DECEMBER 2,
1968

How to have a HEART ATTACK

Richard C. Bates, M.D.

HOW TO HAVE A HEART ATTACK

Richard C. Bates, M.D.
2909 E. Grand River
Lansing, Michigan

I suppose I'd better begin by warning you that the opinions to be expressed do not necessarily represent official attitudes of any of those organizations of which I might be a member, including the American Heart Association. In fact, as far as I can determine, they don't represent official attitudes of any of the organizations I'm trying to get into.

But you can relax: this isn't going to be the usual medical talk. You know the kind I mean--a long, dry tirade, filled with facts and figures, designed to scare you into giving up the few pleasures you can still enjoy in life in exchange for a few extra years at the end of your life when you're too old to enjoy anything.

I don't have to tell you that the usual medical speaker always starts off with grim statistic that brings his topic right down to your individual level. For example, if we were going to be talking about cancer tonight, traditionally, I would start right out and announce: one person in eight in this room, is going to die of cancer -- which is true! And on our topic this evening, I could be far more alarming and announce that half of the people in this room are going to die of heart disease, which is also true. But then, these speakers never go on and point out that the rest of you are going to die -- of something else. And if you're so unfortunate as to escape both a heart attack and cancer, you run great risk of dying of the most lingering malady of all, the one that takes 90 years to kill, natural causes. Furthermore, everybody agrees that a heart attack is the best way to die. If you doubt that statement, recall how many times you've heard a conversation that goes something like this:

Two people meet on the street and one says to the other, "Say did you hear about poor old Bill?"

The other fellow says, "Yeah, poor devil--dropped dead of a heart attack last night."

Then you can just wait and you won't have to wait very long before one or the other (or both of them in unison) will say, "Still, if I have to die, that's the way I want to go." They never say, "When I die"--they always say, "If I have to die."

Of course the thing about a coronary that makes it so attractive is its speed. For all we know, dying may be the most wonderful, blissful, ecstatic moment in all existence. It doesn't matter, Americans are always in a hurry; they want to get it over with and get on to something else.

Of course, I don't mean to leave the impression with you that a heart attack is the only way to die suddenly. You can commit suicide, but it takes courage. Habitually pass on curves and hills, but the people in the other car won't like it very well. Go riding with President Johnson at the wheel. Get a deep tan and drive through Alabama. Just before you go under the anesthetic, look up at the surgeon and tell him you're in favor of medicare.

No, all things considered, I'm sure you'll agree that the best way to die suddenly is to have a nice, clean, unexpected coronary occlusion. Since this is the age of the positive approach, the era of do-it-yourself, I am going to tell you what to do tonight to manufacture your own little coronary right in your own basement workshop. And, we almost know enough about it that I can guarantee results. I do have to hedge a little bit, because this takes time which means

you'll realize that we do have a handicap here. As yet, we have very few reliable descriptions of the symptoms experienced by those whose heart attacks were immediately fatal.

But, how is it that half of us are going to go in this pleasant fashion while the other half will have to find some less satisfactory means? We think now that no one thing is responsible, but that it takes, to coin a phrase, "a combination of medically proved ingredients". So far some seven or eight different things have been indentified that influence your chances of having a coronary. Some of them are of major importance, while some of them are minor. First off, it's not strictly a process of aging (as was originally believed) because the peak age for having a heart attack is reached by men at only 45; by women at 55. After these ages your chances of dying of this disease begin to decrease. Largely this is because, after these ages, your chances of dying of other diseases begin to increase.

Heredity is very important, but looking over the room I can see that it's way too late for most of you to do much about it. At least we can say that the more of your ancestors who have toppled over unexpectedly, the better your chances are of going in precisely the same fashion. And then, there's the matter of sex, because men have six times as many heart attacks as women. This one statistic and this disease alone account for the preponderance of widows in our population and forms the basis for the whole life insurance industry.

