

SHAPE  
*Shift*



# SHAPE *Shift*

The Shape Intelligence Solution  
Getting Healthy While Creating Your Ideal Shape

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*This book is dedicated to our two wonderful mothers,  
Joanne Kelly and Betty Percival.*



## Acknowledgements

More than a decade ago, we became frustrated with the conventional wisdom of weight sciences. This boiled to a head when a prominent health expert wrote on their website words to the effect of; if you want to lose weight, I'll give you the advice I give all my patients, eat less and exercise more. In our work with people with shape challenges, we knew it wasn't this easy. We wanted to find out why, and we wanted to find ways to make it easier. This book is the end result of our investigation. Along the way, there have been many people who have helped directly and indirectly. We want to thank them all.

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## Foreword

*The aim of medicine is to prevent disease and prolong life; the ideal of medicine is to eliminate the need of a physician.*

*William J. Mayo*

What three year old has not played the “Why” game? “Why do I have to go to bed?” “Because you need your sleep.” “Why do I need my sleep?” “So that your body can grow big and strong.” “Why does my body need to grow big and strong?” “So that you can play with your friends and have fun.” “Why should I play with my friends and have fun?” and on and on and on. Parents usually surrender with “Just because,” or “Everybody knows that.” As a physician, even though I am over forty years old, I still find myself playing this game and asking lots of “Why” questions. And in the same way it caused frustration to my parents, I and other “Why” gamers (maybe you) are frustrating the health care experts with simple questions leading to answers that usually lead to more questions. “Why can’t I lose weight anymore?” “Why does disease occur?” “Why can two people with nearly identical lifestyles have such different shape and weight results?” “Why is our healthcare system focused on treating disease rather than creating health?” “Why do we see some people get fatter after a diet?” and so on.

“Why” is a powerful question. It is the essence of root-cause analysis, and the best route to find meaningful solutions to the most persistent problems of today. Sadly, the cop-out answers heard too often in reply to “Why?” questions, often borne more out of frustration than understanding, are “Because I said so,” or “It just does,” or “Everybody knows that”. Those kinds of answers will not provide the results we desire for our health. You will not find any such cop-out answers in this book. Doctors Kelly and Percival have created a very thoughtful and exceedingly well referenced work that gives us context for understanding the issue of shape and weight in a way never presented before. They boldly ask “Why”, and, by examining the scientific literature with careful eyes, come up with

answers that are not only surprising, but as I have found in my clinical practice, notably effective when it comes to improving shape and weight.

I have personally struggled with my shape and weight. So, with deep empathy for the pain of being overweight, I studied “weight loss” diligently over the years, determined to help others who, like me, struggled with their shape and weight. I put what I learned into practice, and operated a standard weight loss program within my medical practice—complete with the use of appetite suppressing drugs and strict, very low-calorie diets. But about the time I passed the board exam for the specialty of Bariatric (obesity) Medicine, two things happened in my life that shifted my perspective on shape and weight. The first of these was that patients who had appeared to be “successful”, having lost large amounts of weight by severely restricting calories and in many cases taking weight loss drugs, started to come back. They weren’t coming back because they wanted to fine-tune their results or show me how great they were doing. They were returning because, they had not only regained the twenty to one hundred pounds they had lost under my previous care but, in some cases, they had surpassed their previous all-time-high weight. The rebound effect, of this conventional approach to weight loss, was leaving many of them fatter than ever. While repeat customers are the foundation of every great business model, I found this outcome wholly unsatisfying. It ran counter to my deeply held passion for improving the long-term (lasting) health and well-being of my patients. I began to question what I had learned, and had been practicing. Without better answers, and disillusioned with these results, I shut down this part of my practice.

The second event, the one that ultimately got me re-excited, and changed my approach to shape and weight, was being introduced to Dr. Kelly and Dr. Percival. Within a very short period of time of working together, I came to realize I had been approaching the problem of obesity in a way that was contrary to how the body functions and heals. As I was learning this new way of viewing shape, I found one thing truly remarkable. I had been using many of these concepts, or similar ones, in my efforts to find and treat the underlying causes of other disease states. But I had a huge blind spot when it came to the subject of fat. If someone came to me with auto-immune disease, allergy, heart disease, chronic fatigue syndrome, depression, or anything else for that matter, I would

always seek to find the cause(s), and focus treatment in that direction to bring about healing. But with obesity, I (like much of society at the present time) was blinded by what I thought I knew: I had been convinced that weight was an issue of controlling how many calories we take in and how many we use. Eating less, exercising more, and using medications to do things like suppress appetite and boost metabolism, were the sensible solutions to this issue. While these approaches will produce temporary weight loss, they generally don't produce the kinds of sustained results we want, and are more akin to trying to manage a problem, than actually solving it. In other areas of my practice, I had been dedicated to solving health issues. What you will learn in this book is this solution-based approach to shape and weight. You won't be told how to manage shape issues, or given tips on how to make quick, but temporary changes. Instead, you will be given something even better. You will be given answers to "Why"; answers that will help you find and make changes in the underlying, and often hidden, areas that really make a difference when it comes to producing lasting changes in shape and weight.

Please allow me tell you about Susan (not her real name), and how this approach affected her. She had been through three other weight loss programs during the last five years, and had gained and lost as much as forty pounds in between each of these weight loss adventures. She was tired, discouraged, depressed, and said she felt like a "failure." Susan came to me shortly after my "Great Shape Awakening", so when she asked me to help her to lose weight, we had a very different discussion than she had previously experienced. We dove into what could be the cause(s) of her increased fat mass, why she gained weight when she did, why her body could actually want to hold on to fat given her current and past circumstances, and why changing her approach could change her results. We worked together for six months, doing what we call at the MaxWell Clinic for Proactive Medicine "Peeling the Onion," which is systematically finding and addressing the many layered barriers to health creation—be that removal of excess stressors of body, mind, or biology, or the replenishment of the ingredients needed for healing. What were Susan's results? Over six months time, she shed sixteen pounds of fat and gained four lbs of muscle mass. This was a significant shape change. The rest of the story is even better. Her depression cleared, her energy went through the roof, her sex drive returned, she started the business she had dreamt of for years, she slept through the night without the use of sleeping aids: All that and

