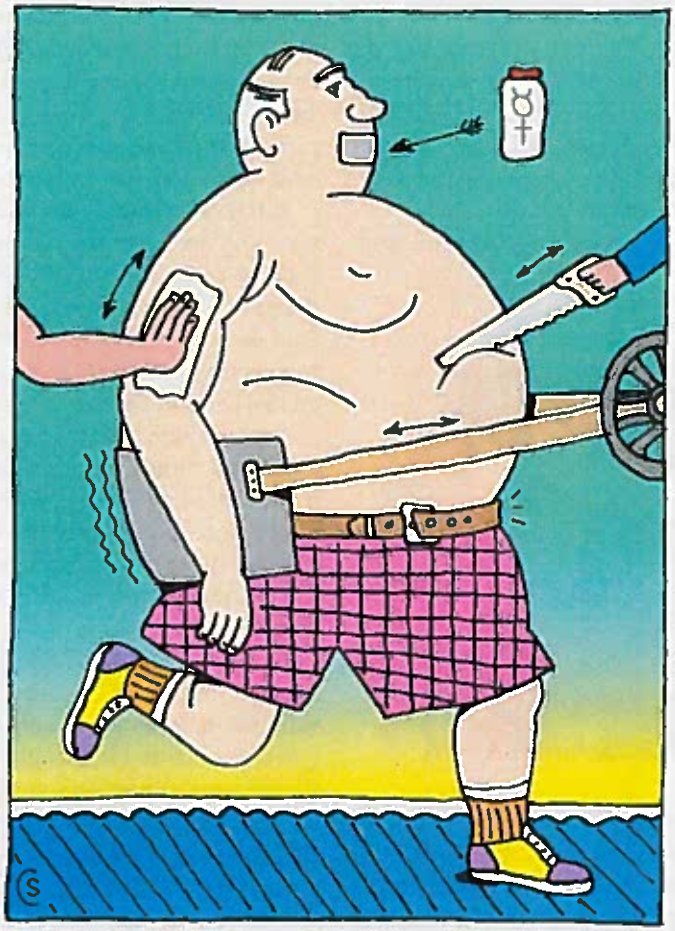
ANNALS OF MEDICINE

KEEPING IT OFF

For obesity, diet and exercise rarely work. Increasingly, the solution is surgical.

BY RIVKA GALCHEN



"HALF MY LIFE has been about trying to lose weight," Henry Roberts said. He was telling me about his decision to have a surgery that would reduce the size of his stomach by seventy-five per cent. Roberts (a pseudonym) is five feet six, and when we met he weighed two hundred and seventy pounds, giving him a body-mass index of forty-four; a B.M.I. between eighteen and a half and twenty-five is considered healthy. "I tried every diet, every regimen. I even had urine from a pregnant woman injected into me—that was a fad once. Have you ever tried a Weight Watchers cannoli? Weight Watchers didn't work for me, either, and I found the meetings humiliating." Roberts, who is sixty-eight and retired from his job as a public-school guidance counsellor, lives in an immaculate, art-crowded apartment in the West Village. He recently went through the breakup of a long-term relationship, but he remains close friends with his ex-boyfriend. Roberts grew up in Queens, the son of an M.T.A. worker who avoided the chemicals in canned foods "before that was fashionable," he said. Decades ago, he successfully quit smoking and drinking. Managing his weight has been more difficult. "You can't just quit eating altogether," he said. He had opted for a procedure called a sleeve gastrectomy—the stomach is surgically narrowed to resemble a sleeve—but this was not Roberts's first attempt at a surgical treatment for obesity. "I can't remember the exact year, but I know I had the lap-band procedure the weekend that Michael Jackson died," he told me. The laparoscopic gastric-band procedure worked for Roberts for about a year, but then he began to regain weight.

Roberts has been "big" for as long as he can remember, and has gained and lost weight so many times that he has kept wardrobes in three different sizes. Most of the people I've met who are considering surgery are much larger than Roberts, but he is prediabetic, takes a statin for high cholesterol as well as heart and blood-pressure medications, and at night he sleeps with a CPAP machine to counter sleep apnea, a condition frequently caused by obesity. "If I lose the weight, all of these things might improve, or even go away," he said.

When I asked him if his friends and family supported his decision to have surgery, he hesitated, then said, "Most of my friends, especially most of my fat friends—and I have a lot of fat friends—said, 'You're going to put yourself through this again?'" He added, "But I felt that this was my last chance, that I had to give it a try."

