the most nourishing for us.¹¹ For instance, humans (like many other species) are most attracted to fruits when they are fresh, ripe, and succulent, which also happens to be when these fruits are incredibly nutritious.¹² Similarly, animals that have been treated humanely and allowed to roam in an ecologically rich environment are more

nutritious for us to consume, with a higher omega-3 fatty acid content, to mention just one of the many benefits.¹³ *Seasonal*, *natural*, and *local* are not just trendy bywords. These words actually indicate food choices based on a growing body of evidence on the benefits of locally produced foods grown in strong, diverse ecosystems and eaten as fresh as is possible in a world where not everyone is a farmer. Indeed, many of the best chefs source local, organically grown foods not necessarily for their nutritional benefit but for their wholesome and rich flavor—good nutrition and good flavor are inseparable.¹⁴

Organic versus Conventional Agriculture

To understand what *real food* means, we need to examine a hot topic: organic agriculture. The terms *organic* and *conventional* are controversial and have many interpretations. Essentially, organic farming is mainly based on biology, or “using living organisms rather than synthetic chemicals,” while conventional farming is mainly based on chemistry, using synthetic substances such as pesticides and growth hormones.¹⁵

Over the past several decades, conventional agriculture has come to dominate global food production. This dominance has helped to produce the modern food industry, with its large supermarkets and fast-food establishments, through increased yields at lower prices.¹⁶ Organic farming, because it rarely uses chemicals, has to adapt to the local environment. This adaptation promotes biodiversity through smaller and more varied yields.¹⁷ Organic farms are therefore generally considered more ecologically sustainable; they use roughly 30 percent less energy than conventional agriculture and are less toxic to living organisms.¹⁸

The synthetic chemicals used on conventional farms are, of course, tested for safety before application. Yet they are examined individually and in laboratories, not in the complexity of the real

world. For instance, one pesticide in residual amounts may be certified as safe for human consumption, but what of the combination of all the chemicals used?¹⁹ With an estimated 516 million pounds of pesticides sprayed on conventional crops each year in the United States alone, this question should deeply concern us.²⁰ What is the cumulative effect of these artificial substances, particularly in our chemically laden world, where over a hundred synthetic substances are in our bodies at any given moment?²¹ And what of the estimated two hundred million pounds of toxic substances that industrial agriculture leeches into American water systems per year?²² As biologist and Berkley professor Dr. Tyrone Hayes notes, it is akin to your doctor giving you potentially harmful pills without asking you what other medication you are taking.²³ Additionally, more and more research suggests that even residual, “safe” amounts of chemicals may in fact be more damaging than larger amounts, particularly on the endocrine system.²⁴

We also have to ask ourselves how applicable these laboratory studies, mainly carried out on animals, are in terms of human health. We cannot subject humans to similar laboratory testing for ethical reasons (although I certainly agree that there are serious considerations concerning animal testing as well). Yet results from studies done on animals *do not* prove beyond all doubt that such chemicals are safe for human ingestion.²⁵ Animal studies are ultimately just that: *animal* studies. We cannot copy and paste results from these experiments onto real-life scenarios involving humans. Indeed, in science the absence of harm does not necessarily equal the presence of safety, since it is not a system of absolute certainty.²⁶

Unfortunately, synthetic substances are used not only in conventional agriculture but also in conventional feedlots, which is why organic animal products have several particular stipulations. For instance, the USDA requires that organic animals are raised on certified organic land, fed organic grasses or grains, never given antibiotics or growth hormones, and have outdoor access.²⁷ There is, however, room to interpret these regulations, regardless of how

happy the hens may look on the packaging.²⁸ For instance, “outdoor access” could be just a small patch of dirt in some large-scale certified organic farms, with limited opportunities for the animals to graze.²⁹

The Organic-Industrial Complex

When we start to talk about large-scale organic operations, some of the benefits of organic farming mentioned above become clouded. As Pollan points out in *The Omnivore’s Dilemma: A Natural History of Four Meals*, how environmentally friendly is the mass transportation of organic products across states, and indeed, across countries? What about the environmental impact of large-scale organic farming operations? And what of the occasional application of organic pesticides, sometimes applied in greater quantities than their synthetic equivalents for the same effect?³⁰

Since one of the founding ideals of the organic movement is the restoration of the relationship between consumer and producer, thereby restoring trust and mutual obligations in the arena of food production, the rise of an organic industry is perplexing.³¹ How can I know that my food is farmed, as far as possible, in an organic manner if I am so removed from the farmers who grow it? How fresh, nutritious, and “sustainable” is such a system, particularly when my vegetables are picked, shipped, and packaged many days, and sometimes even weeks, before I consume them?³² Thus, in choosing *real* food, we need to think about the spirit of organic agriculture rather than blindly accept the label “organic.”

