

# Introduction

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

*The great tragedy of Science—the slaying of a beautiful hypothesis by an ugly fact.*

**Thomas Huxley (1825-1895)**

**Did you know. . .**

**. . . that cholesterol is not a deadly poison, but a substance vital to the cells of all mammals?**

**. . . that your body produces three to four times more cholesterol than you eat?**

**. . . that this production increases when you eat only small amounts of cholesterol and decreases when you eat large amounts?**

**. . . that the "prudent" diet, low in saturated fat and cholesterol, cannot lower your cholesterol more than a small percentage?**

**. . . that the only effective way to lower cholesterol is with drugs?**

**. . . that many of the cholesterol-lowering drugs are dangerous to your health and may shorten your life?**

**. . . that the new cholesterol-lowering drugs, called statins, do lower heart-disease mortality, but this is because of effects other than cholesterol lowering? Unfortunately, they also stimulate cancer, at least in rodents.**

**. . . that you may become aggressive or suicidal if you lower**

**your cholesterol too much?**

**... that polyunsaturated fatty acids, those which are claimed to prevent heart attacks, stimulate infections and cancer in rats?**

**... that if you eat too much polyunsaturated oil you will age faster than normal? You will see this on the outside as wrinkled skin. You can't see the effects of premature aging on the inside of your body, but you will certainly feel them.**

**... that too much polyunsaturated oil may provoke atherosclerosis?**

**... that people whose blood cholesterol is low develop just as many plaques in their blood vessels as people whose cholesterol is high?**

**... that more than thirty studies of more than 150,000 individuals have shown that people who have had a heart attack haven't eaten more saturated fat or less polyunsaturated oil than other people?**

**... that old women with high cholesterol live longer than old women with low cholesterol?**

**... that many of these facts have been presented in scientific journals and books for decades but proponents of the diet-heart hypothesis never tell them to the public?**

**... that the diet-heart idea and the cholesterol campaign create immense prosperity for researchers, doctors, drug producers and the food industry?**

### **A sorry story**

**Karla didn't know it.**

**Karla and I live in the southern part of Sweden, a prosperous country where nobody needs to starve. If anything, overweight is a problem for many people because good food is abundant.**

**In Sweden people grow old; the people of Sweden enjoy one of the longest life spans in the world. Therefore, heart failure is a common cause of death simply because heart failure is a disease of old age. But man is never satisfied, and great efforts are made to prolong life. One of these efforts is to determine which people**

have high cholesterol because scientists say that lowering cholesterol may prevent heart disease and give you a longer life. When you have read this book you will know that nothing could be more wrong. But first let me tell a little more about Karla.

Karla has been my patient for several years. On her occasional visits, she had always been cheerful and optimistic

Now she is tired and depressed, not at all the way she used to be.

Karla is sixty-two. She works as a cleaner in the offices of a large factory. Two years ago the doctor at the company called all employees in for a medical checkup.

“Your cholesterol is too high,” he told her. “There is a great risk that you will have a heart attack within five years if you don’t do anything about it.”

“I felt fit as a fiddle, but he scared me to death,” Karla told me.

She doesn’t feel fit any longer.

Karla was sent to the medical clinic at the nearest hospital where the doctor told her to go on a diet. Karla loves to eat and to



“See, the problem with doing things to prolong your life is that all the extra years come at the end, when you’re old.”

prepare good food. According to her husband, Karla's homemade sausages and cheesecake are famous in their village.

But now they eat mostly vegetable oil and high-fiber foods. When they buy a steak for a special occasion, they cut off all the fat.

"And that's the tasty part," Karla sighed. "If only the diet had lowered my cholesterol, but it didn't."

"Diet is not enough," the doctor said. "You also need pills."

Karla hated the diet, but it was nothing compared to the drug.

"You have to stand a little discomfort," the doctor told her.

The diet made it easy to slim down, and what was left of her appetite disappeared completely when she started the nauseating medication.

Add to this the demise of her positive attitude. She had looked forward to retirement with her husband, but now all seemed bleak. She felt she had nothing to look forward to.

Her cholesterol went down but not enough, the doctor said, and the dietician looked at her with great skepticism when Karla told her what she ate.

"It's impossible. You must have eaten more fat than that," the dietician scolded.