Such a surprising difference between the sexes, six men to one woman, demanded a rational scientific explanation and it wasn't too difficult to find. It was shown that there is something in the hormones that make women women that slows down the rate at which they deposit cholesterol in their arteries. And immediately thereafter it was demonstrated that we could give these female hormones or estrogens to males and slow down the rate at which their arteries harden. For a while this gave promise for control of coronary artery disease, but then abruptly, and quite unexpectedly, we ran out of men willing to take these female hormones.

I have to be a little bit vague at this point--you see there is something in these female hormones that when you give them to a man changes his -- well the plain truth of the matter is, that most men are so stubborn they would rather drop dead of a heart attack than to wear a brassiere. But of course, as we look back over that whole series of scientific papers we shouldn't have been as astonished at that turn of events as we were. Surely it's not the first occasion when medical scientists have been guilty of making mountains out of mole hills.

It's good if you live in the city because city people have more coronary trouble than country folk. And this is probably related to the matter of exercise. As you know, we've made a 180-degree turn on this business of exercise. We used to teach that exercise caused heart attacks. Now we believe that exercise is the factor that stimulates the growth of new blood vessels into the heart so that it prevents heart attacks. The heart is a muscle, and like any other muscle, the more it's used the better the blood supply it develops for itself. This change in medical thinking began with a study done in Great Britain. Over there, as you know, they have these two-tiered buses. This required them to have two men to the bus. One sits and drives all day while the other man is much more active, on his feet to the upper deck and down, punching tickets as a conductor all day long. A very observant physician for a British bus company noted that bus drivers were having twice as many heart attacks as the more active conductors. This was checked with mailmen. Mailmen who are on their feet delivering mail from house to house all day long almost never have heart attacks until they retire, while mailmen who sit in the station sorting mail have a rather high rate of them.

Studies show that 97% of heart attacks occur when people are in ordinary activity or asleep. Just as many heart attacks occur at 1:00 a.m. as at 1:00 p.m. or any hour throughout the twenty-four. Just as many heart attacks occur on Saturday and on Sunday as on any day of the work week. After all, if it takes

45 years to bring on this disease, what you're doing in the last 15 minutes is really of very little importance. The important thing is to be as sedentary as possible throughout those 45 years so that you don't encourage a better blood supply for your heart.

Of the things you can control, the most important is probably that of diet. This is rather complicated and still a little controversial, but I'll try and hit a few of the high spots for you. This cholesterol that we find clogging the arteries occurs in much of our food. But even if that were not true, the body is capable of manufacturing large amounts of cholesterol from certain fats in our diet.

As you know we can take samples of blood from an individual and analyze them for the amount of cholesterol circulating there, and we get reports that vary a great deal from one person to another but also from the people in one country to those of another. Americans have more of these fats in their diet than any other people in the world; Americans have more cholesterol in their blood than any other people in the world; and Americans have more heart attacks than any other people in the world.

By now these relationships have been studied in many different population groups and some interesting things have come to light. One of the studies that was done was carried out on a little fellow running around South Africa without many clothes on, known as the Bantu. Bantus are just the opposite of people in the United States -- they lead a perfectly miserable existence. It's a red-letter day in Bantu-land when somebody catches a lizard and they all have a mouthful of meat on the table. Mostly, Bantus live on roots and berries and air. Sure enough, Bantus have almost the lowest blood cholesterols ever found.

But then there was the problem with the Swedes, because over in Sweden they stand next to us in the amount of fat in their diet and next to us in the amount of cholesterol in their blood, but they have only half as many heart attacks as do we. Nowadays we explain this away by pointing out that Swedes have far fewer automobiles, power lawnmowers, golf carts, and selfwinding wrist watches. They get more exercise and modify their high fat diet in that fashion. But at least this showed that we couldn't look solely at the diet and directly predict the incidence of heart attacks in a population, so somebody raised a further question about those Bantus and asked, "Even with their low blood cholesterol, can some of the Bantus go ahead and develop coronary heart disease?"