a change of two dress sizes! But Susan's story continued to get even better. Susan left my practice because her husband was transferred to another city. Five years after our last meeting, she appeared on my schedule once again. When she walked in, I didn't recognize her. It wasn't because of the passing years; it was because she was now fifty-two pounds lighter than when I had first met her. The overall shift in her shape was even bigger than this loss in pounds. She had added an additional ten pounds of muscle since our last meeting, making her shape change even more dramatic, healthy, and transformative. She was once again wearing a size 4; a dress size she hadn't been able to wear since she was a teenager. Her business was thriving, as was her marriage. When I asked her how she had accomplished what she had, she replied, "I just kept asking 'why?' and running better experiments on myself." It brought tears to my eyes, because it confirmed, in such a beautiful way, the truth that health creation is a process that comes from the inside out. It is not something that some doctor can do to you from outside in. It is something we each do for ourselves. The quote by Dr. Mayo, at the beginning of this forward, is one of my favorite takeaways from my time practicing at the Mayo Clinic. It is my hope that approaches based upon it become the standard for whatever comes next in the realm of health-care delivery. Excellence in health-care is not defined by more medical treatment, it is defined by producing better and lasting results; results which provide greater quality and quantity of life.

You're probably curious what Susan did. I will refrain from giving you her recipe, because I fear it would only distract you from finding your own. Every person is unique because of their genetics, the environment in which they live, and more. This being the case, everything we do in the realm of medical treatment or health creation must be individualized; it is, in other words, an experiment of one. My goal is to help my patients produce exceptional and lasting results, by guiding them to find the biggest opportunities for improvement in their lives, and then to run increasingly wholesome experiments in these areas of opportunity. This is the miracle of the Health Scene Investigation approach; an approach founded on helping you investigate your own Health Scene, and which intimately involves *you* in the process of both discovering these areas of opportunity, and changing them.

Our medical system is technologically more advanced than at any point in human history. We also spend more on healthcare than at any previous time. And, while the current medical system does a tremendous job in many areas, it has arrived at a crossroads of sorts. We are in the midst of epidemics of obesity, cancer, heart disease, and the list goes on and on. Just to pay for our current obligations to fund Medicaid and Medicare, each family in the United States would need to pay \$400,000.00 into the United States Treasury *today*. By the year 2030, the cost to pay the interest on the money borrowed to fund health care in the United States will exceed our entire nation's Gross Domestic Product, effectively making us financially insolvent due to medical treatment costs alone. Treatment of preventable chronic illness accounts for 70 to 85 percent of our total yearly health care expenditures. Please, read that last sentence again and let it sink in. Obesity is related to many of the preventable chronic illnesses that are producing this runaway train when it comes to both the downward health of our society, and funding its treatment. Obesity is often blamed as the cause in this relationship. It's more complicated than that: You'll find out why in this book. Improving shape, both our individual shape and our society's shape, is imperative for our personal and national well-being. How do we do this; how do we get in shape?

We have to make a shift in how we view things and in what we do about them. There is really no other choice. We can wait until an issue with health is so advanced that it becomes a medically recognized problem, or we can take pro-active steps to change the direction our health is taking. We can hope that someday medicine will be able to fix people in spite of themselves (which, trust me, is unlikely), or we can strive to turn the hope of Dr. Mayo into a reality—we can, because of our individual choices, help prevent disease and prolong our own lives, drastically reducing the current and future role medicine will need to play for us. This will shift our personal well-being, and if enough of us do this, it will make a shift in corporate well-being, and even our societal-well-being. At LifeStrive (a company Dr. Greg, Dr. Mark, and I helped co-found), we refer to this shift in how we look at things, and what we do about them, as “Health Response-Ability”. The greatest opportunity most of us will ever have when it comes to our own health, and our shape, won't come from what medicine will do for us; it will come from our ability to choose to do things differently. We have the ability to respond differently; we also have the responsibility to do so.

By becoming an effective Health Scene Investigator, you will be practicing Health Response-Ability. You will be solving your health scene in ways that improve the shape and health results you produce today, but also improving them in ways that offer a form of insurance for tomorrow.

Many health challenges seem to occur suddenly. We don't notice they are a problem, until they are already a big problem. We are noticing things late in the game. The causes have often been ongoing for years, or in some instances decades. In most of the patients I work with, there are ongoing opportunities to make changes that will alter the outcome of the health game much earlier, long before a big problem has occurred. Shape is a clue to this opportunity. Shape doesn't occur in a vacuum. It has causes. It's also a clue to the direction our health is traveling. A slowly increasing waistline is a trend that predicts catastrophic long-term outcomes. Paying attention to this trend, and altering the course as early as possible, will take you to an entirely different destination in the long-term. If coming to grips with the idea, that a small change early in the course of life would make a big long-term change in outcome, is difficult for you, I ask you to ponder how a very small change in course early in the voyage of the Titanic would have changed the outcome of that tragic story. No matter what your current shape, or whether it's early, in the middle, or late in your own personal health game, what you do starting today can alter the direction you are trending.

While very enjoyable, this book is not fluffy. Serious topics deserve a respectful and thorough investigation. Shape is one of these topics. It is time the world has access to a book of this caliber. I do my best to answer the question of "Why?" when my children ask it, and when my patients ask it. I am certain that this book, and the approach to shape and health it offers, will help you to answer this and other questions for yourself.

Be Well.

*David H. Haase, M.D.*

Founder, MaxWell Clinic for Proactive Medicine  
Chief Medical Officer, LifeStrive®

## Introduction

### Definitions:

Shape (*noun*): The contour of a person's body; the figure.

Shape (*verb*): To give a particular form to; create

Shift (*noun*): A change (in direction or appearance)

Shift (*verb*): to (cause something or someone to) move or change from one position or direction to another

Shape provides information that can be missed when the only detail we focus upon is weight. Weight can also lead us into thinking one thing when the truth is something quite different, or at the very least, more complicated. My own shape story highlights these points. I gained 55 pounds during my four years of college. In our weight-obsessed culture, the tendency would be to look at this number—55 pounds—and think, oh my, that's a lot of weight: You must have gotten really fat. The truth is more nuanced. I started college short and skinny. I grew a few inches and put weight on my chest, back, arms, and legs. At the time, I considered gaining this weight as a positive thing. I still do. I also gained about 4 inches around my waist. I wasn't as thrilled with this weight. My shape had shifted through my college years. Some of the shifts were for the better; others were for the worse. Soon after graduation, my shape would shift again.