Early on a Thursday morning, I went to Beth Israel Medical Center to watch Roberts undergo the sleeve gastrectomy. Bariatric procedures—surgeries that treat obesity—remove no fat tissue; instead, they change the stomach and intestine so that a person feels full more quickly, or absorbs fewer calories, or both. There are four main types of procedure performed these days. Three of them (sleeve gastrectomy, gastric bypass, and biliopancreatic diversion) involve considerable changes to the stomach and intestines, and eighty-five per cent of the time they result in sustained weight loss, usually of around half of a patient's excess weight. The fourth procedure, the laparoscopic gastric band—which Roberts had in 2009, and Chris Christie, the New Jersey governor, had, to limited effect, in

A surgeon said, "I've operated on two people from 'The Biggest Loser.'"

ILLUSTRATION BY SEYMOUR CHWAST

2013—is simpler, and reversible, since it merely constricts the neck of the stomach with a band. For years, the "lap band" was a popular procedure—it was marketed with a billboard and radio campaign, "1-800-Get-Thin," as well as a "Lap-Band V.I.P." promotion—but it has proved to be the least effective. The bands can break, and while the other surgeries are known to remove some of the cells in the gastrointestinal tract that secrete ghrelin, the "hunger hormone," it's unclear whether the lap band leads to reduced ghrelin levels.

In the early nineties, fewer than twenty thousand bariatric surgeries were performed in the U.S. each year. Now the number is around two hundred thousand, where it has plateaued. Only in the past few years has what was once considered a high-risk and extreme measure been transformed into a relatively standard, safe, and straightforward one. There is strong consensus that bariatric surgery is effective, and Medicaid now covers it in forty-eight states. At the same time, research into conventional weight-loss methods has repeatedly pointed to an overwhelmingly dispiriting conclusion—that diet and exercise alone, no matter how disciplined the individual, fail overwhelmingly often. This makes for an unsettling and consequential revolution in our understanding of our bodies. Still, only about one per cent of those who medically qualify for bariatric surgery get it. Advice about diet and exercise often has a moral undertone; surgery has a mechanistic one. I wanted to think about what this meant. Peddling new approaches to dieting is a multibillion-dollar industry. In one sense, bariatric surgeries are an addition to this market; in another, they are a counter to it.

Arriving early for Roberts's surgery, I waited in a corner of the lobby by two vending machines, one that sold candies and chips and another that sold kosher food, mainly apples and bagels wrapped in cellophane. I went outside to the cart selling coffee and pastries. More than a decade ago, as a medical student, I spent a month on a surgical team that performed bariatric surgeries. The long hours meant that we ate mostly from coffee carts, with a supplement of take-out Thai and Chinese. I remember the fun-house-mirror effect of half of us losing weight on this unintended regimen as the other half of us gained.

In that time, I scrubbed in on a few procedures performed by Roberts's surgeon, William Inabnet, an internationally known endocrine surgeon who was a member of the team of physicians that developed sleeve gastrectomy as a stand-alone procedure. (It was originally the first step in bypass procedures for patients with a B.M.I. of greater than sixty.) For Roberts's gastrectomy, which was performed laparoscopically, Inabnet was joined by the surgical fellow Aida Taye Bellistri, an anesthesiologist, and two surgical nurses. The surgeons began by making incisions above the umbilicus and beneath the left and right sides of the rib cage. The umbilical incision was used to inflate the abdomen by pumping in carbon dioxide, providing a vaulted internal space for the surgeons to work in. A light and a camera were then also inserted through the umbilical incision. Laparoscopic surgery leads to less postoperative pain and a lower risk of hernias and infections than traditional open surgery. It also makes surgery, for the bystander, seem more like a video game.

Large monitors were mounted above Roberts's body, like sports-bar television screens. Inabnet and Taye Bellistri looked up at the monitors, rather than down at the patient, as they maneuvered the handles of tools threaded through the left and right incisions. On the screens, the image was so big and so clear that it was easy to read the tiny brand names—Covidien, Karl Storz—written on the slender surgical instruments. Roberts's abdominal cavity looked like the inside of a mossy, yellow cave lit up by miners' headlamps; vasculature appeared like streaks of mineral ore, the liver like a respiring troglobite.