In fact, Karla had eaten some cheesecake the day before, but it hadn't been a pleasure; she felt terribly guilty afterwards.

Do you think that Karla is unique? Let me tell you about the result of a health project in Luleå, Sweden, headed by Birger Grahn, one of the general practitioners in the district. The aim of the study was to lower the incidence of coronary heart disease. Participants were sent a computerized letter containing a description of their "health profile." Afterwards Birgitta Olsson, a social scientist, questioned one hundred of the recipients.

Twenty-six of these healthy individuals said the letter frightened them. "It was like a shock," or "as if the world collapsed," some of them answered. One stated that she was "almost paralyzed."

Those with high cholesterol were the most frightened. “The risk that you will have a coronary in five years is estimated to be considerably higher than the average risk for inhabitants of Luleå of the same age and sex as you,” the letter said.

When Birgitta Olsson asked again half a year later, after all the health-promoting activities had started, a further thirteen suffered from anxiety.<sup>1</sup>

You may think that anxiety about cholesterol is something peculiar to the Swedes, but that is not the case. According to a recent Gallup poll in the United States, 56 percent of all Americans worry about fat and cholesterol, 45 percent think that the food they like is not good for them, and 36 percent have guilt feelings when they eat the food they like.

Apart from the fact that worrying about your health may provoke heart trouble, all this stress and anxiety are unnecessary. Karla and millions of others around the world with high blood cholesterol do not know that the cholesterol campaign is medical quackery of the first order. In fact, the eminent American physician and scientist George Mann called the diet-heart idea “the greatest scientific deception of this century, perhaps of any century.”

Unfortunately, Karla and millions of others do not know that high blood cholesterol is nothing to worry about.

This book has been written to give you and your doctor some facts about cholesterol and coronary heart disease (CHD). They are facts that even your doctor may not know because these facts have been misunderstood; or because many scientists, health authorities and representatives of the drug companies have suppressed them altogether.

To begin, let me tell you a little about how scientists work.

### **The scientific method**

To bring a little order into a chaotic and hostile world, we try to find the laws that govern the “mess” that we observe. Medical researchers want to discover the threats against human life

and health, and to know what causes disease and premature death, in order to cure or prevent these problems. To this end, we have developed a laborious but highly successful technique called the scientific method.

When we use the scientific method, the first step is to record all the facts about a disease. Who are the victims—men or women, young or old? How do they live and what do they do for a living? What do they eat and drink? What is the chemical makeup of their blood? How clean or dirty is the air they breathe? Scientists meticulously weigh, measure and analyze anything that may be of importance.

Every new piece of the puzzle leads us to speculate about the causes of the disease and to formulate a hypothesis—a theory that we must prove. To see if our hypothesis is correct, we test it in all possible ways. Is some factor present in all cases of the disease? Can the disease be produced by this factor, and can we prevent or cure the disease if we eliminate the factor?

If it doesn't pass all the tests, then our hypothesis is a bad one and must be rejected. Then we construct a new hypothesis that we hope will conform better to reality. We test and observe again. If necessary—and it often is necessary—we reformulate our hypothesis and repeat our tests a third and fourth and fifth time until, at last, we have a little nugget of pure truth in our hands. True scientists put the solution to a medical problem first and not the preservation of their own hypothesis, no matter how clever the hypothesis may seem or how proud of themselves they may be for creating it.

Scientists know that it is very rare for their first inspired thought to solve a scientific problem. Therefore, in our search for solutions, we scientists are as much interested in test results that destroy our hypothesis as we are in results that confirm it. And we do not blame anybody for a bad idea, providing that it is abandoned as soon as its flaws become obvious.

**Defining our terms**

This book is about the idea—the false idea—that a high level of cholesterol in the blood is the main cause of atherosclerosis and coronary heart disease. But what is atherosclerosis? And what is coronary heart disease?

When we grow old our arteries become stiff. The smooth muscle cells and the elastic fibers that surround our blood vessels when we are young are gradually replaced by more or less fibrous and rigid tissue. At the same time, or later on, cholesterol, various fats and even lime become embedded in the blood vessel wall.

