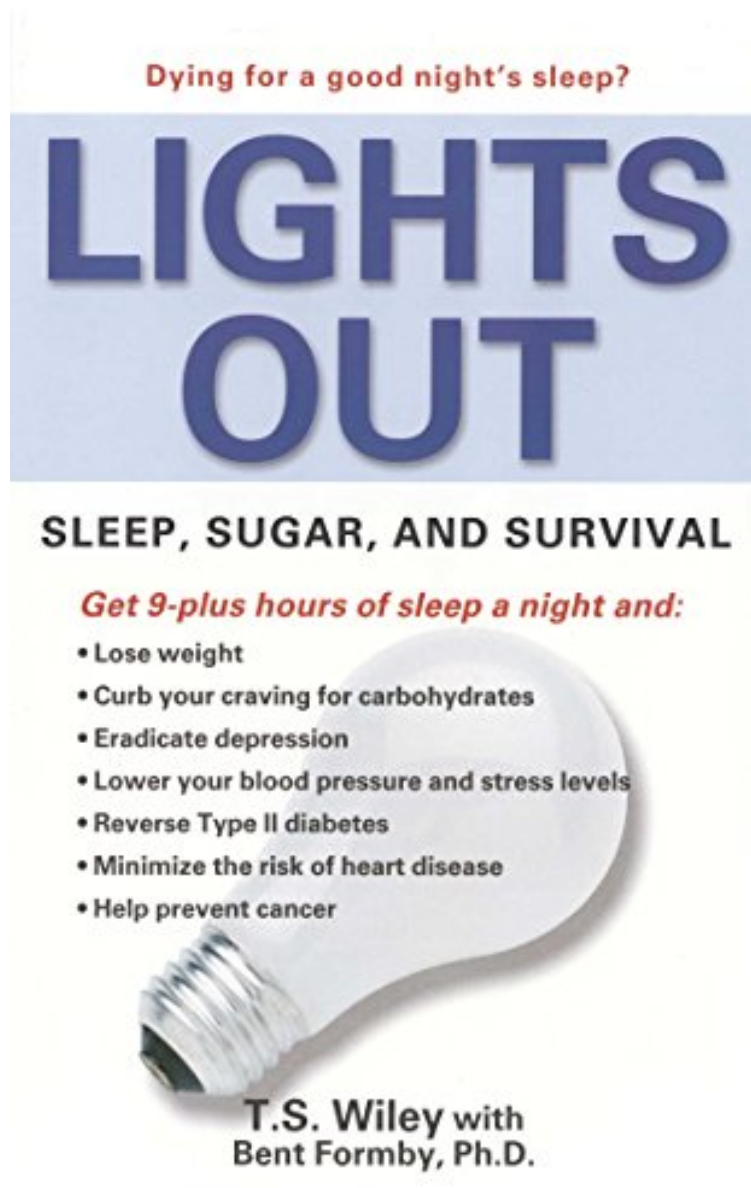


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# Lights Out: Sleep, Sugar, and Survival (English Edition)



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**Description :** Description du produit When it comes to obesity, diabetes, heart disease, cancer, and depression, everything you believe is a lie. Lights Out With research gleaned from the National Institutes of Health, T.S. Wiley and Bent Formby deliver staggering findings: Americans really are sick from being tired. Diabetes, heart disease, cancer, and depression are rising in our population. We're literally dying for a good night's sleep. Our lifestyle wasn't always this way. It began with the invention of the lightbulb. When we don't get enough sleep in sync with seasonal light exposure, we fundamentally alter a balance of nature that has been programmed into our physiology since Day One. This delicate biological rhythm rules the

hormones and neurotransmitters that determine appetite, fertility, and mental and physical health. When we rely on artificial light to extend our day until 11 PM, midnight, and beyond, we fool our bodies into living in a perpetual state of summer. Anticipating the scarce food supply and forced inactivity of winter, our bodies begin storing fat and slowing metabolism to sustain us through the months of hibernation and hunger that never arrive. Our own survival instinct, honed over millennia, is now killing us. Wiley and Formby also reveal: That studies from our own government research prove the role of sleeplessness in diabetes, heart disease, cancer, infertility, mental illness, and premature aging; Why the carbohydrate-rich diets recommended by many health professionals are not only ridiculously ineffective but deadly; Why the lifesaving information that can turn things around is one of the best-kept secrets of our day. Lights Out is one wake-up call none of us can afford to miss.