I had forgotten how unsettling watching even the least bloody—maybe especially the least bloody—surgery can be. It's a reminder of how our organs and vessels proceed on their own—and of how much automatism being human really involves. Inabnet and his team spent the first forty-five minutes of Roberts's surgery meticulously removing the adhesions of his old gastric band from his liver, abdominal wall, and small intestine. This process involved minute tugs and tears, punctuated by pauses to cauterize minor bleeds. When it was done, Inabnet said, "That was the hardest part. The rest is pretty straightforward."

Inabnet then used a surgical stapler, which resembles the jaws of a toy alligator affixed to a slender metal rod; the stapler put down six rows of tiny staples with each bite. By cutting between the rows, three-quarters of the stomach was gradually sliced away. The camera and the carbon-dioxide pump were then retracted so that the detached segment of stomach could be pulled out. Magnified onscreen, Roberts's stomach had seemed so large, but, once removed, the offending organ was smaller than a hand.

Over the centuries, suggested strategies for losing weight have included bitter tonics, bleeding, sea air, amphetamines, Turkish baths, tapeworms, purgatives, low-fat diets, high-fat diets, cinnamon, more sleep, less sleep, and the "vigorous massage of the body with pea-flour." The Roman emperor Aurelian advised rubbing cloth over body fat to get rid of it, an apparently enduring notion: I remember going to a gym with my mother, in the nineteen-eighties, and encountering a machine that consisted of a vibrating belt that you were supposed to step into to shape your thighs or your waist. Surgery is an old idea, too. One of the earliest surgical approaches to weight loss, dating back at least a millennium, was simple: the jaw was wired mostly shut. Another story from pre-anesthesia days tells of a rabbi "being given a sleeping potion and taken into a marble chamber, where his abdomen was opened and many baskets of fat were removed."

In 1954, a Swedish doctor decided to bypass segments of dogs' intestinal tracts. He hoped to curtail the time and space that the body had to absorb calories. The animals subsequently lost weight, and a research

doctor observed, "This questionable method of controlling obesity will have the necessary experimental foundation." So it was that in 1956 ten Swedish women, each at least a hundred and twenty-five pounds overweight, agreed to a trial of an intestinal bypass. All of the trial participants had attempted more straightforward ways of losing weight; one had gone from two hundred and forty to a hundred and forty-five pounds in a hospital setting, but now weighed two hundred and ninety pounds and, at the age of twenty-five, was suffering from cardiopulmonary failure and perilously high blood pressure. Following the surgeries, all ten patients experienced dramatic weight loss, with no immediate serious complications.

But then the bypasses were reversed. Now that the patients were at a healthier weight, it was thought, they could maintain that weight with a normal intestinal tract. Furthermore, the section of the intestine that had been skipped over was important for the absorption of calcium, iron, B_{12}, and other nutrients. However, after the reversal surgeries the women regained every pound, sometimes more.

Throughout the sixties and seventies, stomach stapling became popular. Sometimes the stapling was horizontal, sometimes vertical. Sometimes longer stretches of the intestine were bypassed, sometimes shorter. This all sounds—and in many ways was—improvisational and brutal. The risks were substantial: many patients got hernias through their incision sites; some of them developed dangerous leaks of intestinal contents into their abdominal cavity; some had infections and bowel obstructions; and some suffered serious malnutrition from failing to absorb nutrients. All of these problems are potentially fatal, and some patients died.

But the health risks associated with obesity were also becoming apparent—higher rates of stroke and heart disease, Type 2 diabetes, infertility, sleep apnea, osteoarthritis, and an increased risk of certain cancers. And bariatric procedures were improving dramatically. Laparoscopy, which became the norm in the past decade, results in few hernias. Physicians now have a better sense of how to prevent and treat the complications of surgery. As recently as fifteen years ago, there was a one-per-cent chance of dying from a bariatric procedure—a relatively high risk. Now it is 0.15 per cent, which is less than that for a knee replacement, a procedure commonly recommended to people who have developed joint problems from carrying around excessive weight. Roberts's surgery took less than two hours, and he went home a day later, feeling only mild discomfort, with instructions about vitamin supplements and follow-up appointments.