Real Food and the Modern Supermarket

Now that we have a definition of *real* food and some idea of the difference between conventional and organic agriculture, we can

take a look at our local supermarket and assess how *real* the food sold there is.

Let's start with organic foods. The word *organic* has taken on an almost religious significance with consumers, yet here is a subtle trap: organic foods can also be refined, preserved, and highly processed. Organic cookies after your organic microwave TV dinner, anyone? The terms *organic* and *healthy* are not interchangeable.³³ We have seen that *real* food is “whole” food: unprocessed fruits and vegetables, meats, dairy products, nuts, seeds, and grains. *Real* food should, by and large, be processed in a kitchen, not a factory.

Foods that are packaged and transported hundreds of miles should come under our scrutiny, since this is another food industry snare. Organically farmed kiwi fruit from New Zealand, when you live in New Zealand, is a great option, yet the same cannot be said if you live in Texas. Why? Well, in order to maintain the shelf life and further improve the sight, smell, taste, and texture of these long-distance products—both organic and conventional—something has to be done to them to prevent them from rotting. These foods have to be processed in some way, even if the “processing” means picking the produce when it is unripe and adding gases to the packaging so that it withstands long-distance shipping.³⁴

Shipping foods over long distances drains the ability of these foods to truly nourish us. Broccoli, for instance, loses many of its nutrients two to three days after being picked, and most of its nutrients after a week.³⁵ Similarly, many citrus fruits are picked before they are ripe and sprayed with ethylene gas, so that you can buy a nice-colored fruit—a fruit that is not necessarily any more ripe and nutritious than its former green self.³⁶ “Fresh” in a supermarket does not necessarily mean that the fruit or vegetables were picked that day or week or even month.³⁷ In most cases, “fresh” just means that these foods rot sooner than the highly processed, sugary products found in the middle aisles of

the store.³⁸ Indeed, how “fresh” can your vegetables truly be if they have traveled fifteen hundred miles to get to the supermarket—the average distance that “food-like products” travel in the United States alone?³⁹

As much as it may sound logical to preserve our foods from rotting so we don’t get ill, we ought to first ask ourselves the simple question: Why do *real*, whole foods spoil in the first place? The answer is we are supposed to eat food that is as fresh as possible, much like manna given to the Israelites in the desert (Exod. 16). As Pollan discusses in *Food Rules*, the nutrients in most foods (with the exception of some foods such as honey) attract not only us, but also other living organisms, including the microbes that cause food to rot and make us ill.⁴⁰ To create foods that can last for days, weeks, or even months on the shelf, and can be transported across states and countries, food corporations have to reduce the nutrient content, while adding preservatives and additives to maintain freshness, flavor, and texture.⁴¹

The snare of “long-life” foods can directly affect our health. Take the average loaf of bread available today. To adapt the production of bread to the food industry’s goal of a large market for cheaply and efficiently produced foodstuffs, the wheat germ, which contains the natural oils that give bread its true, wholesome flavor and make it nutritious, has to be removed, since it causes bread to rot within a day. To make up for this loss of flavor and texture, the wheat, after it is heavily processed into white flour, is made into a bread-like product that contains preservatives and additives such as the infamous high fructose corn syrup (HFCS).⁴² Or, in the case of many organic packaged breads that last for days, organic sugars and other strange-sounding ingredients are added.

These preservatives and additives have serious side effects.⁴³ For instance, azodicarbonamide, a synthetic chemical used to manufacture rubber and plastic, is used in the United States as the food additive E927 to bleach flour and condition dough in industrial bread production.⁴⁴ This same chemical may cause respiratory

problems, such as asthma and allergies, in the workers who come into contact with it, while there are no conclusive studies that show the additive is safe for large-scale human consumption.⁴⁵ As a result, the World Health Organization (WHO) recommends that people should avoid this chemical as far as possible, since the risk of ingesting it is largely unknown, and a number of countries (such as the European Union and Singapore) have made its usage illegal.⁴⁶

Efficiency and affordability are often traps in themselves, with costs that are not apparent in the purchasing price of many modern foods. A major part of that hidden price is reduced nutritional content, the loss of wholesome flavor, and the impact these foods have on our physical health, in exchange for convenient meals with an extended shelf life in our pantries. Instead of taking the wheat germ out of the bread for our convenience, we should ask ourselves why God created wheat like that in the first place.