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ExtraitChapter One: WE WANT TO BELIEVE: The Church of False GodsAt sometime in the past, scientists discovered that time flows more slowly the farther from the center of the earth. The effect is minuscule, but it can be measured with extremely sensitive instruments. Once the phenomenon was known, a few people, anxious to stay young, moved to the mountains. Now all houses are built on Dom, the Matterhorn, Monte Rosa, and other high ground. It is impossible to sell living quarters elsewhere...To get the maximum effect, they have constructed their houses on stilts...People eager to live the longest have built their houses on the highest stilts...They celebrate their youth and walk around naked on their balconies...In time, people have forgotten the reason that higher is better. Nonetheless, they continue to teach their children to shun other children from lower elevations. They have even convinced themselves that the thin air is good for their bodies, and following that logic, have gone on sparse diets, refusing all but the most gossamer food. At length, the populace have become thin like air, bony and old before their time.-Alan Lightman, Einstein's Dreams

In Woody Allen's classic film Sleeper, Miles Monroe, health-food-store owner and clarinetist, checks into Saint Vincent's Hospital in 1977 for a routine procedure. He has a peptic ulcer. When he awakens two hundred years later, he discovers he's died, and a caring aunt has placed him in cryogenic suspension. The plot thickens when two renegade scientists illegally defrost him to take advantage of the fact that he is a numerical nonentity and, as such, can help them overthrow the fascist regime controlling America in 2173. We eavesdrop as they discuss his progress: "Has he asked for anything special?" "For breakfast, he requested something called wheat germ, organic honey, and tiger's milk." "Ahh, yes, yes, back then people thought of such things as charmed substances that contained life-preserving properties." "You mean there was no deep fat, no steak, or hot fudge?" "Oh, no, those were thought to be unhealthy, precisely the opposite of what we now know to be true." "Incredible!" "What's most unnerving about this snippet of filmdom? That social security numbers classify every citizen in a Big Brother-like computer bank, that a fascist regime is controlling America, or that The New England Journal of Medicine released a study in 1998 concluding that fat may actually protect you from heart disease? Could the 1970's nutritional wisdom we've been relying on for decades be completely bogus? What's next? Sleep more or you'll get cancer? Consider the last statement prophetic. Later, Miles/Woody watches Diane Keaton's character light up a cigarette for medicinal purposes and moans: "How could we have been so wrong? Everybody knew fat and caffeine were