I graduated from college in 1984 and was commissioned as an officer in the United States Navy. Prior to commissioning, I was fitted for uniforms. My waist measured slightly more than 33 inches. The tailor recommended getting size 34-inch pants. His opinion was that it was far more likely that I would gain more weight around my waist than lose it, so it made sense to build in a little cushion. I agreed. We were both wrong: My waist size never expanded to reach 34 inches. In fact, during my first few months in the Navy, it went significantly in the other direction: I dropped about 3 inches from my waist and about 20 pounds of weight. My uniform pants

were too loose around the waist and remained that way for the five and one half years I stayed in the Navy. It is two and one half decades later and they would still be too loose for me.

In our culture we tend to overemphasize weight loss and underemphasize more important changes. Weight didn't really tell an accurate story in either of these two shifts in shape. I wasn't trying to lose weight during my first few months in the Navy. I was trying to get in better shape. That some weight was lost as I got in better shape was more of a side effect. And the loss of 20 pounds I experienced failed to accurately capture the totality of the shape change I experienced. My muscles became bigger and better toned. Put another way, I gained weight in some areas of my body. At the same time my stomach became flatter and more defined. I didn't just lose weight; my overall shape changed. Sometimes this happens when we lose weight, but many times it doesn't. Paying attention to shape, in all its subtleties, is a better barometer.

Shape is changeable. It shifts based on our habits and circumstances. Mine shifted when I went to college and lived a very different life than the one I had lived in high school. It shifted again when I went into the Navy. It has continued to evolve since. This is what shape does. It adapts to our habits and circumstances in what might best be described as evolutionarily sensible ways. Our shape is a reflection of our genes interacting with the lives we have led and are leading. I didn't experience the big change in my shape during my first few months in the Navy because of restricting calories or going on some fad diet. My shape changed because my habits and circumstances changed. What I ate, when I ate it, my exercise routines, my sleep-wake cycles, and more, radically changed during my first few months in the Navy. I went from being a night-person—going to bed most nights at 2 to 3 in the morning and waking around noon—to being an early to bed, early to rise person. I stopped eating late at night and started eating breakfast, lunch, and earlier dinners. I became more serious about training with weights. I walked more. I decided to learn about what constitutes healthy food and took more responsibility for what I would, and conversely wouldn't (at least not regularly) eat. I swapped soft drinks for water. I started to associate more regularly with people who cared about their shapes, and I asked them for advice. My diet, lifestyle and environment shifted, and, not surprisingly, my shape did as well.

I arrived at my first ship in the beginning of 1985 lean and fit. This did not go unnoticed. The Navy had a problem with overweight sailors in the mid 1980s. My understanding is that they still do. On my first ship, it wasn't long before this became my problem. Before going to a ship, an officer receives official orders. The orders include the ship you will be assigned to, where and when to report, and your job assignment. My ship was the USS Ouellete. I was to report at the beginning of February of 1985 to Pearl Harbor, Hawaii. My job was going to be working in the ship's engineering department. This would be my primary job; it wouldn't be my only one. Officers often have one or more collateral duties. I was no exception. I had a handful of collateral duties, one of which, since I looked to be in shape, cared about what I was eating, and exercised regularly, was to be in charge of the shipboard fitness program, including all of the sailors who were having trouble meeting Navy weight standards. This was a relatively fruitless job. Most of the sailors who had difficulty meeting the Navy's weight standards didn't want to be in this program: Adherence was a constant issue. Navy menus, at least at the time, were cafeteria style, all-you-can-eat, with many tempting and fattening food choices. Snack food—soft drinks, cookies, crackers, chips, and candy—were one of the few things you could purchase on a ship. Navy personnel, especially at sea, are chronically sleep-deprived. Body clock disruption is an ongoing stress that becomes even more exaggerated when the ship pulls out to sea because of watch schedules and the availability of midnight meals. Dedicating time to exercise while at sea typically meant taking time away from sleeping. And, as a last ditch effort to pass the weight standards, overweight sailors would typically go on a crash diet; restricting calories to lose enough weight to meet Navy weight standards for one moment in time (their weigh in). Not uncommonly a sailor would “succeed”, only to regain the lost weight in time to fail the next fitness test. These factors all acted to stack the deck against producing a sustainable shape improvement. In fact, they were contributing to the problem in the first place. Many of the circumstances that life in the Navy entails are fattening. Most sailors don't arrive onboard their first ship over-fat. Their shape shifts in a fattening direction after they arrive. In this book you will learn to identify the factors that contribute to this shift. Some, perhaps many, of these same factors are likely contributing to your shape.

My understanding of shape has evolved in the more than two decades since I left the Navy. The biggest leap forward in this

evolution came when my paradigm around shape, the metaphor I used to think about this subject, shifted. Suddenly information that hadn't made sense did. Results that had been puzzling came into focus. Cases that couldn't be solved were. With this shift in paradigm some of what I once considered sensible now seemed nonsensical, and some things I had viewed as unrelated to shape now took on big roles. This book is the product of these shifts in understanding and perspective.

The most important shift I had was in realizing that I am in a *cooperative* relationship with my body. In nature there are many relationships that are characterized by mutual benefit to both parties. Each party advances their individual interests, but this plays out in a way that allows both parties to gain, trading favors so to speak. A bee pollinates a tree, but the tree provides food (pollen) for the bee. This is a reciprocal relationship. The bee does its part; the tree does its; and both benefit. Health and shape are a lot like this reciprocal relationship. There are many things your body does for you without any need for your conscious mind to be involved, and there are other things it is dependent upon you to do for it.

When most of us think of our body, and more specifically our shape (or weight), we tend to think about it as if we are in charge or control. This control metaphor is reflected in the most common strategy followed to alter shape—dieting. The theory behind dieting postulates that we can control our weight by eating less food. This control metaphor misses a key point: Our body behaves as if it has a mind of its own. We might want one shape, but if our body wants a different one, guess who usually gets what they want. What we want doesn't occur in a vacuum. Our body wants what it wants and needs what it needs. We have a much better chance of getting what we want if we help it get what it needs. We observe this with sleep. The body wants and needs sufficient sleep to be healthy and to stay lean. It is our job to help it get enough. If we do our part, it does its, and we're both better off. If we resist doing our part, sleeping far less than we need, we suffer, it suffers, and shape usually suffers. If your goal is to improve your shape, there are absolutely things you can do that will all but guarantee this outcome. You will need to do your part when it comes to these things. You will also need to trust that your body can do its part.