There was nothing for it but the team had to go back to Bantu-land which they did, and come out with a second report; "No, Bantus never have heart attacks."

But the reason is, they all die of malnutrition in their 30's.

Well, so it's gone until by now most experts in the field are in agreement on some over-all statements: the amount of cholesterol in the blood of a population is directly proportionate to the amount of certain fats that population consumes. People with a heart attack are almost always found to have a high blood cholesterol. People with low blood cholesterols are rather free of this disease, but some people with high cholesterols escape coronary trouble, like the Swedes, because of the influence of other things.

And then there was a problem with the Eskimo. Eskimos, as you know, live on nothing but fats for long periods of time, and yet the Eskimo's blood cholesterol runs below the international average. This, and some other work, led to the discovery that there is a difference in the ability of fats to raise the blood cholesterol. The fats that the Eskimo eats come from animals that swim in the sea, and these fats are invariably liquid at room temperatures. Chemically, they are all unsaturated for hydrogen. Such liquid or unsaturated fats not only do not raise the blood cholesterol, but some of them, the most unsaturated, or polyunsaturated fats, actually lower it. In our diet such fats are represented by safflower oil; Mazola, which is corn oil; Wesson oil, which is cotton seed oil; liquid Crisco, which is soy bean oil; and various fish oils.

The fats that raise the blood cholesterol are solid or semi-solid at room temperatures and chemically they are saturated for hydrogen. In our diet such fats are represented by mutton tallow, pork lard, beef suet, and the more expensive spread. You will recognize that these fats all come from animals, but also by vegetable fats that have been artifically solidified by hydrogenation, such as the less expensive spread and the various hydrogenated vegetable shortenings.

So, the thing to do is to get as many of these solid, saturated fats into your diet as possible to boost your blood cholesterol as high as it will go -- and this is rather pleasant work. One of the good things you can do is to get into the habit of drinking 15 or 20 cups of coffee, well-laced with cream, a day. You'd be surprised how much butter fat you can pick up in this fashion. And then drink a lot of whole milk, because there are two pats of butter dissolved in every glass of whole milk, so, if you can make away with two quarts of milk a day there will be 16 pats of butter fat for your diet right there. And eat a lot of ice cream. When we were youngsters we used to have it about twice a year, when somebody cranked the old freezer up, but, nowadays you can have ice cream two or three times a day. In gereral, we might say, (with the exceptions of skim milk and cottage cheese) "What's good for the dairy business is good for my business."

Also, eat a lot of thick juicy steaks and prime ribs of beef well marbled with fat, and don't trim the fat off around the edge; you paid for it; eat it. Then too, this kind of a diet will tend to make you fat and that's a useful thing. Thin people have almost as many heart attacks as fat people, but the fat people are far more inclined to have the fatal variety. How do you know if you're fat? Well, of course, you're not fat -- all of your friends are fat. All of your friends think you could stand to take off a few pounds here and there but you know very well that it's just that you have a big frame.

There are a few good ways to tell. The first thing to do is to pitch out the standard Metropolitan Insurance Company height and weight tables, because they're far too easy to manipulate. Some day when there's no one around home to catch you at it and laugh at you, get ahold of a tape measue and slip it around your waist. No fair letting your breath out and sucking it in, and take off your girdle first. Just slip the tape around your waist as you ordinarily stand. For a man the normal waist measurement is 32 inches. For a woman 26. For every inch your waist measurement is more than 32 or 26 you are five pounds overweight. I'll pause there a little bit for those of you who are using the new-math.

You see the beauty of this method of determination is that you don't have any frame around your waist. Now if you want to check that, recall what you weighed when you were married. It's a very peculiar thing, but most people weigh about what they should when they get married, and practically everyone remembers what he weighed on that day. If you stop to think about it, you're no taller now than you were then; you certainly haven't put on any muscle; you may have learned a thing or two, but this does not increase the weight of the brain. So, if you weigh more now than you did on your wedding day, it's fat.