toxic substances!" "Miles, everybody knows that the only things that have kept mankind alive are coffee, cigarettes, and red meat!" Somehow that's not as funny, now that it might be true. Coffee and cigarettes certainly seem to keep the French alive. They even look better than we do. In this same tragicomic scenario, the wheat grass and tiger's milk are thinly veiled doppelgangers for our salads and Balance bars. In the 1970s, salads and Balance bars definitely would have been classified as "health food" for "health nuts." Everyone was very comfortable with the fact that there were "health nuts" and there were the rest of us. Today, if you're not into your health, you're considered nuts. Today, everything is labeled "low-fat," "fat-free," "99% fat free," or "30% lower in fat," in an attempt to qualify as "health" food. Even fruit juice and dried pasta are sold as "fat-free," because we're all nuts. Your doctor and the media docs on TV all say, even after Dr. Atkins, Protein Power, and Enter the Zone have proven otherwise, that you can't get enough high-quality carbohydrates to lose weight unless you consume 5 to 7 servings of fruits and vegetables a day on top of the recommended 5 to 7 servings of grains and breads on top of pasta and wine. They never even figure in the Pepsi, Coke, Snapple, honey in your tea, and the high-fructose corn syrup that shows up as a preservative in almost all processed food. Now, let's imagine all of the food they've recommended piled up on the table (because it would never fit on your plate). Doesn't that seem like a lot? What if all those low-fat promises of a long, cancer-free, diabetes-free life in a beautiful, thin body, run by a strong, clear, non-hypertensive heart, were bogus from the start? What if carbohydrates, not fat, were the cause of obesity, diabetes, and cancer? THE GOD MODULE We think it's the exercise that's the key to why you feel so good while you're dying. It's also the reason why some people are able to stay on a low-fat regimen long enough to kill themselves. What could make a person do this? The desire to be thin and well? No way. Michael Persinger, Ph.D., professor of neuroscience and psychology at Laurentian University in Canada, has isolated an area of neurons in the brain's temporal lobes that repeatedly fire bursts of electrical activity when one thinks about God or has any feelings of spirituality. We scientists know this from CAT scanning praying monks, nuns, and schizophrenics as they "talk to God." Near the front of these temporal lobes is the amygdala, an almond-shaped organ that imbues events with intense emotion and a sense of meaningfulness. Because of the way the temporal lobes are structured and hardwired to the amygdala, they are the most electrically sensitive regions in the brain. Dr. Persinger has personal knowledge of this because he created a helmet with coils of wire set just above the ears (picture Woody in Sleeper). By passing a carefully controlled electrical current through these coils, the doctor creates a pulsating magnetic field that mimics the firing patterns of the neurons in the temporal lobes. This creates a mystical spiritual experience, complete with a healthy dose of peace. Dr. Persinger's subjects report an "opiate-like effect with a substantial decrease in anxiety, a heightened sense of well-being, similar to reports of enlightenment." While Dr. Persinger was doing his best mad-scientist impression, Vilayanur Ramachandran, Ph.D., director of the Brain and Perception Laboratory at the University of California at San Diego, was channeling heaven. Dr. Ramachandran announced in 1998 that he had discovered the "God module." This "module" is located in the brain in an area within the temporal lobes that becomes electrically active when a person thinks about God or spirituality or recalls a "mystical" experience. Wow, that sounds familiar. We also know that stress, grief, and mostly a lack of oxygen also trigger heavy electrical firing in the same neighborhood as the God module. Since lack of oxygen brings on such neural bursts, some scientists believe this mechanism may account for many near-death experiences of euphoria and tranquillity. Also, sleep apnea in people with twitchy temporal lobes may mean that they hear someone calling their name as they fall asleep, or that they have an "out of body experience," such as flying, in their dreams. We're also going to tell you that the hyperventilation resulting from the exercise that goes along with urban yuppie low-fat living kicks the God module into play. That's why a runner's high is such a religious experience. Your brain thinks you're dying. But you're just out of breath. We're worried that you might be out of time, too. The truth is, all of that exercise is doing more than making you high. It's exacerbating the burnout of your cortisol receptors. Running is a fear response. In the real world, it means something is after you; at least that's what your body and brain think. If you run long enough, all your systems believe you're not going to outrun that predator. The brain chemistry that follows extended running has evolved to make your exit from this world more pleasant. This means that oxygen depletion alone will kick in the part of the brain that takes you to heaven or, in this world, gives you a reason to keep running. The mechanism of brain chemistry that causes you to see God as you run out of oxygen evolved from programmed responses to environmental cues that no longer exist, responses that once upon a time might have kept you alive or made dying okay. Now, they're killing you. HEALTHY LIVING? What other modern environmental cues are triggering ancient survival switches?