The body is capable of tremendous feats of intelligent adaptation, but the way it adapts when its needs are met, in contrast to when they are unmet, can be extremely different. It takes intelligence to survive in a constantly changing world. It also takes flexibility, a willingness to alter strategies to adapt to new circumstances. The human body is an expert when it comes to intelligent adaptation.

The human body is capable of adapting to all manner of real world challenges. Many of the adaptations it makes, including shape, are evolutionarily sensible. What you do and don't do will influence shape significantly, because your habits and circumstances will cause your body to adapt in ways that make sense to it. Shape is a dynamic thing. It is adjustable, but it adjusts itself based on its rules, not ours. Understanding these rules can be the difference between succeeding in co-creating a sustainable shape you will be satisfied with, or failing over and over again. The most important rule of this game is that your body will do its best to adapt intelligently to the circumstances and situations it faces. Your shape is a reflection of these adaptations, and all of the past and present factors that have contributed to them. If you want a different shape, something will need to shift in one or more areas of your diet, lifestyle habits, or environment. If you want to sustain the improvement, the factor you shifted will need to remain shifted. Temporary changes in weight or shape can be obtained by temporarily changing something about your life. Lasting change in shape requires more than temporary changes in habits. Because of this, the focus of this book is to point you in the direction of habits and circumstances that can be changed in ways that are sustainable.

It's our hope that the information contained in this book will help you shift your shape. It's also our hope that this book will shift your perspective—point of view and understandings—when it comes to shape. We believe that our bodies are trying to do their best to take care of themselves and us. This is an incredibly important job; one our conscious mind could never do entirely on its own. Many of the adaptations the body makes are intended to protect us against a perceived threat or to better prepare us to face situations the body thinks we might face again. Shape is one of these intelligent adaptations. It is protective in nature, intended to better prepare us for things we might encounter again, and is, at its most fundamental level, a survival mechanism. We might not always agree with how the body goes about protecting us or altering our shape, but it is our

hope that this book will help foster an appreciation that your body will be trying to do its best given what it knows how to do, and what it has available to do it.

Over the past decade, Dr. Mark and I have coached clients on the principles in this book. We have also taught classes to health professionals and helped them work with their patients on shape issues. Arising from our work in this area was an appreciation that improving shape often involved what amounted to detective work. We needed to investigate areas of a person's diet, lifestyle, habits, environment and beliefs about shape, gathering clues as we went. This process of investigation required help from our clients. In a sense, we helped them become better detectives when it came to their own personal health scenes. With their help, once we had gathered the right clues, the mystery often solved itself. Mark and I eventually came to call this investigational approach to shape (and in a bigger sense health) Health Scene Investigation (HSI). In this book we will be sharing this approach with you.

Before we can solve a health scene, we must be able to properly investigate it. But how do we do this? *CSI: Crime Scene Investigation* (commonly referred to simply as CSI) is one of the most popular TV shows. It is about a team of criminal investigators who solve difficult crime cases. *House* (formerly titled *House, M.D.*) is about a team of physicians who go to extraordinary lengths to find the real answers behind unusual ailments. The characters in these shows are investigation specialists. They are experts in looking for clues and gathering evidence. They use the latest technology and techniques to analyze the clues they find. And, only after all of this is done, do they solve the case. *CSI* and *House* are modern day versions of Sherlock Holmes.

Sherlock Holmes has been an enduring literary figure for more than 100 years. His cases usually have an official inspector, who represents a conventional point of view that causes them to miss clues and go about solving cases incorrectly. In many ways, they are analogous to the conventional approach to shape cases. The other key character is Dr. Watson; the trusted sidekick and narrator of the stories. At the beginning of a case he is in the dark (uninformed) just like us. The case either looks completely unsolvable or very obvious from his initial vantage point. It is usually neither. He is given access and insight into Holmes' method of investigation. While he might

not have had the genius of Sherlock Holmes, he was able to become a better investigator by learning his methods. The goal of this book is to help you become like Watson, to improve your ability to investigate your shape and to, in a phrase, solve it. This book is intended to help you shift the way you solve problems, shift your point of view, shift your actions, and ultimately shift your shape and health. As you proceed with this investigation you may find that what you've thought is important might not be, and other things you had previously overlooked, might be the critical clues when it comes to producing a sustainable new shape. With these things in mind, I want to welcome you to the HSI team.

*Dr. Greg*



## Chapter 1

# The Sherlock Holmes Way and the Mystery of Shape

*It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts.*

*Sherlock Holmes*

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### Opening Dialogue

Health Scene Investigator: Tell me, why does a person become overweight or obese?

Apprentice: It's because people eat too much and don't get enough exercise.

Health Scene Investigator: That's possible.

Apprentice: What do you mean possible? It seems obvious to me that this is the cause.

Health Scene Investigator: I think you will find that when it comes to health scenes in general, and shape specifically, what appears "obvious" often hinders investigation. It has the potential to mislead. Let me ask you an important question. How do you know this is the cause? What evidence do you have that supports what seems so obvious to you? Are there any facts that are exceptions?

Apprentice: I don't have specific answers to your questions. I assumed...

Health Scene Investigator: Please forgive me for interrupting you. Never trust to general impressions and assumptions. Learn to concentrate on details in advance of theorizing. It is a common error to theorize before we have looked at the totality of evidence. When you look at any health scene, a shape case being one such scene, there are many possible ways to explain how it arrived at its current situation. However if you enter the case with a theory that you believe already explains the case, you are apt to overlook or misinterpret important details. Investigating a health scene is, or ought to be, an exact science. Allow me to introduce you to my method.

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## Shifting Our Shape Paradigms

Thomas Kuhn, author of the book *The Structure of Scientific Revolutions*, wrote, “You don’t see something until you have the right metaphor to perceive it.” He argued that science does not evolve gradually toward truth, but instead undergoes periodic upheavals during which the prevailing scientific theories radically change. He called these upheavals *paradigm shifts*; a time when existing theories got replaced with new theories that better explain the facts. A paradigm shift is in many ways identical to Dr. Watson’s moment of insight in one of Holmes’s cases; where his previous way of looking at a problem shifted.