Arteries probably become stiff as a protective measure, to prevent the pressure of the blood inside them from causing them to widen too much.<sup>2</sup> Thus, the remodeling of the arteries does not occur evenly. It is most pronounced where the strain to the artery wall is highest, for instance, where the blood vessels branch. Such localized thickening is called an atheroma or plaque. Atherosclerosis increases with age, as does the blood pressure, and atherosclerosis is most pronounced in individuals with high blood pressure.

The fact that arteries that are prevented from widening, such as those that pass through the bony channels in the skull and the few branches that pass through the heart muscle (most branches lie on the surface of the heart), never become sclerotic also suggests that stiffening of the arteries may be a protective measure. Furthermore, veins never become sclerotic, probably because the blood pressure in veins is very low. If a surgeon replaces a clogged artery with a section of vein, however, this vein, now exposed to the high arterial blood pressure, soon becomes sclerotic.

For unknown reasons, in some people the embedding of cholesterol in the arterial wall becomes irregular and protrudes into the interior of the artery. Sometimes these localized protrusions, called raised lesions, even change into a material similar to limestone. The embedding of cholesterol and lime may also

progress until the vessel becomes so narrow that the heart gets too little blood and thus too little oxygen. It is these constrictions that are considered to be the cause of heart attacks, either directly, or by starting the formation of a clot.

When the blood flow to the heart becomes insufficient, symptoms of discomfort irradiating from the chest may result, especially if the heart's need for oxygen is increased during exercise. These symptoms are called angina; they disappear if you stop exercising. But if the blood flow is totally arrested, or if it is reduced too much for too a long time, the part of the heart that is supplied by the obstructed branch of the artery will die. This is called a heart attack, or a coronary, or, more precisely, a myocardial infarction. Angina and myocardial infarction taken together is what we call coronary heart disease, often shortened to CHD.

Atherosclerosis is said to be the cause of coronary heart disease, but the matter is not that simple. Anything that obstructs the coronary arteries may produce coronary heart disease. Studies of the hearts of people who have died from a heart attack have revealed that in about a fifth of the patients there is no evidence of coronary atherosclerosis. The arrested blood flow in such cases may have been due to a spasm of the artery, or to a clot that dissolved before death, but we don't know for sure.

To further complicate the story, a coronary artery may be totally obstructed without any symptoms and without any damage to the heart. The explanation is that the fine branches of the three coronary arteries communicate with each other. If blockage of an artery develops slowly enough, the communicating branches gradually widen, allowing the neighbor to carry more of the blood supply.<sup>3</sup>

Thus, a myocardial infarction may occur even though the coronary arteries are totally normal, and coronary heart disease may be absent even though the coronary arteries may be completely blocked. Obviously, atherosclerosis and coronary heart disease are separate conditions, but many researchers have confused our thinking by considering them as one.