Tom Wadden, a clinical psychologist at the Center for Weight and Eating Disorders, at the University of Pennsylvania, told me, "Look, I'm a dyed-in-the-wool behavioral psychologist, and even I will tell you that there's no question that bariatric surgery is going to provide a larger and more durable weight loss than lifestyle modification, medication, or even a combination of the two." Around seventy-five per cent of bariatric patients have sustained weight loss five years after their surgery, and that percentage is higher if you don't include lap-band patients in the analysis. Weight loss through diet and exercise rarely leads to more than short-term changes—a quite small percentage of patients see sustained weight loss. Wadden continued, "I absolutely recommend surgery to some of my patients, yes, but I say that in talking about *treating* obesity, not about *preventing* it. And the prevention of obesity has to be the greater focus of our attention, as a society."

Two out of three American adults are overweight, and one out of three can be said to have obesity. (The medical definition of obesity, imperfect but useful, is based on B.M.I.) In 1990, hardly any states had obesity rates of more than fifteen per cent; today, all fifty states have obesity rates of at least twenty per cent. A 2012 study in the *Journal of Health Economics* estimated the medical-care costs of obesity in the U.S. in 2005 to have been as high as a hundred and ninety billion dollars, a figure that is steadily increasing. William Dietz, who was part of the team at the Centers for Disease Control and Prevention that, in 1999, declared obesity an epidemic, said that, at the time, "people would ask me, 'Why is this happening now? What has changed?' My answer, informally, would be that everything has changed. Everything on the dietary side, everything on the physical-activity side—everything." Today, obesity is second only to tobacco as a killer in this country.

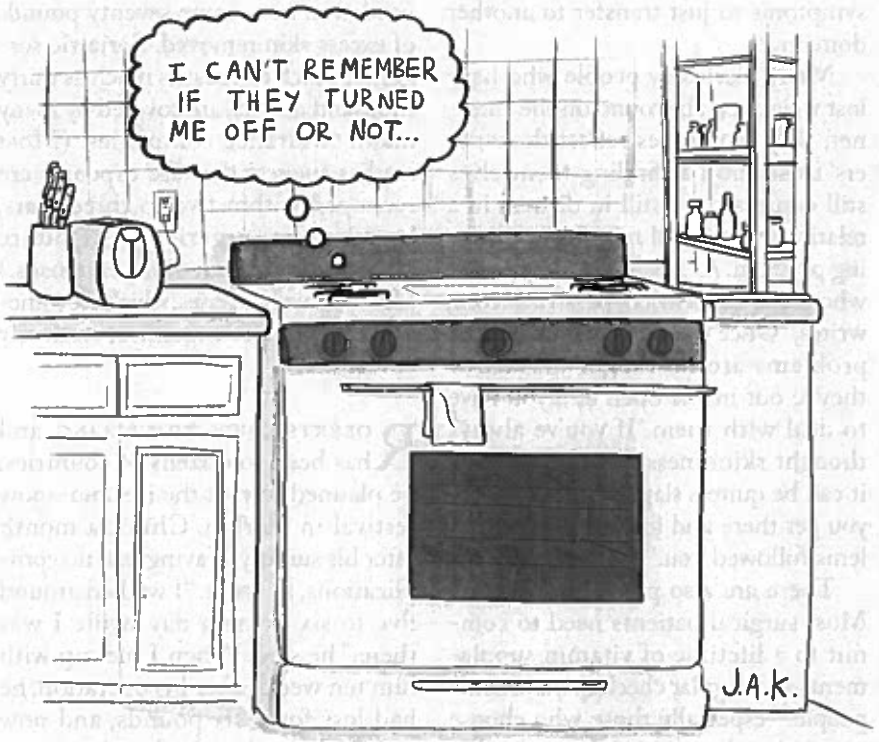
Dietz, who trained as a pediatrician and later received a Ph.D. in nutritional biochemistry from M.I.T., originally intended to work on malnutrition in the developing world. When he turned to obesity, it interested him for being "similarly deeply embedded in culture, food systems, and environmental practices." One of the fathers of obesity studies, George Bray, in his 2011 book, "A Guide to Obesity and the Metabolic Syndrome," drew especial attention to the decades of subsidies for corn, sugar, and rice. Other researchers have pointed to the "Snackwell effect," referring to the moment, in the late nineteen-eighties, when, after studies suggested that people ought to lower their fat intake, consumers turned en masse to sugary treats advertised as low-fat or no-fat—advertised, in essence, as good for you. American health is further assailed by long commutes, sedentary jobs, yo-yo dieting, and the charming toucans and tigers that beckon to children along the breakfast aisle of the grocery store. And then there are our electronic devices. Wadden noted, "I'm sure that Steve Jobs wasn't thinking that he was going to make devices that contributed to people expending five hundred to eight hundred fewer calories a day, but that's what has happened."