Kuhn argued that up until a paradigm shift occurs scientists can be guilty of twisting facts to fit the prevailing theory, ignoring facts that don’t fit, or both. What is the result? It is an unsolvable case, a mystery that persists, not because of a lack of facts or evidence, but despite their existence. In this scenario, science is guilty of the mistake Sherlock Holmes cautioned Watson against. Facts are twisted in ways that suit the existing theory. Is it possible we have been guilty of making this mistake with weight? To answer this it is important to understand that science and medicine already has a theory of weight. They have had it for more than 100 years.

The conventional theory has been, and continues to be in most of society, a theory we could best describe as *controlling energy balance*. According to this theory, if a person is overweight it is because they did a bad job controlling their weight: They took in more energy than they used in metabolic processes and activity. In other words, they ate too much, exercised too little, have a slow metabolism, or have some combination of all three of these. The solution to this

problem is simple: Create a negative energy balance. This is accomplished by reducing the amount of calories we consume (energy in), by using more energy in activity or metabolism (energy out), or both. It is a very appealing theory. Weight sciences have fit facts to this theory for more than 100 years now. Why shouldn't they? No theory could be more obvious. No case could possibly be easier to solve. But as Sherlock Holmes might have warned us, the obvious is often wrong.

The theory of controlling weight by creating a negative energy balance has guided the way experts have approached real life shape cases—your cases. It is argued that virtually anybody can, with a reasonable amount of conscious effort and willpower, control how fat or thin he or she becomes. All we need to do is eat less. Unfortunately the best scientific evidence, and real world experience, indicates that this approach doesn't work. With rare exceptions, a person who tries to directly control their weight by eating less food than their appetite dictates loses weight temporarily, and then, despite great determination, gradually regains all of it. Eating less works until it doesn't. Application of the theory fails the one test that really matters, the real world test. Based on the real world results, maybe we should be asking whether we made the capital mistake of theorizing before having the data. Are we being misled by obvious facts? Is there evidence being ignored that might cause us to look at weight differently? Has the metaphor of controlling our weight been the correct metaphor? Are we in need of a paradigm shift?

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#### HSI CLUE

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The controlling energy balance theory implies that we can have, and will get to keep, whatever shape and weight we desire by eating less. Does evidence support this theory? In the real world what happens when a person eats less for a few days, weeks, or months?

Does it get easier? Does it get harder? Is the body comfortable at a reduced weight that is arrived at by dieting?

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## The Mystery

In December 2001, the United States Surgeon General issued a health warning. Americans are experiencing an epidemic of overweight and obesity, it's out of control, and it's getting worse. Estimates suggest that 65 percent of adults are overweight, as are one out of every five American children. The latest government statistics indicate that obese Americans outnumber overweight Americans, and the group that has been expanding at the fastest rate

during the past decade is the severely obese group, persons who are 100 pounds or more overweight. If the epidemic is allowed to continue on its current path, by the year 2025, 40 to 45 percent of us will be medically obese and the amount of people either overweight or obese might well be upwards of 75 percent. What is causing this epidemic?

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### HSI CLUE

The “logical” approach to weight loss for the past century has largely focused on eating less. This approach matches our intuitions about how things should be. Yet, as any dieter can attest, dieting works right up until it doesn’t. It requires greater and greater feats of abstinence to lose incrementally smaller and smaller amounts of weight. The struggle does not end when weight is lost. It’s far easier to regain lost weight than it was to lose it. Fat appears to be resisting our efforts to lose it. Why?

The conventional theory is that we, as a society, as well as many individuals within our society, do a poor job of controlling our weight. We eat too much and exercise too little. If we want to reverse this epidemic, if we want to be leaner as a society and as individuals, we have been told the solution is simple: We need to eat less and exercise more. The problem and its solutions are theorized to be this simple. Are they? Let’s look at one piece of statistical evidence that doesn’t quite fit. In 2006 scientists from the Harvard School of Public Health reported that there had been a 73 percent increase in the prevalence of obesity in young infants (less than 6 months of age) since 1980. In a 2009 Newsweek article (*Born to Be Big* by Sharon Begley) endocrinologist Robert Lustig points out “Since they’re eating only formula or breast milk, and never exactly got a lot of exercise, the obvious explanations for obesity don’t work for babies. You have to look beyond the obvious.” Babies are not an isolated case. There are many other examples, some of which we’ll investigate in subsequent chapters, where the conventional explanation does not fit the facts. If we hope to solve the mystery, we’ll need to learn to look beyond the obvious.

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Despite considerable money and 70 years of research, more people are fat now than at any time in human history. Even after repeated efforts to control weight, the average person will be as dissatisfied with the shape of their body today as they were last year. Often times, they will be more dissatisfied. If it is really as simple as eating less, why is the epidemic worsening? And, if it isn’t really this simple, why do we continue to act as if it is?

A prerequisite to solving any problem is having an understanding of the nature of the problem. Is the problem weight? Or is it something else? We must seek to uncover the real causes. How do we do this? Is there a formula we can use to help us in our investigations? Is there a way to approach seemingly “unsolvable” problems? The answer is yes. We can follow in the footsteps of a master in the art of detection. In order to solve a mystery, we can approach the case the way Sherlock Holmes would.

## The Sherlock Holmes Way

Sherlock Holmes was a master at making the mysterious less mysterious. He described himself as a consulting detective, an expert who was brought into cases that had proven too difficult for other, typically official, investigators. The following six principles were central to his method:

*Extraordinary powers of observation:* As Sherlock Holmes explained to Watson, on more than one occasion, his method was founded on the observation of trifles. By trifles Sherlock Holmes did not mean unimportant facts or evidence; he meant the finer details that other observers either ignored because they did not fit their existing theory, or escaped their detection because they were not trained to see them. Holmes understood that there might be nothing as important as a trifle when solving a case. Could it be that seemingly insignificant details of our lives and environment play an important role in determining our shape?

*A deep understanding of advances in science and technology:* As an expert in the advances of science and technology of his time, Sherlock Holmes had tremendous knowledge of chemistry, botany, medicine, and what we now call forensic sciences. If Holmes were alive today, it is certain that he would be adept in the new sciences: Complexity theory, Chronobiology, and Network theory. And he would find these new understandings critical to solving the mystery of shape.