It's very good if you're wealthy, and I'm sure you're all working hard toward this. Rich people have far more coronary trouble than poor people, presumably because they can afford to hire more of their yard work done for them and they can afford to buy more of those thick juicy steaks. The one statistic that stands out in every study yet done around the world is the higher the standard of living, the greater the incidence of coronary heart disease.

It's very good if you have diabetes, gallbladder trouble, or high blood pressure but I don't know enough tonight to tell you how to go about getting them, if you don't have them already. One of the positive things you can do is to smoke cigarettes. Pipes and cigars have no effect, but two-pack-a-day smokers have over three times as many heart attacks as non-smokers. This is a rather recent discovery -- nobody is yet certain why it should be true. Nobody is willing to say that there is anything in cigarette smoke that makes cholesterol hit out for the walls of the nearest arteries. One of our handicaps is that we don't know enough about the other habits of living of the sort of person who smokes two packs of cigarettes a day. One thing I know: a man who puts 40 cigarettes a day

there is always a chance something else will get to you first, but, on the other hand, you have a fifty-fifty chance to begin with and so, with just a little extra effort, we should be able to straighten out that other half of the room as well.

Before I tell you what to do to bring on a heart attack, we will have to digress a little and discuss a little of what we know about this disease. We'll have to admit that all of the answers aren't in yet. One of our handicaps is that, surprisingly, while this is now the leading cause of death in these United States, heart attacks as such were unknown to the medical profession before 1912. The first report came from a doctor in Chicago only 53 years ago. Oh, we think people were having heart attacks long before 1912. As a matter of fact, Egyptian mummies have been resurrected and dissected and after 5000 years in a sarcophagus, their coronaries are found to be in a remarkable state of hardness. Hippocrates, the great Greek physician who lived four centuries before Christ, left us an excellent description of patients who came to him complaining of severe pains in the chest, and the old boy noted in the memoirs that he left for his medical brethren, that it was a pretty good idea to get cash before they left the office.

In the times of Shakespeare, the Elizabethan poems and plays are full of references to broken hearts and fluttering hearts. We feel sure some of these phrases must have arisen from instances of aging lovers who were pursuing their amours too vigorously and dropped dead as a result.

What is a heart attack? Well, the heart as you know is a large muscular organ that pumps gallons and gallons--tank cars full of blood every few days. Of course we don't possess tank cars of blood--we each have about 5 quarts, and our heart circulates these same 5 quarts of blood around and around, over and over and over. That's how you get tired blood.

In order to perform this tremendous amount of work, the heart itself needs a constant supply of blood that comes to it through tiny pipes or arteries that encircle the top of it something like a crown. The Latin word for crown is "corona" and so we get our term coronary artery for the encircling arteries on top of the heart. Almost from the time we are born these pipes begin to fill in with deposits of a fatty sludge known as cholesterol. But almost from the time we are born new arteries begin to open up in our hearts to provide new channels for the flow of blood as these old arteries fill in, so that, in a sense, we're in a race from birth to death between those things that promote the filling in of the old arteries and those things that stimulate the opening up of new arteries.

By now it's probable that one man in ten in this room has plugged off one or more of his coronary branches but generally when that happens no disease results because adequate detours for the flow of blood are already present. If the detours are not there, the first symptom is generally pain, and typically, this pain comes on when the heart is working the hardest: with exercise, excitement, or after a heavy meal. As soon as rest is provided the pain goes away, usually in 5 to 15 minutes. But a little later, as the artery fills in some more, the pain may not be so clearly related to exercise--it can even come on during sleep at night. And then finally, when the blood can no longer squeeze by, it clots at this point and completely seals off the opening. The medical term for a clot is a thrombus, and so we speak of this final plug as a coronary thrombosis.

Heart attack, coronary occlusion, coronary thrombosis--they all mean the same thing. Of course, the medical profession no longer uses any of these terms for fear our patients would know what we're talking about. We call this whole business myocardial infarction.