Some academics and activists criticize the use of the terms "epidemic" and "disease" in describing obesity, arguing in part that such language exacerbates the already widespread phenomenon of "fat shaming." Danish Asif, a recruiter from Staten Island who had recently lost a hundred and ten pounds, reflected on the indignities of obesity: "Imagine: An old friend from college calls you up, wants to

hang out, you're excited to see him, but then he shows up in a Sentra. You can barely fit. And there's a beeping the whole time, because you can't close the seat belt. You get on an airplane, and you know everyone is praying that you're not going to be seated next to them." Dietz stresses the importance of understanding obesity as a set of health issues. "We talk about 'people with obesity,' not 'obese people,' a phrasing that is more about identity," he said. From a medical point of view, obesity, like asthma, is something that happens to a person—a disease with many etiologies, not all of them well understood. Dietz went on, "Embedded in the stigmatization of obesity is the idea that this is something that people have done to themselves; that's not the way to understand it."

"People often have moral judgment in this area," Marc Bessler, who was among the first physicians in the nation to perform a bariatric surgical procedure laparoscopically, in 1997, told me. "But I don't think that's helpful. Our relationship to food is strange. We still don't fully understand how things like refined sugars are affecting us." He told a story about a patient who was on a no-carb diet. "He said he was getting along fine until, one day, on the way out to work, he let himself take one small bite of a waffle. Just one bite. He then left the house, got into his car, reversed his car. Then he literally pulled back into his driveway, went back inside, and ate three waffles."

Bessler's office is on the fifth floor of a Columbia University Medical Center building, in a hallway with flyers advertising Buddha Body Yoga and Post-Weight Loss Surgery Psychotherapy. Bessler's father had obesity, and died, at fifty-four, of colon cancer, which obesity is known to make more likely. But Bessler traces his interest in the field of bariatric surgery to his surgical residency: "I was at the hospital Christmas party, and a surgeon I admired, a few drinks in, said to me—about laparoscopy, which was a new thing back then for abdominal surgeries—he said, 'I've seen the future, and we're gonna be taking colons out through straws.' I liked that."



I asked Bessler what he thought about the ecstatic popularity of shows like "The Biggest Loser," where primarily diet and exercise are used as weight-loss tools. He said, "I've operated on two people from 'The Biggest Loser,' one person who won. It's just not a realistic setting, exercising six to eight hours a day. People have jobs." A study that followed up on fourteen contestants from Season 8 of "The Biggest Loser" found that all but one of the finalists had regained much or most of their original weight, and that these contestants' metabolic rates had slowed dramatically, making maintaining a healthy weight even more difficult. According to researchers, the shock of sudden weight loss prompts the body to try to put weight back on. For reasons not fully understood, people who undergo gastric bypass do not tend to experience the same sustained metabolic slowing.

I was curious whether Bessler could tell me what kind of person was most inclined to choose bariatric surgery. I thought he might say something about who had a more moralistic view of weight, or who was more trusting of the medical system. Instead, he said, "Well, women, of course. A man who is a hundred pounds overweight, he will still be treated with respect. But a woman who is a hundred pounds overweight—it's much more difficult for a woman."

It is clear that obesity, and the stigma associated with it, can't be solved by hundreds of millions of gastric bypasses and sleeve gastrectomies. One piece of encouraging news is that among two-to-five-year-olds there is evidence that obesity rates may be declining. But there is no such news for adults. George Bray told me, "When the day comes that we can mimic the weight loss without the surgery, I think surgery will fade away. How long this will take, and what form, I can't hazard a guess."

The cultural and literary historian Sander Gilman, who wrote "Obesity: The Biography" (2010), told me that, just as "every diet works for some people but no diet works for everyone, bariatric surgery will work for some people but it will not work for all." He added, "I would suggest that surgery needs to be paired with psychotherapy or behavioral therapy, since there are so often underlying problems to address; you don't want the

symptoms to just transfer to another domain."

Many diaries by people who have lost weight can be found on the Internet; they sometimes reflect the writers' frustration at finding themselves still depressed, or still in distress in a relationship, or still mired in a drinking problem. As a woman named Lisa, who posts at gastricbypasstruth.com, writes, "Once the fat is gone, your real problems are no longer masked—they're out in the open and you have to deal with them. If you've always thought skinniness was the cure-all, it can be quite a slap in the face when you get there and find out your problems followed you."