*A commitment to gather and analyze all evidence before drawing conclusions:* Sherlock Holmes repeatedly cautioned Watson against approaching a

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### HSI CLUE

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What has changed since 1975; the time when the epidemic of overweight really took off? Is it possible that some of these changes might be contributing to our expanding waistlines? Are there any trifles, smaller details of our lives and environment that are less obvious than how much we eat, that better explain our shape and weight?

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case with a preconceived theory. Having a theory before gathering evidence greatly increases the risk that one might twist facts to support that theory and ignore other facts that do not fit. In other words, we will likely find what we expect to find, and may fail to observe other more important clues. Holmes thought it better to approach a problem without any pre-formed theories, with a blank mind. Gather all of the evidence, analyze it, and then, and only then, come up with a theory (or theories) that explains the facts.

*The ability to look past obvious facts:* Obvious facts, according to Sherlock Holmes, could mislead the most astute investigator. By obvious facts he meant common knowledge, things so seemingly obvious that they simply did not warrant questioning, much less a search for a competing explanation. Being able to avoid obvious facts is an essential part of investigation.

*A willingness to examine all competing explanations for a body of evidence:* After gathering and analyzing evidence with the technology at his disposal, Sherlock Holmes used his understanding of what was scientifically possible and impossible. He was only able to do this because he was an expert in the science of his day. He was willing, initially, to consider competing theories and then let the evidence disprove these one by one until only the possible remained. Many of his most famous sayings have to do with this process of eliminating the impossible and being left with, however improbable, an explanation that solved the case.

*A logical reasoning process to uncover the hidden solution:* The last part of the Sherlock Holmes way was a process of logical reasoning. The British have an adjective that describes this process: Holmesian. A Holmesian approach involves using a logical process after amassing a large body of evidence, to produce a number of possible explanations of that evidence. The goal is to find one explanation that best explains the totality of the evidence.

## Become Your Own Detective

When it comes to our shape and weight we could use a Sherlock Holmes. Unfortunately he won't be walking through our doors any time soon. That's the bad news. The good news is that he won't have to. We can each learn to solve our own cases. The next six chapters of this book will arm you with tools of investigation. Mastery of these concepts will prove invaluable to you as you tackle

your own *shape case* as well as other “mysteries” you may encounter in your lifelong quest for health. Subsequent chapters of this book will continue our investigation into other areas of shape, and aspects of diet, lifestyle, and the environment. You will learn about new clues to gather with your extraordinary powers of observation and will be introduced to circumstances and situations that have big impacts on shape. You will enter *health scenes* that may even look like your own and learn to apply investigative principles within specific areas related to your life and shape. You will learn why shape, not weight, is what really matters. And, most importantly, you will discover how you can, starting today, improve your shape in healthy and sustainable manners.

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## Ending Dialogue

Health Scene Investigator: Now that you are more familiar with my methods, let us return to my original question. You told me that the reason a person becomes overweight is because they eat too much and don’t exercise enough. Do you know of any other events that could cause a person to get fat?

Apprentice: That’s a good question. To be perfectly honest I haven’t the slightest idea.

Health Scene Investigator: When investigating a new case it is critical to know what type of events might lead to the current situation, to remain open to the possibility that there will be further events discovered that could have led to this situation, and lastly to discount an event only when it can be proven to not apply.

Apprentice: You mean there might be other things that could make a person gain weight besides how much they eat and exercise?

Health Scene Investigator: Yes. It is precisely what I mean. We must remain open to that as a possibility. The initial inspection of the health scene, generally speaking, gives the impression that...

Apprentice: Generally speaking? What are you saying?

Health Scene Investigator: I am trying to tell you the facts. There are certain details of the case, details I would prefer not to go into quite yet, which give rise to some perplexity, to certain, let us say, reasonable doubts.

Apprentice: This is incredible. It is like something out of a detective novel.

Health Scene Investigator: That is exactly what it is.

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## Chapter 2

# Extraordinary Powers of Observation

*It has been an axiom of mine that the little things are infinitely the most important.*

*Sherlock Holmes*

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### Opening Dialogue

Health Scene Investigator: When Holmes made statements such as “little things are infinitely the most important,” what do you think he really meant?

Apprentice: I must admit that I have no idea. Little things seem to me, well, little. I would have thought the big things would be the most important.

Health Scene Investigator: Big things, by which I mean the obvious, can be important. But less obvious clues, so called little things, can be as well. Allow me to explain.

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### The Importance of “Little Things”

Sherlock Holmes had extraordinary powers of observation. But what exactly was he observing with these powers? In many of his conversations with Watson he mentioned that his method was founded on the observation of trifles. By trifles Sherlock Holmes did not mean unimportant facts or evidence; he meant the finer details,

little things that other observers ignored or for some reason were incapable of seeing. The power of seemingly little things can be seen in the concept of *tipping points*.

The term tipping points was coined by Sociologist Morton Grodzins to describe the flight of Caucasians from the urbanized areas of the Northeast into the suburbs. Grodzins looked at all types of factors to try to identify the reasons for this flight to the suburbs; school systems, crime, and other big, obvious factors, but nothing provided a good explanation. Finally, he discovered that when a city neighborhood reached a certain threshold of minority residents, about 20 percent, the majority of the remaining Caucasian residents would spontaneously move away: The neighborhood tipped. An epidemic of flight to the suburbs had broken out and the force most responsible for this was the percent of residents of different ethnic backgrounds, which when compared to crime or school systems, seems like a little thing.

Malcolm Gladwell, in a book called *The Tipping Point: How Little Things Can Make a Big Difference*, further elaborated the concept of tipping points. This book is about transitions and how things spread. And, most importantly, it is about how and why things really happen in the world that surrounds us. As the title suggests, his book teaches us that little things, seemingly unrelated or overlooked minor details, can and do make big differences. They can make big differences in the way information, behaviors, or even infections spread through a group of people. They can make big differences in the way an individual responds and behaves. Could little things make a big difference when it comes to our shape?

We are conditioned to believe in scale. To get a big effect we need a big cause. This is called *proportionality* and is a central tenant of a scientific theory called *Reductionism* (Reductionism will be discussed in chapter 3). For most of the 20<sup>th</sup> century science believed only big causes could cause big changes. We see this tendency in how weight changes are typically explained. If a person gains a large amount of weight, the knee-jerk reaction is to usually blame in on a big thing—overeating. How much food is being eaten gets the blame whether or not it is actually the problem. Let's look at a real world example, the *Case of Neutering a Pet*, to highlight this point.