The answer to that question is a chilling scenario worthy of a science fiction novel. Or a book like ours. Working late in bright lights after dark, or watching David Letterman, or checking late-night Email, for even just half an hour, all register as the long days of summer to your inner environmental controls. This means that your brain will force you to seek energy for storage by eating sugar. Sugar (carbohydrates) is the only path to insulin release; insulin's job is to store excess carbohydrates as fat and cholesterol so you have something to live on when summer's over. The abdominal fat pad common in insulin-resistant, high-cholesterol heart patients and Type II diabetics would, in another time and place, have served to keep internal organs warm and would have been utilized as energy during normal famine (winter). Increased intake of carbohydrates (sugar) is always dumped into increased cholesterol production, too, because the carbs lower the freezing temperature of the cell membrane. In the real world, you'd never have access to that much sugar unless it was summer before winter. You don't live in the real world. The next time your doctor says your cholesterol is too high and you should cut back on the fat and exercise more, tell him he's mistaken. Tell him you're not sick, you're just going to hibernate and you don't want to freeze. He might laugh. You, on the other hand, should be crying. You're in big trouble. All of the systems that have evolved to keep you alive and have brought you to this point are shouting, "Famine's coming!!!" When you exercise day and night to stave off the weight gain your body and mind crave, you kick in your "stress response." The message you're sending to those systems is "Oh, my God, a famine's coming and there's a tiger chasing me!!" Trust us, this is no solution. In fact, exercise just might be the last nail in our collective coffins. The stress response enacted when you run for your life on that treadmill causes your cortisol levels to rise. If you do this once in a while, say, every ten days, the natural episodic cortisol response will keep your heart and brain healthy. But if you exercise like a maniac more than once a week, the high cortisol levels resulting from all of the chronic exercise actually mimics the stress of mating season, when the long hours of light and the competition (especially for males) kept cortisol at yearly highs. Sexual competition is the most stressful situation possible in nature, short of being killed. Mating season would come to naught without a fat base to nourish a pregnancy through the winter. So it's no coincidence that carbohydrate craving to put on fat, and high cortisol and high sex hormone levels all coincide. There must be a bun in the oven for most mammals by August or September in order for the baby to be born in April or May, in the spring, when food is plentiful. So you're in the gym, it's November, it's anywhere from 6:30 to 9:30 p.m., and at least 3 bazillion watts of fluorescent lights are on and being intensified by reflecting mirrors that are shining right into your eyes and all over the skin of your overexposed body. You lift weights, run or jog on a treadmill or track, and, if you're really suicidal, you're on a StairMaster or you're spinning. Know that, to your body and mind -- which were evolved over millennia to recognize cues in nature -- you are in a fight, a death match, just like the head butting wildebeests on the Nature Channel. You are in a fight for an egg, for immortality, or at least for a chance at the next round. This fight seems reasonable to your body because the long light at night (gym glare) means it's late summer and you must mate or go berserk. (Anybody who's witnessed the mating behaviors going on at the Vertical Club can't possibly question our hypothesis.) That's why cortisol is up during the day -- to supply glucose to muscles to fight or run away and to keep you calm for decision-making processes -- for mating. That's why, when we are constantly bathed in unending light, we all feel so antsy (read: paranoid, aggressive, hysterical, urgent), even those of us not exercising ourselves into oblivion. In this chronic state, not only are you keeping your blood sugar up, taxing your insulin response system with cortisol's blood-sugar-mobilizing effects, you are actually becoming insulin-resistant as you exercise, too. This fact means exercise can make you fat. While you're exercising like a maniac and living low-fat, if you even smell a cookie you gain weight and you're pouring sex hormones, too, causing cancer and suppressing your immune system in the bargain. Chronic high cortisol also skews your time perception, making you feel continually rushed. It's the altered time perception that fosters much of the late-night stalling before bed, while you stay up under the impression that there must be more to do or that you haven't finished your work. Then you stuff yourself with more sugar because you haven't slept, and your insulin is sent even higher. We know this behavior alone makes you fat and sick. Really, it's not the lack of exercise or the meat or the butter. It's not fat at all. Really. If eating saturated fat caused obesity, we would already be well on our way to reducing obesity nutritionally. Actually, we would all look like supermodels. We're eating less fat and exercising more than ever before, but we don't look anything like supermodels. In fact, we really look like hell. We're fatter and sicker than ever before in our nation's history. Not only do we still look incredibly bad, but our plan to eradicate heart disease, cancer, and diabetes is shot to hell, too. The average American has actually gained eight and a half pounds since the "low-fat war" on obesity began. The