### **The Diet-Heart idea**

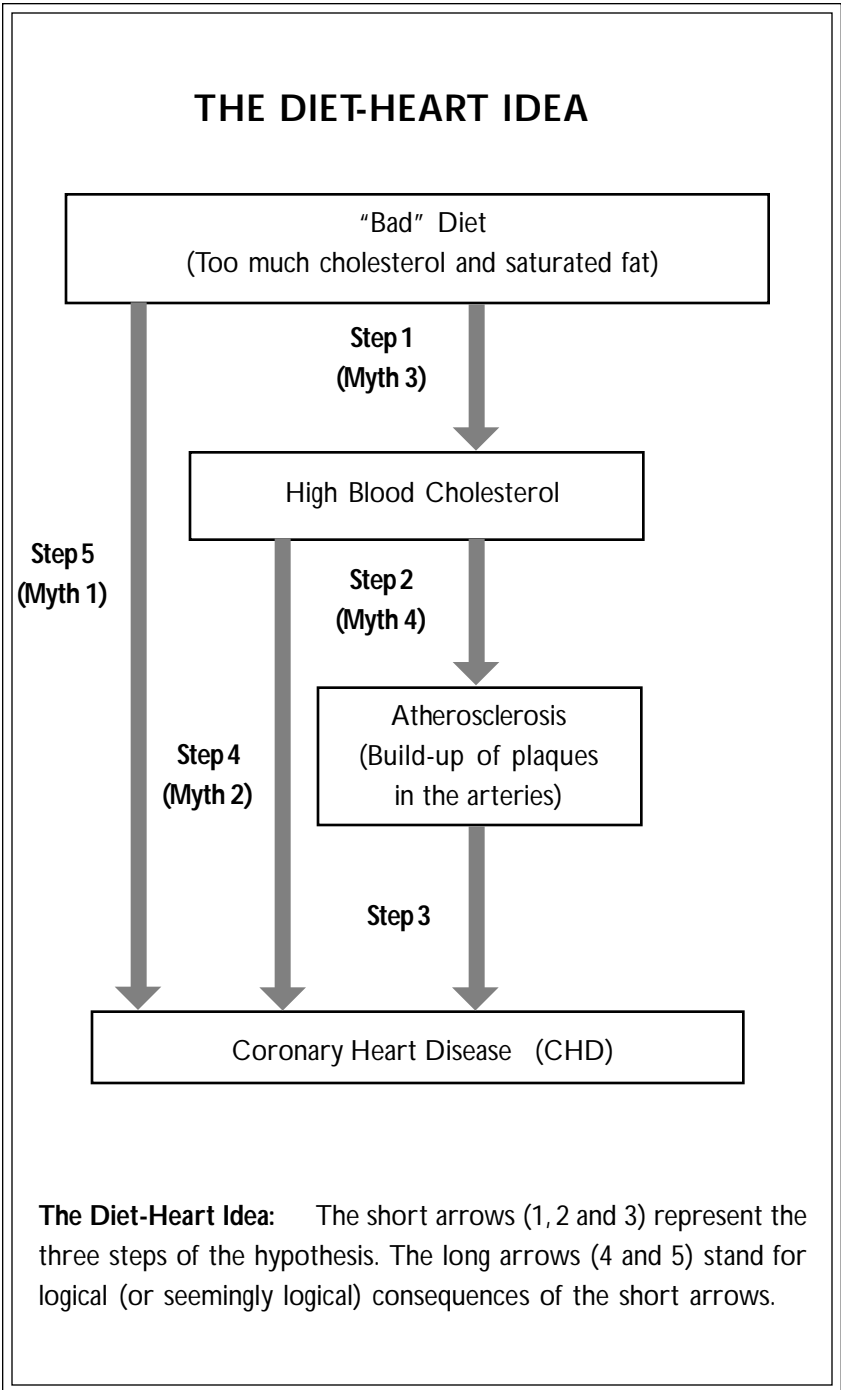
In the search for the causes of atherosclerosis and heart disease, researchers since early 1950 have focused on a single hypothesis or idea. This is the diet-heart idea, sometimes called the lipid hypothesis. As I will explain in this book, the diet-heart idea is a hypothesis that has not passed the basic scientific tests, a hypothesis that is filled with obvious absurdities.

The diet-heart idea is not scientifically sound, but it survives. In fact, the diet-heart idea is hopelessly incorrect, but it seems to have eternal life. It lives on because the researchers who created it and defend it—I will call them the proponents—have not followed the principles dictated by the scientific method.

Those principles demand open-mindedness and objectivity, but the proponents of the diet-heart hypothesis routinely belittle, deny or explain away any scientific observations that contradict their idea. They take the weakest association that supports their idea and call it strong evidence, and they refuse to consider any conflicting observation. In the process, logic becomes as remote as a town in Siberia. Proponents of the diet-heart idea often ask, “What is wrong?” but when they ask this, they mean what is wrong with the conflicting evidence and not with their pet hypothesis. Masses of valid scientific evidence should have destroyed the diet-heart idea by now. Yet, like the ancient Greek Hydra, a mythological monster that grew new heads whenever its old ones were chopped off, the cholesterol Hydra continues its life as if nothing had happened.

But before we look at evidence that should destroy the diet-heart idea, let's first consider what that idea is.

According to diet-heart proponents, coronary heart disease is the third and final step of a three-step process. In the first step, or so the proponents claim, the amount and the type of fat in our diet determines the level of cholesterol in our blood. They say that if we eat an atherogenic diet, our blood cholesterol will be high. And by an atherogenic diet they mean a diet containing too much cholesterol and saturated fat (found mainly in animal products,



such as meat, milk, eggs but also in palm oil and coconut oil) and too little polyunsaturated fat (found mainly in marine animals and commercial vegetable oils). According to the proponents, step two occurs because high blood cholesterol is the main cause of atherosclerosis. And in step three, or so the proponents claim, atherosclerosis causes coronary heart disease by blocking the blood vessels of the heart. The idea sounds simple, and most of us are familiar with it after reading about low-fat recipes and low-fat diets for years in popular magazines and newspapers.