It's not unusual for a neutered pet to get fatter after the procedure. How do we react when this occurs? Many pet owners reduce the amount of food they feed their pets. But in the *Case of Neutering a Pet* is eating more food the tipping point? Is it the force that causes the fat gain? Because if it isn't, and something else is, is feeding the pet less really going to solve the case? Evidence indicates that for pets that gain weight easily after neutering, most of the weight gain will be fat. This means that shape or body composition, even more so than weight, is changing. Scientific studies also inform us that this gain in fat can occur even if the animals are fed the same amounts and types of food as before the procedure. In fact, some neutered animals will get fatter even when fed less food. In this latter instance, they aren't getting fatter because they are eating more food; they are getting fatter despite the fact that they are being fed less.

In this case the big and obvious, the amount of food, is not the tipping point. More food is not causing the fat accumulation. The procedure of neutering is the point at which the pet's shape shifts. It was the tipping point. What the animal eats after this procedure is an effect. Something about neutering causes the animal's body to shift in a way that makes getting fat easier. While neutering is not a little thing in terms of the effects it can have on our pets, it is a little thing in the sense that we often overlook the effects it has on shape, and, instead, mistakenly blame food and eating as the cause of the changes we are observing in our pets.

Most of us have had a tipping point experience, when it comes to shape, at one point in time. We might have had a very stable weight, sometimes for years, and then suddenly gained a few pounds (or far more). Or, our weight might have stayed the same but its distribution suddenly shifted leaving an extra inch or so in unwanted areas. Shape tipped but what was the tipping point? Was it because after months or years we suddenly started to eat so much more or exercise so much less? In our experience, while this can be the case, it often is not. There are one or more hidden causes. It is the job of a health scene

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#### HSI CLUE

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The dominant metaphor, when it comes to weight, seeks to explain the nature of the problem in terms of big things like overeating. A tipping point metaphor would shift our perspective, and introduce the notion that one or more seeming trifles might be more important. It would also clue us in to both focus our powers of observation into detecting these things, and to be aware for shape tipping points.

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investigator to identify the real causes, the differences that really made the difference.

As mentioned in the last chapter, Kuhn was of the opinion that, until one had the correct metaphor to perceive something, one wouldn't. When it comes to many real world issues and problems, the concept of tipping points is this more correct metaphor. To get a big effect, we don't necessarily need a big cause. Sometimes, a little thing will cause a big change. Things can have geometric progressions; they can cascade. And things can have effects far out of proportion to their size. Adding a tiny amount of weight to a perfectly balanced heavy object can cause it to topple. A slight drop in temperature can make the difference between water being a liquid or solid (ice). The smallest of changes can shatter a potential epidemic's equilibrium and cause it to affect many more people. It might take only a slight change in a product or idea for its popularity to spread suddenly to the masses. This same principle applies to our shape and health. It might take just a few changes in the finer details of diet, lifestyle, or environment to shatter the balance point that had previously been a stable shape or state of health, changing it for the better or worse. Identifying these finer details that are acting as individual tipping points, and, taking steps to address these details is the secret to producing sustainable improvements.

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#### **HSI CLUE**

When you look back at your life, from a time period around when your body shape seemed to change suddenly, what was really going on? What details, seemingly little things, were occurring in your health scene during those time periods?

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The tipping point metaphor teaches us to prepare ourselves for the possibility that big results can occur from seemingly small causes. Things that look stable or seem to resist all efforts at change might be just a small push in the right place away from a large shift. Sometimes it only takes the smallest of actions to produce large results. It also informs us that the real forces behind the unwanted shifts in our shape are likely to be things most of us do not notice, seemingly little things or trifles hidden in the periphery of our lives.

To solve a real life health scene an investigator must, like Sherlock Holmes, be able to observe trifles. When it comes to shape, in our experience, the typically overlooked little things are infinitely the most important. To solve a Health Scene it is these several, sometimes many, seemingly unimportant "little

things”, factors that often lie at the margins of our lives and awareness, that we must put our efforts into discovering, understanding, and changing.

### Avoiding the Fundamental Attribution Error

Imagine seeing an overweight person eating a large bowl of ice cream. How would you rate their willpower? Is it low, medium, or high? Are you likely to blame the ice cream as part of the reason they are overweight? If you rated their willpower as low and judged the ice cream as a problem, you are not alone. Most people would see this scene and assume low willpower and ice cream are a significant cause of the person’s weight challenge. Very few people would look at this same image and wonder things like (1) how much sleep the person had the night before, (2) whether they have been dieting, and, if so, for how long, or (3) whether they just had a very stressful day. We look at the person eating ice cream and the tendency is to blame the behavior on a character attribute like willpower. But the truth is that situational influences are much more likely to be the real reasons for the observed behavior. The same is true for shape changes and weight gain. It might seem inconceivable that a behavior like eating a bowl of ice cream is not a statement about willpower, and, instead, could be a result of some more arbitrary and seemingly insignificant aspect of lifestyle or the environment, such as the quality or duration of last night’s sleep, this morning’s breakfast, or a stressful situation. But the truth is that context is powerful. In fact, it is a far more powerful influence on our behavior than we realize. Getting fewer hours of sleep than we need causes many of us to increase snack food consumption, especially in the evening hours. People who have lost weight by dieting tend to crave fattening foods. Some people are exceptionally prone to stress eating. Having a bowl of ice cream, or some other comfort food, is not an unusual occurrence in these situations; it is a common response.

Scientific experiments have shown that humans have a strong tendency to come up with explanations of behavior that overemphasize character and disposition traits. We see a person do something and we tend to explain the behavior in terms of the kind of person he or she might be. In the case above, the result is we explain the eating ice cream behavior in terms of a character trait—willpower. Coupled with this, is an equal and opposite tendency.

We usually underestimate the significant role context—circumstances and situations—has on behavior. Because of this, we are prone to underestimate the influence that things like sleep, stress, dieting habits, or the amount of time since a person last ate, have on a person’s food choices at any moment in time. This tendency is called the *fundamental attribution error*. It is a fancy way of saying that when it comes to interpreting people’s behaviors, human beings invariably make the mistake of overestimating the importance of fundamental character traits and underestimating what is going on in a person’s life.