assumption we've held dear for thirty years has been that losing weight by cutting fat and exercising would lead to massive improvements in the occurrences of cardiovascular diseases, not to mention diabetes and cancer. But that hasn't happened. When it didn't happen, the medical establishment said that the scientists said that we hadn't lowered fat enough. And that if we lowered the fat content in all processed foods, if we further reduced meat consumption, and if we created fake fats like Olean, the brand name for olestra, the tide would finally turn. Now all these goals and miracles have occurred and we exercise day and night, and we are much sicker than ever. There is no "real food" available in the grocery stores and, pathetically, many of us have at least once in the last ten years attempted to become vegans. Every day, talk show hosts, TV documentaries, news anchors, and cooking shows tell you low-fat living is working. You'd never know it's not, unless you took a look at the statistics and the increasing sale of diet drugs. These numbers give a very different picture. To say the picture is not so rosy would be downright facetious. Recent studies showed a body count of more than 1 million people for heart disease alone. The big rumor among statisticians is that cardiovascular death is now widely underreported. Somehow, although the number of deaths from heart disease has decreased, the actual number of heart attacks has gone up. That means somebody's playing with the numbers. It also means people are still having just as many heart attacks and as much cardiovascular disease as ever, but procedures like bypass surgery, angiograms, a clot-busting drug called t-PA, 911, and angioplasty are saving them for the moment and decreasing death rates. That's just cardiovascular death; there are still 60 million more people (that's 25 percent of the American population) who will eventually die from heart disease, according to their risk profile. Some of these "risks" are smoking, age, gender, high blood pressure, high serum cholesterol levels, diabetes, stress, and, of course, almost everyone's own medical nightmare, obesity. (The terror in this society isn't destitution, heart disease, or even violent crime, it's the haunting thought that you might just get up one morning really fat.) Well, wake up and smell the Slim-Fast. The average man in this country is not thin. He has 23 percent body fat, and the average woman has 32 percent. Those figures make the average guy 53 percent fatter than the healthy ideal and the average woman at least 50 percent fatter. In 1961, obesity was, so they thought, at an all-time high of 20 percent of the entire population. In 1995, the Centers for Disease Control and Prevention told us that the number of Americans who were seriously overweight had increased to 30 percent during the eighties alone. Remember the gym. For twenty years prior to that, these same obesity statistics remained unchanged, holding at one quarter of the population. This is exactly the same twenty-year period that encompassed the bulk of new nutritional research that we now follow. This twenty-year span also saw the end of real food, the forty-hour work week, and the two-week vacation, as well as the advent of cable TV, cell phones, voice mail, and E-mail. EVER WONDER? Every year, 80 million Americans "go on a diet." The amount of weight they lose isn't even at issue, because 95 percent of them gain it all back (plus some) within five years. We've been steadily decreasing our consumption of fat and cholesterol, and yet increasing our incidence of obesity, disease, and death. Since the turn of the century, sugar consumption has increased by 150 percent. As sugar became a cheap preservative, it became an additive in almost all processed foods, and, as we know, American consumption of processed foods has increased exponentially over the last fifty years. In the 1940s, TV was rare. By the mid-1950s, three in ten households were receiving visible radio waves. Even in the heyday of Nickelodeon-derived programming, harried housewives only occasionally poisoned their families with TV dinners. Now the average family has two adults employed full-time and eats out or from the freezer case at least four nights a week. If that's the norm in a two-parent family, imagine how rarely the average single-parent household gets a home-cooked meal. Mom either picks up the kids at day care and they go out, or she calls the baby-sitter to start boiling the water for the pasta. It's already at least 6:30 p.m. by the time dinner (pasta, juice, or low-fat milk for the kids, plus bread, and dessert) is ready. Mom needs a drink just to keep going and there's still homework, baths, and "quality time" to accomplish. If Mom cooks a real dinner from more than two of the recognized food groups, instead of feeding the next generation Cheerios or pasta, it's even later. And if she does that, Mom needs two drinks. Now it's at least 9:00 or 9:30 p.m. and she still hasn't had a minute to sit and stare after work. In the summer, this would actually be okay. But the scenario we're describing is during the school year, which means "dark time" in nature, so this single-parent family or working mother with a lazy or, on the other hand, even harder working "absent father" will endure at least five, maybe seven, extra hours of light in a twenty-four-hour period, day in and day out for seven months out of season every year, year in and year out, decade after decade -- until Mom gets breast cancer, her little girl has acne and is too fat to find her image in Vogue, and junior, who is only 5'5", has asthma. If our imaginary dad is present, he has clogged arteries, high blood pressure, and high blood sugar. And how this all happens

is a complete mystery to medical science. The disastrous slide in the health of the American people corresponds to the increase in light-generating night activities and the carbohydrate consumption that follows. Just consider the increase in the average weight of young adults and teens over the last fifteen to twenty years. It has, predictably, increased by more than ten pounds. The percentage of overweight teens rested at 15 percent in the 1970s and rose to 21 percent by 1991. Now it's up to 30 percent. A recent front-page article in The New York Times cited television as the cause of the increase of obesity in young people.