So, how are you going to know if you're getting this trouble? The chances are you will know. First off, it's not that little pain you've been noticing over here on the left side while I've been talking. The pain of this disorder is not usually over the heart but over the upper center chest and it hurts. It hurts as badly as a broken leg. One of my patients told me it felt as if someone had parked a truck on his chest and gone in for a cup of coffee. If you think about it,

in and out of his mouth doesn't earn his living with his hands. And when you smoke, be sure to smoke the kind of cigarettes that have a charcoal filter. Not only does charcoal not take out anything harmful, as far as we know, but if you save up the butts you'll have something to grill all those steaks over.

And this brings up the topic of alcohol. Here we have a surprise because, try as we may, we are unable to show that alcoholics have any more or any fewer heart attacks than teetotalers. Alcohol neither prevents nor promotes coronary heart disease. All it does is cause cirrhosis of the liver.

And of course you're all anxious to hear about stress and hard work. People say: "Don't get on so many boards and committees; don't take your work so seriously; don't work nights and weekends; don't get excited, don't get nervous -- you'll have a heart attack".

Here too, we draw a blank because as yet we have found no way to measure nervous tension and express it in units. And in science, as you know, if you can't put something into units, you can't determine its effect.

Another handicap is that much of the experimental work with cholesterol has been done in chickens. Among the few laboratory animals with the ability to deposit cholesterol in the walls of the coronary artery as does man, is an old fat hen. But it's very difficult to keep old fat hens nervous for any period of time. So far, the only reliable way that has been found to accomplish this is to put a different rooster with the flock each day. And it may surprise you to hear that the old fat hens that have been kept under this constant, exquisite form of nervous tension have less hardening of their arteries.

But it only serves to fortify our growing suspicion that the "hard work" -- "nervous tension" bit, in relation to coronary heart disease, has been greatly overplayed -- that if hard work has anything to do with bringing on a heart attack, it may be because hard workers are inclined to make more money, then to delegate more of their physical work to others, live on a richer diet, and get their heart attacks in this secondary fashion. Still, it's a notion that's been around for a long time and we're having trouble getting rid of it. We have an explanation for that trouble too.

Here's what a doctor in Great Britain had to say about this (as only a doctor in Great Britain would say it). He said, "The ready acceptance of the stress and strain concept is understandable -- it nourishes the ego of the believer and it places coronary heart disease in a position of being an unjust reward for virtue. How much nicer it is, when stricken with a coronary, to be told it's all due to hard work, laudable ambition and selfless devotion to duty than to be told it is due to gluttony and physical indolence."

Another popular notion is that the very real and tremendous increase we have all seen in this disease in the last two generations, (what Dr. Paul Dudley White calls the greatest epidemic in medical history) is somewhat related to what is glibly spoken of as "the increased pace and tensions of modern times". Actually, in these days of the 40-hour week, twice-a-day coffee break, cradle-to-the-grave security, it's doubtful if mankind ever had such a soft, relaxed existence in the history of the world. Recall, if you will, that our ancestors in this country had to take their rifles with them when they went to the barn, to be sure they'd bet back to the house with their scalps on -- that's tension!

Well, in summary: pick your ancestors, be a man, live in a city in the United States, make a lot of money sitting behind a desk, eat a lot of meat and dairy products, be fat, smoke cigarettes and never exercise. This is probably the nicest advice you ever got from a physician -- most of you won't have to make any changes -- just keep doing what you've been doing.

Unfortunately, it may not work, at least the first time. It's regrettable but half the people botch the job of their first attempt, and survive to return to their former occupation. But if it doesn't work that first time, keep on trying. The statistics improve a great deal with second and third heart attacks, and almost no one pulls through a fourth one. Above all, after that first coronary, don't take your doctor's orders: he's just trying to keep you alive as long as possible, to make more money out of you, so he can afford more steak.