There are also physical problems. Most surgical patients need to commit to a lifetime of vitamin supplements and regular checkups, and some people—especially those who choose gastric banding—experience significant discomfort or even vomiting from feeling full. Sugary and fatty foods can cause gastric-bypass patients to have cramping and diarrhea. Furthermore, patients with extreme obesity are often burdened with loose skin after a dramatic weight loss. Paul Mason, a British man who went from nine hundred and eighty pounds to three hundred and fifty, following a gastric bypass, needed to have some seventy pounds of excess skin removed. Bariatric surgeries, which can cost as much as thirty thousand dollars, are covered by many major insurance companies. (Most studies suggest that the expenses are recouped within two to three years, because the surgeries avert future obesity-related medical expenses.) Skin-removal surgeries, which are sometimes even more expensive, are rarely covered.

Roberts loves travelling, and has been to dozens of countries; he planned to visit the ice-and-snow festival in Harbin, China, a month after his surgery. Having had no complications, he went. "I walked around five to six hours a day while I was there," he said. When I met up with him ten weeks after his operation, he had lost forty-six pounds, and now weighed two hundred and twenty-four. "Which is halfway to my goal of a hundred and eighty," he said. "Although maybe that goal is too ambitious."

I asked him if he worried about regaining the weight, as he had after his lap-band procedure. "I know now that when I walk by the ice-cream aisle it's not a problem for me anymore. I'm not even tempted—I really don't want it." After his lap band, ice cream had still been a strong temptation. "I'm optimistic. I can't really eat red meat anymore, I'm not comfortable with it, and sometimes when my friends go out for dinner before seeing a play I skip the restaurant, even though I like being with friends in that way." Roberts said that he'd been eating a lot of fat-free refried beans, chicken soup, and salads. He laughed when he mentioned this, as if it were a punch line. "I'll tell you what I *am* worried about," he said. "I'm going to a casino in Atlantic City next week. They know me there, they come by, they see me, and they say, 'Three-pound lobster?' and that's difficult to turn down. I guess I won't turn it down. I'll take it, but only eat a small portion, and save the rest for later."

A month afterward, we spoke again, and Roberts said that he still felt great, was still losing weight. "I've gotten the fat clothes out of the house; they're in the basement in storage." He has also been enjoying the praise of relatives, who have told him that they had been worried about him in the past but had been reluctant to say so. "I'm really, really happy with how things are going," he said. "Maybe I have a bit of a turkey wattle under my chin now, from the weight loss; eventually, I may try to do something about that." He told me that he feels as if he now skips up the stairs of the subway station. Both of Roberts's parents lived into their nineties, and he said that he has always had a feeling that he would live a long time as well. "And I didn't want to live like an invalid, unable to get around, having difficulty breathing."

Roberts told me two stories about how he had changed his habits in the past, one about quitting smoking and the other about quitting drinking. He had attended a Smokenders course, which had discussed triggers—noticing what made you pick up a cigarette. "For me, it was a ringing phone," he said. "I'd pick it up and find I had a cigarette in my hand." Quitting alcohol had been simpler. "I was maybe twenty-five years old, and I saw an advertisement on television," he said. "A simple advertisement. It said, 'If you think you might have a problem,

"For extra protection, this one is armed with a tiny gun of its own."

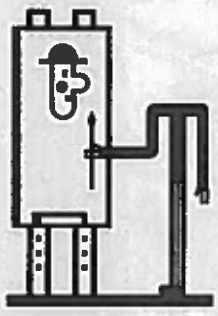
then you probably do.' That was all it said: 'If you think you might, then you probably do.' That affected me. Just an ad. I didn't take a single drink after that; I was done with it. That's how powerful advertising can be."

I took the subway home. The bars of the turnstile read, alternately, "Hello, Happy" and "Hello, Hershey's." I can't deny that Hershey's Kisses were a substantial source of happiness in my childhood. Across from me in the subway car, a large woman was reading Dr. Oz's glossy magazine, *The Good Life;* headlines included "20 WAYS TO A FLATTER BELLY" and "EAT FOR HIGH ENERGY." Any decent nutritionist will tell you that an energy bar often has as much sugar and fat as a candy bar. Sports and energy drinks now contribute more than soda to weight gain in teen-agers. About three-quarters of Americans consider a granola bar healthy, while only one-quarter of nutritionists do. There are few ad campaigns for plain old produce.