Its claim rested solely on the "couch potato" premise, pleading a lack of activity (exercise). It is TV, all right -- but not the way they think. Most young people today were born into a low-fat/ heavy-exercise world. More than a third of them are self-declared vegetarians and bikers and hikers and Rollerbladers. There are approximately 12.5 million of them in America today. These young adults, when asked why they're

vegetarians, predominantly say it's for their health; the rest just think it's cool. They have no idea what they're doing to themselves. THE ENDLESS SUMMER SYNDROME Besides a steady increase in heart disease and obesity, statistics already show that diabetes and cancer are also on the rise. Maybe it's not just the food. In the January 12, 1998, issue of U.S. News and World Report, the head of the Harvard School of Public Health's department of nutrition, a very fickle man, Walter Willet, was queried about a low-fat diet's failure to cure any diseases or save any lives. His weak reply, "It was just a hypothesis to begin with," showed

no shame. That hypothesis has cost more lives than the last two world wars and the Vietnam conflict put together. just check the American Cancer Society's and American Heart Association's statistics for the last three decades. In 1999, it was predicted that 1,257,800 people would die from cancer alone. If you'd like a future projection, check the American Diabetes Association's mystifying numbers on the growing population of Type II diabetics. Now researchers are on the lookout for genetic markers for obesity, because if there's anything we're sure of, it's that obesity is the beginning of the end. Obesity is the precursor for adult-onset diabetes. It's no coincidence that in the year 2000 there will be more than 25 million Type II diabetics. That's about 98 percent of the entire diabetic population. If all 25 million become diabetic, then a great proportion of them will certainly have heart disease and high blood pressure, two conditions that lead to stroke. Those complications are the leading killers of diabetics. It's been predicted for years now that reducing dietary fat

would decrease cancer, but cancer statistics show us an increasing incidence of colon cancer with an associated decrease in death. That means colon cancer is increasing, but people are dying from it less often. This is not a cure. For breast and prostate cancer, both increased incidence and increased death can be seen. These numbers on breast cancer, prostate cancer, and colon cancer are the ones that, most certainly, should have shown a drop, given all the dietary changes Americans have made in the last fifteen years. Instead of acknowledging low-fat's defeat, medical research gave us Mevacor, Provacol, Proscar, and now Tamoxifen and Raloxifene. Medicine admits that the "improvement" in cancer statistics is derived from early detection, not from treatment or prevention. But early detection only extends the time of awareness -- the victim just knows sooner that he or she is going to suffer and die. It doesn't actually change the date of death. Early detection never saves lives; more often it only prolongs them long enough to skew the numbers. All these numbers prove that we're on the wrong course. We agree that dietary intervention certainly can reverse the course of disease. Cutting carbohydrates would cure obesity and most diabetes, but not heart disease, and certainly not all cancer. The end of this story lies in extinction. Food is part of the equation, all right, but it is not the answer. The answer lies in circadian rhythmicity and evolution. The answer is to eat and sleep and reproduce in sync with the spin of the planet or go the way of the dinosaurs. The long hours of artificial light

that confuse your ancient energy regulation system also destroy the lining of your heart, so excess cholesterol can obstruct blood flow. Your subconscious has, over the course of evolution, been conditioned and fine-tuned to believe and act on the following when the lights stay on too long: "Eat carbohydrates now or die later." Your subconscious, too, has, over the course of evolution, been conditioned and fine-tuned to

believe and act on the following when the lights stay on too long: "Mate or die." This light-responsive instinct has been the basis of our feast-or-famine metabolism and ultimate survival for at least 3 million years. All the effects of chronic light exposure and the carbohydrate consumption that follows that exposure would have, in another place and time, prepared us for the worst -- for no food and for the shorter, darker, colder days of less sun. We have always "feasted" to endure the "famine" that always followed -- until now. Unfortunately, the truth in our time is that we eat carbohydrates now and die sooner. Your body translates

long hours of artificial light into summertime. Because it instinctively knows that summer comes before winter, and that winter means no available food, you begin to crave carbohydrates so you can store fat for a time when food is scarce and you should be hibernating. This is the formula: A. Long hours of artificial light

= summer in your head  
B. Winter signifies famine to your internal controls  
C. Famine on the horizon signifies instinctive carbohydrate craving  
to store fat for hibernation and scarcity  
This storage is accomplished by:

1. Increasing carbohydrate consumption until your body responds to all the insulin by becoming insulin-resistant in muscle tissue;
2. Ensuring that the carbohydrates taken in end up as a fat pad;
3. Prompting the liver to dump the extra sugar into cholesterol production, which will keep cell membranes from freezing at low temperatures.