Yet even if we avoid the bread aisle, the architectural layout of the modern supermarket, designed to influence our food choices, poses a threat to our health. Grocery stores, for example, deliberately place candy and chocolate bars by the checkout counter in order to promote “impulse buying.” The less time we spend thinking about the health effects of consuming too much sugar, the more likely we will buy the candy.⁴⁷ Likewise, healthier products are often put close to the bottom on the shelves, while processed, sugary foods with bright packaging are put at eye level, socially conditioning us to buy more of them.⁴⁸

How *real*, then, is the food in our supermarkets? *Real* food, again, is fresh and nutritious, predominantly local, seasonal, grass fed, as wild as possible, free of synthetic chemicals, whole or minimally processed, and ecologically diverse. We have seen that in our supermarkets, even the fresh produce isn’t very fresh. Foods are no longer whole, but processed to extend shelf life. They travel long distances. And synthetic chemicals are used freely. Even this quick snapshot is looking bleak.

A Better Approach: Let's Get "Agro-Ecological"

But if our nearest supermarket isn't a good source of *real* food, what other options do we have? We'll explore that question in more detail in part 3, but here I will give you just a sketch of the solutions my family has found.

To ensure that the food we eat is as fresh, nutritionally dense, and whole as possible, we buy local, organically produced food as much as we can. Although "buying local" has become a trend over the past several years, both organic and conventional farming practices can, indeed, be local; there is no official definition.⁴⁹ We understand it as merely knowing the faces and facts behind our dinner plates—particularly because these foods are more expensive. In order to achieve this goal, we have planted an herb garden in our backyard with a few hanging fruits (it is a work in progress), and we are part of a community-supported agriculture (CSA) system: a co-op where we purchase meat, egg, and produce shares from local, organically operated farms that are delivered on a biweekly basis. If necessary, we supplement our CSA foods with items bought from local farmstead stores and grocers. Most of our meals are home cooked, and occasionally we will treat ourselves to a delicious dinner at a local organic farm-to-table restaurant.

If we are going to pay more for the food we purchase or grow ourselves, we intend to steward our money wisely, since we view our money, and indeed the whole of creation, as a gift from God, one that we will be held accountable for (Matt. 25:14–30). When we purchase local, sustainably, and organically grown produce or garden items from the local farmers' market or grocery store, for example, we not only build a relationship with the individuals who produce and sell our food but we also have firsthand access to the knowledge of how our food was grown, as well as access to fresher and thereby more nutritious produce.⁵⁰ In turn, this knowledge increases our appreciation for the wonderful gift of *real* food. It also enables us to support the wonderful people in our community

who work hard to grow this food, care for our local environment, and worship our wonderful Creator (Matt. 14:19). It is easy to believe in God when you see his majestic work in nature, including cow manure, earthworms, and zucchini shrubs!

We use an “agro-ecological” measuring stick to define *real* food. This is a fancy way of saying that, out of love for God’s creation and our fellow man, we would like to respect and understand the whole environment our food is grown in, the people who grow it, and the people who eat it. Agro-ecological farming methods essentially imitate, adapt to, and work with nature.⁵¹

I am not, however, against purchasing any foods grown in different regions of the world. We are a family of coffee, tea, dark chocolate, banana, mango, and quinoa lovers—all of which have to be sourced from outside the United States. Yet we continue to apply an agro-ecological measuring stick to these foods as well: we only purchase items that are fairly traded, sustainable, and organically produced. Not only do these foods help developing regions “grow themselves out of poverty” by supporting local economies, ecosystems, and independent farmers but they are also far more delicious than their chemically laden counterparts and more nutritious.⁵² I do believe that a local, sustainable food system can incorporate many global aspects, just as the Slow Food movement (which began in Italy as a response to the industrialization of our food system) is dominated by a global appreciation of *real*, slowly prepared, and naturally produced local foods.⁵³

Ultimately, our food choices first begin as thoughts, and taking *every* thought captive unto Christ Jesus includes our thoughts about food. It is essential that we strive for perfection in every area of our lives, including the food we buy and eat, just as our heavenly Father is perfect (Matt. 5:48). As a family we therefore practice, to the best of our abilities, what is known as conscious consumerism: *think before we buy*.⁵⁴ As the apostle Paul declares, “Whether you eat or drink or whatever you do, do it all for the glory of God” (1 Cor. 10:31 NIV). Over time we have developed the

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love-based habit of thinking about how our food was produced—a habit I will be talking more about in parts 2 and 3 of this book.

Before we spend more time on solutions, however, we need to look more deeply at the flaws in our modern food industry. We will turn next to the problems caused by the mass production of crops and animals.