I thought about the adorable little cardboard M&M who'd beckoned to my toddler daughter when we recently stepped into a Duane Reade drugstore. "I want to go and meet him," my daughter said, and she began to weep when I told her that we weren't going to buy M&Ms. I used to think parents who worried about their children's sugar intake were overly controlling kooks; now I understand how a parent even mildly informed about nutrition might feel that trying to raise a healthy child in the modern landscape is like trying to raise a healthy child in a chemical-processing plant charmingly decorated in pink, red, and green. Wadden, the clinical psychologist, summarized the problem, saying, "In Philadelphia right now, a proposition just passed to tax sodas, and to use the funds for universal pre-K. It's great to have money for universal pre-K. But is it just sugary drinks? The sugary-drink companies will say, 'But it's salty snacks! Why are you targeting us?' Well, we have to start somewhere."

A three-part lecture titled "On Corpulence," delivered, in 1850, to the Fellows of England's College of Physicians, by Thomas King Chambers, M.D., relates the story of a great European delicacy, the ortolan, a small bird eaten whole. Ortolans, by instinct, feed only at dawn, and are therefore trim (and insufficiently tasty) in the wild. Chambers details how "Italian gourmands" devised a way to fatten them:

> The ortolans are placed in a warm chamber, perfectly dark, with only one aperture in the wall. Their food is scattered over the floor of the chamber. At a certain hour in the morning the keeper of the birds places a lantern in the orifice of the wall; the dim light thrown by the lantern on the floor induces the ortolans to believe that the sun is about to rise, and they greedily consume the food upon the floor. More food is now scattered over it and the lantern is withdrawn. The ortolans, rather surprised at the shortness of the day, think it their duty to fall asleep . . . the rising sun again illuminates the apartment, and the birds, awakening from their slumber, apply themselves voraciously to the food upon the floor . . . thus the sun is made to shed its rising rays into the chamber four or five times every day. . . . The ortolans thus treated become like little balls of fat in a few days.



It's as if Chambers had a premonition of us, today, confused by the blue light of our screens, the treats in our cages. "We are meant to fast and feast, like the other carnivores," I once overheard a flight attendant say to another on an overnight plane. "But there's always a feast around."

THE OVERWHELMING MAJORITY of bariatric-surgery patients who post online about their experiences are happy that they had the procedure; the twenty or so patients I spoke with directly were even more positive about it. Many described it as the best decision they ever made. "My only regret is not doing it sooner," a father of three told me. A twenty-seven-year-old, who had always been body-positive and had the surgery because she was aware of looming health hazards, told me that after the surgery she found she had the energy to move into her own apartment, to finally get a driver's license, and to go back to school while working a full-time job. For many people, the experience of weight loss is one of feeling like they can be themselves. Even the more skeptically titled postsurgery diaries are punctuated with observations like "Would I do it again? Probably. Well, O.K., definitely."

One bariatric surgeon, Yulia Zak, told me that she'd never had any particular interest in the field until she did a required rotation. "I would be seeing a preoperative patient, often someone who was depressed, maybe unable to find a job, in part because of their mobility and appearance, and who was on insulin meds and blood-pressure meds, and with sleep apnea and high cholesterol," she said. "Then, right next door, I would see someone for their two-year postoperative appointment, and they would be off those medications, and they might have a baby with them, or a new job. Obesity-related infertility or mobility issues were no longer a problem for them. There was no other field of medicine where I saw people's lives improved so dramatically."

And yet, when bariatric surgery is thought of as a phenomenon happening in our society, rather than as a drama for a particular individual, one begins to think of the Red Queen in "Alice in Wonderland," who has to run and run just to stay in place. Surgery changes a person into a being with a different intestinal tract, a different hormonal response to food—it's almost like becoming a member of a new species, one better adapted to our current world. In the "Transactions" of the Medico-Chirurgical Society of London for 1847, there is a table that lists, alongside height, weight, age, and other factors, the "attributed proximate cause" of dramatic increases in weight: "copious weak drinks," "marriage," "going to India," "becoming a coachman," "taking mercury for syphilis," "too little to do," and, simply, "irregular life." Now the trigger may as well be listed as: Born to anything but the luxury of access to fresh produce, a natural indifference to advertisements, limited and flexible work hours, a reasonable commute, the rare leisure to walk or to ride a bike. ♦