If you sleep at night for the number of hours it would normally be dark outside, you will only crave sugar in the summer, when the hours of light are long. It is the "perennial adaptation," or the chronic, constant intent to hibernate, that causes overconsumption of carbohydrates and obesity and its attendant high blood pressure, high cholesterol, and inevitable heart failure. Steps 1, 2, and 3 also correspond to the hormonal portrait of Type II diabetes -- a disease that, in truth, is the end result of excruciating fatigue from light "toxicity." On the way to the end, you'll definitely encounter one of the following -- obesity, heart disease, stroke, mental illness, or cancer. The medical community, the FDA, the National Institutes of Health, and your TV will tell you that the cause is a plague from the great beyond that can only be cured by an 80-percent nonfat diet, at least three to six hours of exercise a week, and a cadre of supplements and vitamins. Who are you going to believe? The market is saturated with information on low-fat diets: how to eat low-fat, why to eat low-fat, who should eat low-fat. There are only a few dissenting opinions, though the numbers are growing every day. It's slowly leaking into the American consciousness that "for some people, low-fat may not be the best choice," according to Walter Willet. This half-mumbled, hedged recant is too little, too late for those we knew who didn't live through the low-fat movement. This national health catastrophe has, in real time, been at least seventy-five years in the making. In all those years, countless souls have struggled and failed to follow nutritional advice that never could have led to success. They failed because it was never really about food. We know from history that the diseases of civilization all hit hard after the Industrial Revolution, when electricity made the potential of unlimited cheap artificial light possible. It was the electric lightbulb that turned night into day. The price-performance curve for the lightbulb mirrors the price-performance curve for the laptop computer. A 100-watt bulb costs 33 cents at any Home Depot. In 1883, the same amount of light would have cost the consumer \$1,445. The experts have concluded that machines usurped our physical well-being; in reality, it was the refined and sugared processed food that became part of our lives for the first time, at the same time as the lights extended our day and changed our appetites, that did it. Although the instrument of destruction may be food, the cause of death is something much more insidious.

**CAUSE OF DEATH**  
Your appetite is but one symptom of this deathly dysfunction, just as obesity is correlative with heart disease but is not the cause. The real truth is that the urgent need to sleep is also the cause of Type II diabetes. All diseases that are not caused by contagion and injury are born of immune dysfunction by way of metabolism. Your immune system is governed by two substances: prolactin and melatonin, and both of them are controlled by light-and-dark cycles. It's these major biological controls that are deranged. Seasonal variation in daylight, and intensity of daylight, control budding, growth, and dormancy in plants and in animals; seasonal changes in ambient lighting control hibernation, migration, and breeding. To expose ourselves to the unremitting glare of artificial lighting for more hours than it is actually daylight is asking for trouble. Until seventy-five years ago, we spent up to fourteen hours a night, depending on the season, in the dark. By the 1920s, most people could afford to keep the lights on for a couple of hours at night after sunset. They could afford a couple of Edison's new light "bulbs" and the electricity to keep them on because the same energy source was building an economy that utilized an enormous workforce. The lights brought jobs to pay for the lights. By the late 1920s, expensive machinery in factories had begun to hum around the clock. Suddenly they were running twenty-four hours a day, when, only a decade before, gaslight was too expensive to use all night. Before electricity, factories ran only ten hours a day. This second Industrial Revolution remapped the economic landscape. Night-shift work brought more money in countless ways. Not only did it line the pockets of the factory owners, it also provided more jobs and money to an economic underclass of new immigrants. But, more important, night-shift work brought a service economy with it. That service economy spawned transportation, all-night places to eat and all-night grocery stores, night tennis courts and baseball games, gambling joints, and on and on. The electricity powered the telephone, which is the basis of our present science-fiction communications capacity, which has allowed small markets to become global markets. There's even a new piece of terminology in our language for this phenomenon, thanks to the Internet -- twenty-four/seven. It was a ridiculously bad piece of luck in an otherwise pretty fair century that, at exactly the same time that sugar started to be used to process and preserve packaged "food," we had the opportunity to stay up all night and

eat it. Granted, there weren't a lot of packaged foods on the market at that point, but the ones that were on the market used highly refined (by machine) corn syrup to prevent moisture loss and extend shelf life. Most packaged foods still do. Even the shrink-wrapped whole-grain low-fat honey-sweetened bran muffins you find next to the cash register in the mini-mart have been preserved with sugar. It's illuminating to note here that the incidence of Type II diabetes dropped sharply during World War I and World War II, when sugar was rationed.