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### HSI CLUE

The average adult has about 40 hours a week of free time. In 1965 about 10 of these 40 hours were spent watching televisions. By 1995 this had increased to about 15 hours a week. Could this increase be a shape tipping point? In 1975, the average American slept 7.5 hours, down from 9 hours in 1910. Today, adults sleep about 7 hours a night. Do you think this might be a tipping point for shape?

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Let’s use the TV show *Survivor* to highlight the fundamental attribution error. What types of food do the Survivors crave after 10, 15, 20, or more days as castaways? Anyone who has watched this show can answer this question. They crave foods like chocolate, desserts, burgers and fries, pizza, etc. They talk about these foods, think about these foods, and, if the opportunity arises, they will eat them. If we were to stumble into this Health Scene and were unaware of the context of *Survivor*, we might conclude that these people have no willpower, don’t care about their shapes, and have unhealthy eating habits. And if some of the Survivors are overweight, we might blame their weight on this aspect of their character. But is lack of willpower or a character disposition towards eating these foods why the Survivors behave this way? Or are they behaving this way because of the context created by *Survivor*? In *Survivor* the participants have insufficient food to maintain their body fat reserves. They lose weight, usually rapidly. As they lose this weight, seemingly out of nowhere, high degrees of hunger

emerge, as do cravings for what most of us would consider fattening foods. Why? Since the behaviors were not there before the *Survivor* experience, it seems a poor explanation to blame it on some fundamental aspect of the character of the participants. Maybe there is a better explanation.

The better explanation is that as fat reserves get depleted, hunger accumulates, especially for foods that allow the body to rapidly

replenish the lost body fat (we will discuss why this occurs in more detail in later chapters). What foods allow for this? The answer is fattening foods. No matter how disciplined a person might be in the context of their usual life, if placed into a *Survivor* experience long enough, they would behave in the same manner. They would crave similar foods. Character flaws do not cause the cravings. They emerge because of a context that would cause them to emerge for all of us.

The tendency to overestimate fundamental character attributes and to underestimate the importance of the circumstances surrounding our lives is one of the reasons most of us have a difficult time spotting the little things that are the real reasons for behaviors. It is part of the reason we miss the clues hidden at Health Scenes. Since most of us will have this tendency, it is important to question causes that seem big and obvious; we might be overestimating their importance. It is also important to search the Health Scene for little things; factors whose importance we would be likely to underestimate or completely miss. Focusing on what the person is doing and generalizing this behavior to be about some character defect (like lack of willpower) will not help us solve cases. But if we are able to use our powers of observation to find the context around the behavior, we just might.

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### HSI CLUE

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Per capita fructose consumption (excluding that which occurs naturally in fruits and vegetables) increased from less than 0.5 g/day in 1970 to more than 40 g/day in 1997 (more than an 80-fold increase). Is it possible that the addition of this one little thing to the diet can be having a big effect on shape?

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## Develop and Use Your Powers of Observation

Most of us want to believe that the key to making a big impact in someone's life lies with making some large dramatic change. With shape this often manifests in going on a crash diet or severely restricting entire types of foods like fats or carbohydrates. These "big change" approaches tend to work until they don't. Given the advice of Holmes and the power of tipping points might we be better served taking a different approach?

We are far more susceptible and sensitive to the smallest details of everyday life than we are conditioned to believe. We are not programmed to use extraordinary powers of observation to find hidden clues. Even worse, when it comes to shape issues, we have

been educated to miss them. We have been taught to focus on things that usually are, at most, minor clues.

Watson learned to see hidden clues. You'll learn to spot them as well, and when this happens, little things will no longer seem to be trifles. You will understand the power they have on shape. The lessons from tipping points match what Sherlock Holmes knew: It can be the smallest details of the immediate environment that really matter. Minor seemingly insignificant factors can cause shape to tip in an unwanted direction. The good news is that they can also cause a tip in the other direction, to a more desirable shape.

Our shape can seem impossible to budge. We go on a diet and several months later find that all the lost weight has returned. But with the slightest push in the correct place, our shape can be tipped. It is not the big things like radically changing diet to something a person will never be able to sustain that will create the results we desire. The solution lies in modifying smaller and sustainable details of our life. We would never be able to live the rest of our life on a low calorie diet—semi-starvation—like the participants on *Survivor* endure throughout their contest. In fact, just like the Survivors, we will rebound to our old weight once the constraints on food intake are lifted. But if we can identify the right little things and make changes in smaller details of our life, details we can readily live with, we won't have to.

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## Closing Dialogue

Health Scene Investigator: When Holmes made statements such as “little things are infinitely the most important”, what do you think he really meant?

Apprentice: I think what he was trying to say was that when investigating a health scene one must be able to detect the things other people are missing. These things are little in the sense that they are being missed, but not little in their importance.

Health Scene Investigator: Very good. Now how might we apply this lesson to shape?

Apprentice: I imagine it means that to solve shape cases we would need to look at things differently. We would need to look for the things that are being missed because we either (1) don't think of

them as being big enough to cause the problem, or, (2) have no idea that some of these little things can cause shape changes.

Health Scene Investigator: That is it exactly. And how might we start to identify some of these hidden clues?

Apprentice: I would start by creating a list of the things that have changed just before and since the tipping point for obesity in America was reached. Experts pinpoint the mid 1970s as the time of this tipping point, so I would look at what things, even if they are seemingly trivial, changed significantly in diet, lifestyle, and the environment from then to now.

Health Scene Investigator: I think that would be an excellent start.

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### **The Apprentice's List**

#### *Diet:*

Increased reliance on commodity vegetable oils  
 Addition of trans fats and hydrogenated oils to many foods  
 Increased consumption of corn-derived sweeteners  
 Increased consumption of artificial sweeteners  
 Increased use of flavor ingredients and other food additives  
 Increase in snacking  
 Rise of the fast food industry and super-sizing of meals and beverages

#### *Lifestyle:*

Decreased sunlight exposure  
 Less time spent sleeping  
 Increased air travel across time zones  
 Increased TV and computer use  
 Increase in sedentary lifestyles  
 More meals eaten out of the home and fewer family meals

#### *Environment:*

More Stress  
 Increased pollution  
 Increased electro-magnetic exposure  
 Increased use of fluorescent lights