At first glance, the diet-heart hypothesis does indeed appear simple, logical and well-founded. It is also an attractive idea, because it almost promises that death from coronary heart disease can be prevented. If animal fat and high blood cholesterol are the villains, then cholesterol-lowering diets and cholesterol-lowering medicines appear to be wise choices. It's easy to understand why doctors, politicians, pharmaceutical companies and the manufacturers of vegetable oils and low-fat frozen dinners have embraced the diet-heart idea.

But very few people know that it is built on nothing more than circumstantial evidence. Nobody has ever seen the villains in action. There are many diseases that we have explained from circumstantial evidence but only when all the evidence has pointed in the same direction. As for the diet-heart hypothesis, the evidence is contradictory and confusing. In fact, huge numbers of published medical studies reveal results that are totally at odds with this idea.

For many years, millions of people have endured a tasteless, tedious diet or have suffered serious side effects from cholesterol-lowering drugs because of the diet-heart idea. And billions of dollars have been spent in vain because previous research, reviewed in the chapters to come, had already demonstrated the diet-heart hypothesis to be completely worthless.

Medical experts and health authorities will criticize this book and its author because their prestige is at stake. They will probably describe the author as unscientific or incompe-

tent, and they will say that prestigious committees all over the world have decided that the diet-heart idea has been proved beyond all reasonable doubt.

This book is written for people who can think for themselves. And if you find that something I have written seems too incredible, please consult the references. Then go to a university library and read the original papers yourself. By doing this systematically, as I have done, you will not only see that I am correct, but you will also learn more about cholesterol and the heart than most researchers have. Judging from their papers, many of those researchers seem to have read only reviews, and reviews written by the proponents are notoriously unreliable. In the chapters to follow, I shall give you many examples of misquotations from such reviews.

One of my objections to the diet-heart idea is that its proponents are selective about their data. They lean on studies that support their idea—or that they claim, not always truthfully, support it—and ignore those that contradict them.

One of the proponents once accused me of pointing only to studies that do not support the diet-heart idea and, thus, of using a technique similar to the one the proponents use.

He was right.

What he failed to remember is that, if a scientific hypothesis is sound, it must agree with *all* observations. A hypothesis is not like a sports event, where the team with the greatest number of points wins the game. Even *one* observation that does not support a hypothesis is enough to disprove it. The proponents of a scientific idea have the burden of proof on *their* shoulders. The opponent does not have to present an alternative idea; his task is only to find the weakness in the hypothesis. If there is only one proof against it, one proof that cannot be denied and that is based on reliable scientific observations, the hypothesis must be rejected. And the diet-heart idea is filled with features that have repeatedly been proven false.

**The history of science is one in which many attractive ideas have been discarded when found to conflict with observed fact. For instance, the earth was considered to be a flat planet around which the sun and the other planets revolved. Anyone could ascertain this by looking at the horizontal skyline. And, with his own eyes, anyone could see how the sun, like the moon, circled around the earth.**

**Our ancestors did not know better because they had only the naked eye and lacked the technology needed to discover the truth. But the proponents of the diet-heart idea ought to know. Instead, their cocksure writings demonstrate that for them the idea has become a fact, the cholesterol earth is flat.**

**Or is it only a game? Those of you who read this book will realize that scientists who support the diet-heart idea and who are honest must be ignorant, either because they have failed to understand what they have read or else, by blindly following the authorities, they have failed to check the accuracy of the studies written by those authorities. But some scientists must surely have realized that the diet-heart idea is impossible and yet, for various reasons, have chosen to keep the idea alive.**

**In both politics and religion, ideas can be more powerful than any army. In medicine, ideas can also have powerful consequences.**

**Let us now explore a medical hypothesis, the diet-heart idea, which, although it seriously conflicts with the laws of logic, has dominated scientific thinking for many years—with many unfortunate consequences.**