### THE INSTRUMENT OF DEATH

To understand why carbohydrates are the instrument of death, we need just a little science. Only recently have science and medicine begun to acknowledge a condition called chronic hyperinsulinemia. That's the term for chronic high insulin made in your own body. This can only occur when you chronically consume carbohydrates. You could never chronically consume carbohydrates in nature. Trees and plants fruit only in one season and flower in the other. Living on sugar for more than a month or two in a row would not be possible unless you were preparing to hibernate like a woodchuck for a long winter nap. The media doesn't talk much about insulin unless it's reporting on Type I diabetes, so most people know insulin as a medicine for Type I diabetics, who for reasons that are viral or autoimmune in origin can no longer make their own insulin. The diseases known as Type I and Type II diabetes are both characterized by uncontrollable blood sugar. Insulin is at the center of both forms of the disease because it controls blood sugar by binding to cell receptor sites like a key opening a lock. Once the floodgates are open, the blood sugar can enter and energize all of your cells. Insulin resistance is the body's inability to respond to the insulin that you normally produce because receptors have retreated to save your life. Every function of your body, from basic molecule-to-molecule communication to complex operations like appetite control or temperature regulation, is in a tight zone of normalcy called homeostasis. The retreat of your insulin receptors is an attempt to control how much sugar is allowed in. Too much is not normal. The telling clue to our impending doom is that the incidence of insulin resistance is occurring in younger and younger people. The entire population is aging in "fast forward." The logical response would be to retool all the food factories and advise people to cut out sugar, right? That's the approach we took with fat and the population fell right in line. Believe us, it wouldn't be as easy with sugar. It would be more like Prohibition. We are as addicted to a low-fat, high-sugar diet as alcoholics are to alcohol, because high insulin levels create the same brain state as alcohol does. Alcoholics "sleep it off" after a binge, not only because the alcohol itself has a drug-like effect on their opiate receptors but also because the huge carbohydrate load of the grape, grain, potato, cactus, or, in the case of rum, sugar cane in the drink literally puts them to sleep. Remember this as you go for that glass of wine after dinner. The spike of insulin after a binge makes the serotonin in the brain turn into melatonin and it's lights out. In our culture, we take in as much carbohydrate in a day as a rummy on a binge. For him and us, the natural recovery is the same. Sleep it off.

### RESURRECTION OF THE TRUTH

Could it really be the loss of sleep destroying the endocrine clock that controls weight gain? Could how much you sleep really control your appetite? Our findings are almost too simple and extraordinary to believe. But here, we remind you of the legendary rule of Occam's razor, which states: "All things being equal, the simplest answer is always the correct one." We know that, for most of you, what we're telling you is like finding out that everything you've grown up believing is a lie. Well, it is. Don't you want to know? It turns out that everything we've come to know as fact about our health turns out to be no more than wild conjecture. Conjecture that has no science to support it. Conjecture that, to some people, made sense. Not anymore.

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This fascinating, thought-provoking study discusses the central role of sleep in our lives. After probing the scientific literature, Wiley and Formby, researchers at the Sansum Medical Research Institute, conclude that "the disastrous slide in the health of the American people corresponds to the increase in light-generating night activities and the carbohydrate consumption that follows." Our internal clocks are governed by seasonal variations in light and dark; extending daylight artificially leads to a craving for sugar, especially concentrated, refined carbohydrates that, in turn, cause obesity. More seriously, lack of sleep inhibits the production of prolactin and melatonin--deranging our immune systems and causing depression, diabetes, heart disease, and cancer. The authors prescribe sleeping at least nine and a half hours in total darkness in the fall and winter and switching to a diet low in carbohydrates and high in protein, vegetables, and healthy fats. They support their arguments with 100 pages of notes and by tracing the progression of disease from hunter-gatherers to our high-tech society. Despite its somewhat strident, all-knowing tone, this illuminating work is highly recommended for academic and public libraries.---Ilse Heidmann, San Marcos,



